COMMUNITY MAPPING NETWORK
FISHERIES INFORMATION SUMMARY SYSTEM
(CMN FISS)

DATA ENTRY TOOL
USER MANUAL

Prepared by:
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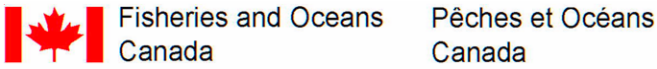

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1.0 Purpose

The purpose of this manual is to introduce users to the procedures and standards required for data entry into the Community Mapping Network (CMN) Fisheries Information Summary System (FISS) Data Entry Tool.

2.0 Introduction

This manual describes the CMN FISS Data Entry Tool, and how to use the application. CMN and FISS are two separate projects. Each project will be described below.

2.1 What is FISS?

The Fisheries Information Summary System (FISS) is a geo-referenced database of summary level fish and fish habitat, macro-reach and lake classification data.[1] FISS is a joint project between Fisheries and Oceans Canada (DFO) and BC Ministry of Environment (MOE) which focuses on four business functions: planning, project reviews, requests for information, and research.[2] FISS provides information for users from the government, First Nations, the private sector, and the public. FISS presently consists of fish and fish habitat, macro-reach and lake classification databases, overlaid on a 1:50,000 digital stream network of British Columbia.[3] "Information is accessible through queries on the Web. Standardized hard copy maps and reports are also produced."[4]

[1] Province of British Columbia. 2007.
[2] ibid.
[3] ibid.
[4] ibid.

The following summary level lake and stream fish and fish habitat theme data are included in FISS:

- Water Quality Stations
- Enhancement/Management Activities
- Sensitivity Comments
- Resource Use
- Obstructions
- Fisheries Potential/Constraints
- Value Comments
- Species/Stock Information
- Fish Distribution
- Life History

"FISS will be continually updated as new reports and surveys are received. The long-term goal is to automate the process so that detailed 1:20,000 Reconnaissance Level Reports will be submitted digitally. Summary routines will be run that will extract the points and information and add it to the FISS database. Historical reports will continue to be compiled manually as they are collected and received."[5]

2.2 What is CMN?

The Community Mapping Network (CMN) is a network of partners comprised of community groups, organizations and individuals that collect and map natural resource information.[6] An advisory committee responsible for managing CMN includes representatives from the BC Conservation Foundation, Fisheries and Oceans Canada, Environment Canada (Canadian Wildlife Service), B.C. Ministry of Agriculture, Food and Fisheries, B.C. Ministry of Environment, Fraser Valley

[5] ibid.
[6] Porter, G.L.; Moon, R.; & Trent, C. 2002.

Regional District, Greater Vancouver Regional District, local governments, and community groups.[7] CMN was created to integrate data from government and non-government organizations and make it accessible through a mapping system. CMN allows for organizations to see what other organizations have done.

2.3 The Community Mapping Network (CMN) and Fisheries Information Summary System (FISS)

DFO and MOE have decided to use CMN to allow for data to be entered spatially and textually into the CMN FISS database. CMN FISS does not attempt to show all information that is in the full Oracle version of FISS. At this time, it is designed to be a subset of the Oracle FISS database. The Ministry of Environment is the custodian of the Oracle FISS data set which is the full official version. CMN FISS and Oracle FISS are two separate applications. CMN is a Microsoft Access driven database while FISS is an Oracle driven database. A load routine has been developed to enable periodic uploading of CMN FISS information to the official Oracle FISS database.

[7] ibid.

3.0 Getting Started with CMN FISS Data Entry Tool

This section will help the user get set-up for data entry in CMN FISS. It is recommended that Microsoft Internet Explorer 6.x or older is used.

3.1 Access

In order to access the data entry tool, a UserID and password must be requested. Please contact Gord Oliphant regarding permissions (See Appendix 1 “General Inquiries”).

3.2 MapGuide Plug-in

In order to view maps on the Community Mapping Network, a plug-in called *Autodesk Mapguide Viewer 6.5* must be installed on the user’s computer. This product is produced by AutoDesk and can be downloaded at http://www.mapguide.com/Downloads/

3.3 Launching CMN FISS Data Entry Tool

To launch the CMN FISS Data Entry Tool:

1. Start your Internet Browser. It is recommended that users use Internet Explorer as the application was developed for Internet Explorer and some of the functions might not work with other browsers.
2. Enter the URL: http://www.shim.bc.ca/
3. There are two ways of accessing the CMN FISS Data Entry Tool from the CMN website.
    a. Click on “DFO FISS Data Entry Tool” under “Atlas Gallery” in the scroll box;
    b. Or alternatively click on “Atlas Gallery” and scroll down the page and find the “DFO FISS Data Entry Tool”.

3.4 Setting Preferences

The user should set preferences to metric distance and UTM coordinates.

To set preferences:

1. Right click on the map to open the options menu.
2. Highlight “About” then click on “Preferences”.
3. The Preferences Window will look like Figure 1.

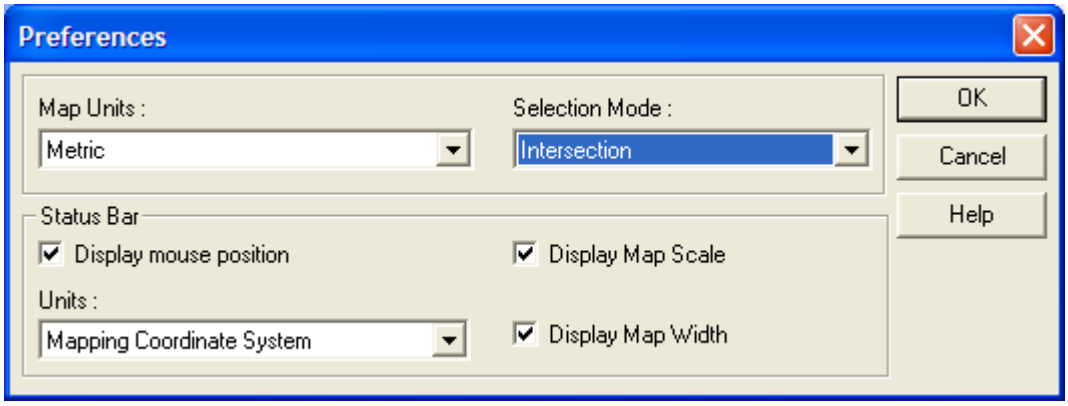


Figure 1. Example of Preferences

4. Change the “Map Units” to “Metric”.
5. Change the “Selection Mode” to “Intersection”.
6. Make sure all the options under “Status Bar” are checked.
7. Change “Units” to “Mapping Coordinate System”.

4.0 Checking for the presence of a Report

Before entering a report in CMN FISS, users must check for the presence of the report in both CMN FISS and Oracle FISS. The order of checking reports is not significant.

4.1 Checking for the presence of a Report in Oracle FISS

Before entering a report, please check and make sure that the report is not already in the FISS Oracle database. Not checking can result in redundant data.

Checking for the presence of a report in Oracle FISS can be done two ways:

a. Users can query the Oracle FISS database directly from the CMN FISS Data Entry Tool by using the report server. This can be done two ways:
   - By double clicking on the waterbody which opens up the Oracle FISS Report Server
   - Or by highlighting the waterbody, opening the Mapping Tools, then clicking on the "View a Report" button. 

b. A FISS reference can be searched for by entering in the following URL into an Internet Browser: http://a100.gov.bc.ca/pub/fidq/references.do
   - Enter any known information into the appropriate fields such as Gazetted Name/Alias, Watershed Code, or Waterbody Identifier.
   - The Reference Number is most likely unknown when searching for a FISS reference, as this is a key clue that it is in FISS.

4.2 Checking for the presence of a Report in CMN FISS

New references are being entered in CMN FISS all the time, and they may not be loaded into the FISS Oracle database yet.

To check for the presence of a report in CMN FISS:

1. Click on the “Mapping Tools” button in the top right-hand corner.
2. Click on the Add/Edit References button. 
3. Click on the “Search a reference to edit” button. 

4. A new window appears called the FISS Reference Search which is shown in Figure 2.

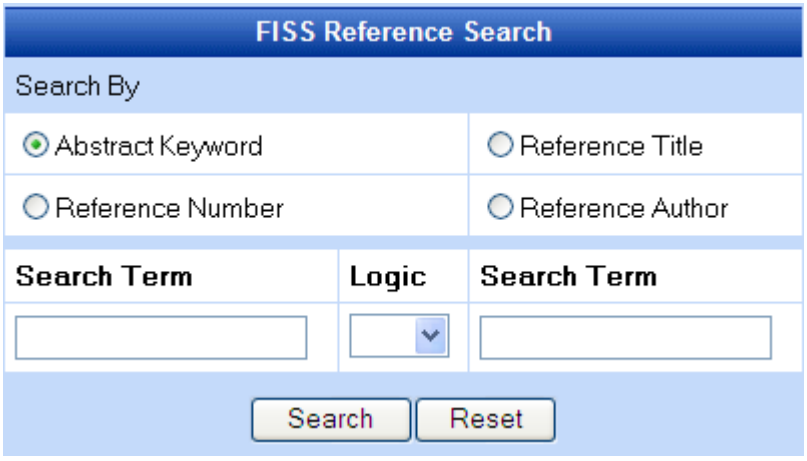


Figure 2. FISS Reference Search

5. Using the FISS Reference Search is described in the following points:
    a. Searches using the keywords from the Abstract, Title, and Author can be entered which is shown in Figure 2. The Reference Title is the preferred first choice for searches.
    b. Searches for Reference Numbers can be entered but exact characters in order must be used or the application will not return any results.
    c. The search does not have the ability to search by different categories at the same time. Try one category first, and if you do not find what you are looking for, another category can be tried.

d. Wildcard searches can be done by using “%” as the wildcard character.

   Note: Wildcards cannot be used when searching for a Reference Number.

5.0 Adding, and Editing a Reference

For the purposes of CMN FISS a reference refers to the report that the FISS data has been extracted from.

Note: If a reference in Oracle FISS needs to have changes made to it, contact: Gordon Oliphant (See Appendix 1 “General Inquiries”).

5.1 Adding Reference Information to CMN FISS

After ensuring that the reference is not in either CMN FISS or Oracle FISS, a reference can be added to CMN FISS.

To add Reference Information to CMN FISS:

1. Click on the Add/Edit References button. 
2. Click on the “Add a new reference” button. 

3. The reference form will look similar to Figure 3 - Example of a completed Reference Form.

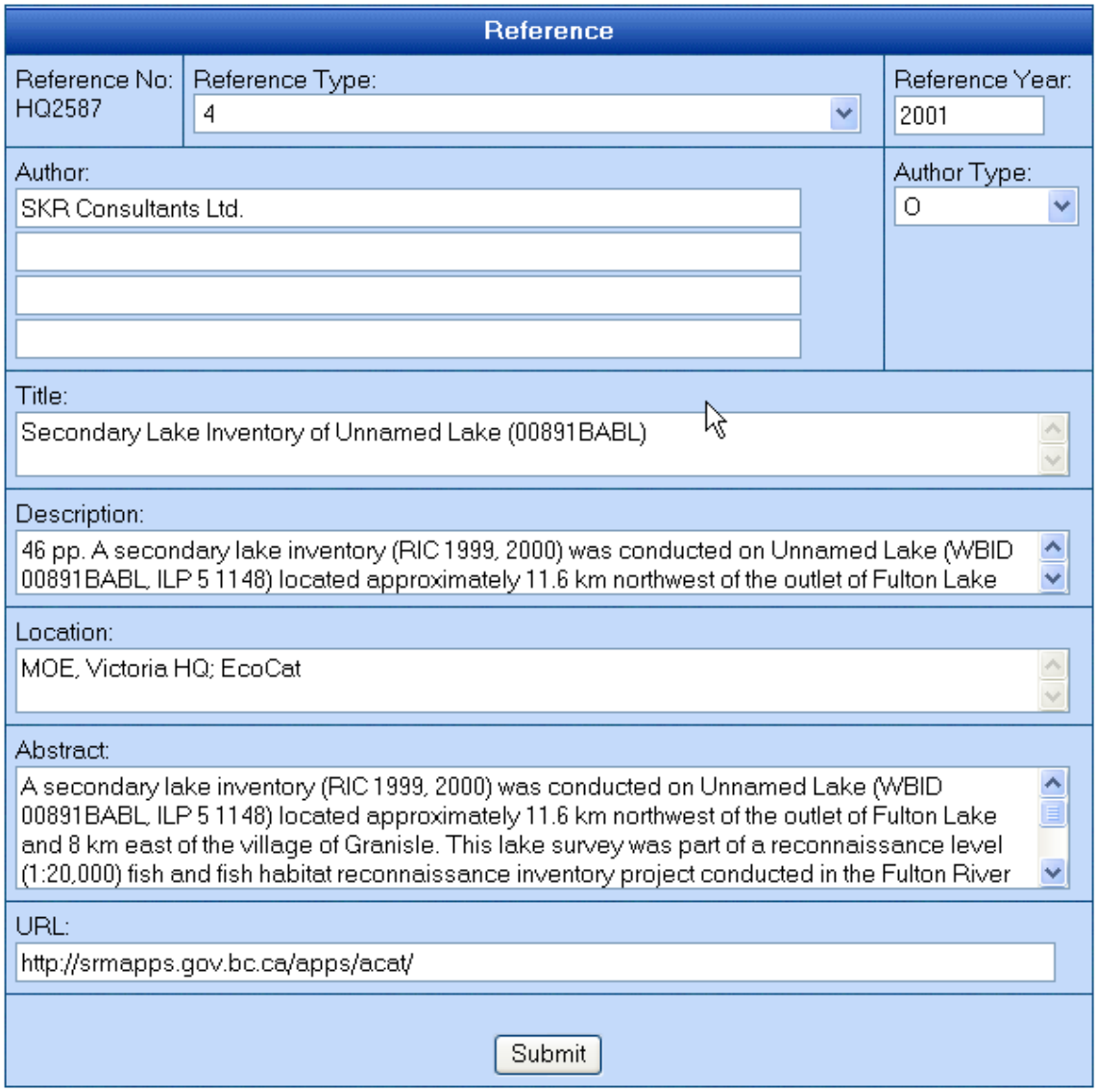


Figure 3. Example of a completed Reference Form

4. Fill-out appropriate fields for the report.
5. For the Reference No. small blocks of pre-approved numbers will be assigned. Arrangements for this can be made with the database administrator when accounts are established.
6. Select the appropriate Reference Type from the drop-down list shown in Figure 4.

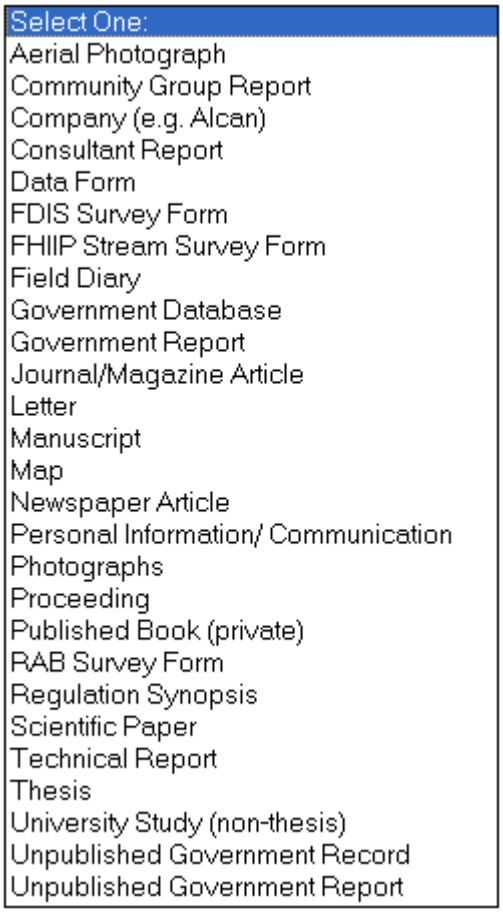


Figure 4. Reference Type drop-down menu

7. The Location of the reference refers to who owns the report and where it is located. For example for Ministry of Environment reports, please put "MOE, Victoria HQ". Even if the report is in offsite storage, the client must go through the Victoria Headquarters in order to gain access to the report. If the report is in more than one place, list the locations with a semi-colon ";" in-between. For example: If the report is at the MOE, Victoria Headquarters and in EcoCat the location would be filled out "MOE, Victoria HQ; EcoCat". This is example is shown in the Location field in the middle of Figure 3. Note that EcoCat can only be listed as a location for reports if the report is in "Public EcoCat". If the report is in EcoCat and not viewable to the public EcoCat should not be listed.

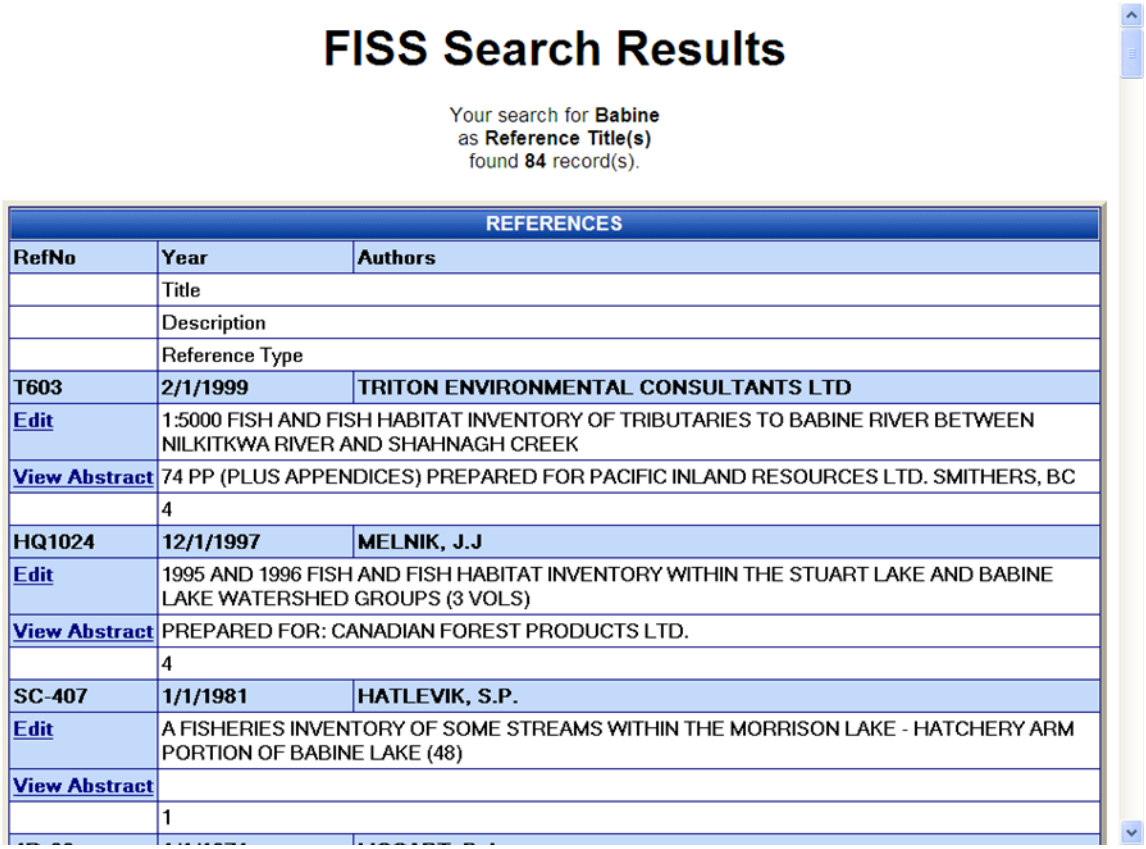
8. For the URL, check to see if the report is in Public EcoCat. If the report is in public EcoCat, copy and paste the following link to EcoCat in the URL Field at the bottom of Figure 3: http://www.env.gov.bc.ca/ecocat/.
9. Descriptions and Abstracts can be taken from EcoCat if the report is already in EcoCat. The Description has a character limit of 250 characters. The Abstract has a character limit of 2000 characters.

5.2 Editing Reference Information in CMN FISS

To edit Reference Information in CMN FISS:

1. Click on the Add/Edit References button. 
2. Click on the "Search a reference to edit" button. 

3. Fill in the appropriate information into the FISS Reference Search (see Figure 2. Example of the FISS Reference Search), then click "Search".
4. The "FISS Search Result" window displays the results of the search similar to the example in Figure 5 below.



FISS Search Results

Your search for **Babine**
as **Reference Title(s)**
found **84** record(s).

REFERENCES		
RefNo	**Year**	**Authors**
	Title	
	Description	
	Reference Type	
T603	**2/1/1999**	**TRITON ENVIRONMENTAL CONSULTANTS LTD**
Edit	1:5000 FISH AND FISH HABITAT INVENTORY OF TRIBUTARIES TO BABINE RIVER BETWEEN NILKITKWA RIVER AND SHAHNAGH CREEK	
View Abstract	74 PP (PLUS APPENDICES) PREPARED FOR PACIFIC INLAND RESOURCES LTD. SMITHERS, BC	
	4	
HQ1024	**12/1/1997**	**MELNIK, J.J**
Edit	1995 AND 1996 FISH AND FISH HABITAT INVENTORY WITHIN THE STUART LAKE AND BABINE LAKE WATERSHED GROUPS (3 VOLS)	
View Abstract	PREPARED FOR: CANADIAN FOREST PRODUCTS LTD.	
	4	
SC-407	**1/1/1981**	**HATLEVIK, S.P.**
Edit	A FISHERIES INVENTORY OF SOME STREAMS WITHIN THE MORRISON LAKE - HATCHERY ARM PORTION OF BABINE LAKE (48)	
View Abstract		
	1	

Figure 5. Example of FISS Search Results window

5. Click on the “Edit” hypertext link left-hand of the reference you wish to edit to open the Reference Form.
6. Make the desired changes to the reference.
7. Click “Submit” to save the new information to the database.
8. When successful a message will display informing the user that the **“**Data committed to the database” (see Figure 6).

Figure 6. Successful submission message

6.0 Searching for a waterbody

In order to digitize a point for a waterbody, the waterbody must be located on the map. There are several ways to search for the waterbody including Searching using the UTM Coordinates (Section 6.1) and searching using the Zoom Goto Tool (Section 6.2).

6.1 Searching with UTM Coordinates

This feature is useful for searching for a waterbody by using the UTM coordinates available in the B.C. Watershed Atlas. This is helpful for searching for a waterbody which has not been digitized in CMN FISS yet.

To search for a location using UTM coordinates:

1. Select the UTM zone from the dropdown list in the UTM Locator shown in Figure 7.

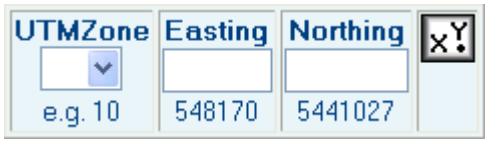


Figure 7. UTM Locator

2. Type the Easting into the Easting box. This will always be a 6 digit number.
3. Type the Northing into the Northing box. This will always be a 7 digit number.
4. Select a point type from the drop-down “Select a Point to digitize” list. It does not matter what type of point is selected, as the point will not be digitized. The UTM Search will not work without a point selected.
5. Click the  button.
6. When the map is zoomed click reject.

6.2 Searching using the Zoom Goto tool

The Zoom Goto Tool is useful for zooming into a location. The most common use of the Zoom Goto Tool is to search for a FISS Point or a Waterbody.

To search using the Zoom Goto tool:

1. This feature can be accessed in two ways:
    a. Click on the magnified glass with the arrow beside it,  on the top left-hand corner of the map menu, or
    b. Or right click on the map and click on "Zoom" → "Goto…" which is shown in Figure 8.

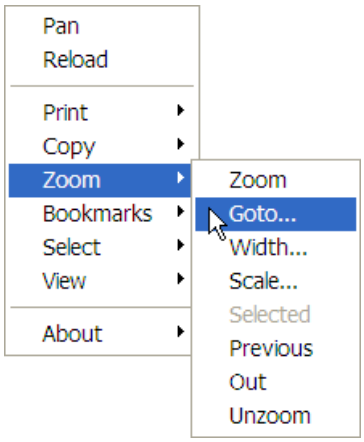


Figure 8. Zoom Goto Menu

2. The "Zoom Goto" window opens similar to Figure 9.
3. A project can be searched a number of ways by selecting the appropriate "Category" and entering the corresponding information in the "Location" field.
4. The "Zoom to Width" should be specified. A five kilometre "Zoom to width" is a good guideline to use for zooming the map in close enough to add a point after the waterbody is selected.

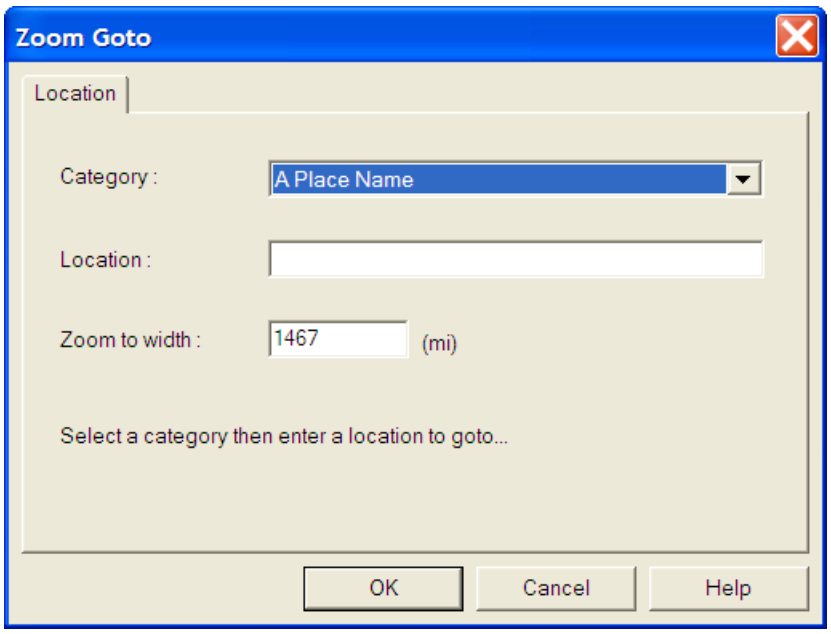


Figure 9. Zoom Goto Window

6. The map will refresh with the “Goto” location centred.

7.0 Digitizing a Point in CMN FISS

There are three basic point types in FISS which are described in the following section. Points can be digitized in CMN FISS three ways: by selecting a waterbody on a map, by using UTM Coordinates for the waterbody, and by selecting the waterbody from a list. The recommended method of digitizing a point is by selecting the waterbody on the map.

7.1 Point Types

There are three basic point types in FISS: a “W” point, a “P” point, and a zone. The “W” point represents a whole waterbody which is used for lakes, streams and reservoirs, as data attached to this “W” point can often apply to the whole watershed or waterbody and not specifically to the location of the point. The “P” point represents a point with data tied to the specific location. An example would be fish observed in a pool at a given location. The “S”, “U” and “D” points all correspond to a zone. The “U” point represents an upper limit on a main channel. The “S” point represents an upper limit on a side channel. The “D” point is the downstream point on either a main or side channel. A “D” point cannot be digitized in FISS without first having a “U” or an “S” point. The point types and what they represent are laid out in Table 1 below.

Table 1. What each point type represents.

Point Type:	**Point(s) represent:**
W	Whole watershed or waterbody
P	Data point tied to specific location
U	Upper limit on a main channel corresponding to a zone
S	Upper limit on a side channel corresponding to a zone.
D	Downstream limit on main channel or side channel corresponding to a zone. If a “D” point is not specified, FISS assumes that the “D” point is at the mouth of the channel.

When placing a point at a stream mouth the user must place the point approximately 50 metres from the stream mouth so as not to confuse the point on a tributary for a point on a parent stream. The user must be zoomed in as close as possible to place a point most accurately, so that the point appears on the stream line when zoomed in to a large scale. Measuring the distance can be done using the Distance Tool discussed in Section 10.3.

In cases where the information entered applies to the entire length of the stream downstream from the “U” all the way to the stream mouth, it is not necessary to enter a downstream point. The application will default to the mouth in this case and the UTM coordinates from the B.C. Watershed Atlas are used.

In cases of side channels where the information entered applies to the entire side channel from the “S” point to where the side channel re-enters the parent stream, it is not necessary to enter a downstream point. The application will default to where the side channel re-enters the parent stream.

7.2 Standardized approach for placing W Points

A standardized approach has been created to assist users in placing W Points on Lakes (Section 7.2.1) and Streams (Section 7.2.2). There should only be one W Point placed for each waterbody. The W Point can be used again by other users to attach information associated to the whole waterbody. It is important to always check that the point is associated with the correct waterbody.

7.2.1 Standardized approach for placing W Points on a lake

When placing a W Point on a lake, it should be placed approximately 50 metres from the lake outlet. The distance tool (Section 10.3) can be used for an approximate measurement. It is critical that users check the W Point to ensure that it is on the lake and not on an adjacent waterbody. This can be done by double clicking on the point and opening up the “Point Reference Report”.

7.2.2 Standardized approach for placing W Points on a stream

W Points on streams must be placed 50 metres upstream from the stream mouth so as not to confuse the point on a tributary for a point on a parent stream. The distance tool (Section 10.3) can be used for an approximate measurement. It is critical that users check their point to ensure that it is on the correct stream. This can be done by double clicking on the point and opening up the “Point Reference Report”.

7.3 Digitizing a point by selecting a waterbody on a map

To digitize a point by selecting a waterbody on the map:

1. If you are not already in Mapping Tools, click on "Mapping Tools".
2. Make sure that the map is zoomed as close as possible when placing a point. The larger scale helps ensure accuracy when placing a point.
3. Click on the Arrow button  in the Autodesk menu.
4. With the mouse select a waterbody that you want to create the point for.
5. In “Mapping Tools”, click on the “Select Waterbody” drop-down menu shown in Figure 10.

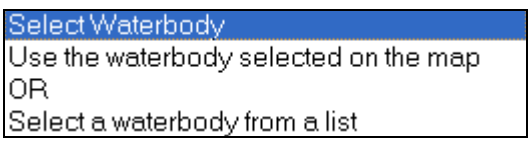


Figure 10. Select Waterbody drop-down menu

6. Select “Use the waterbody selected on map”.
7. Click on the drop-down menu “Select a point to digitize”.
8. A new window appears called “Waterbody Form” which will appear similar to Figure 11.

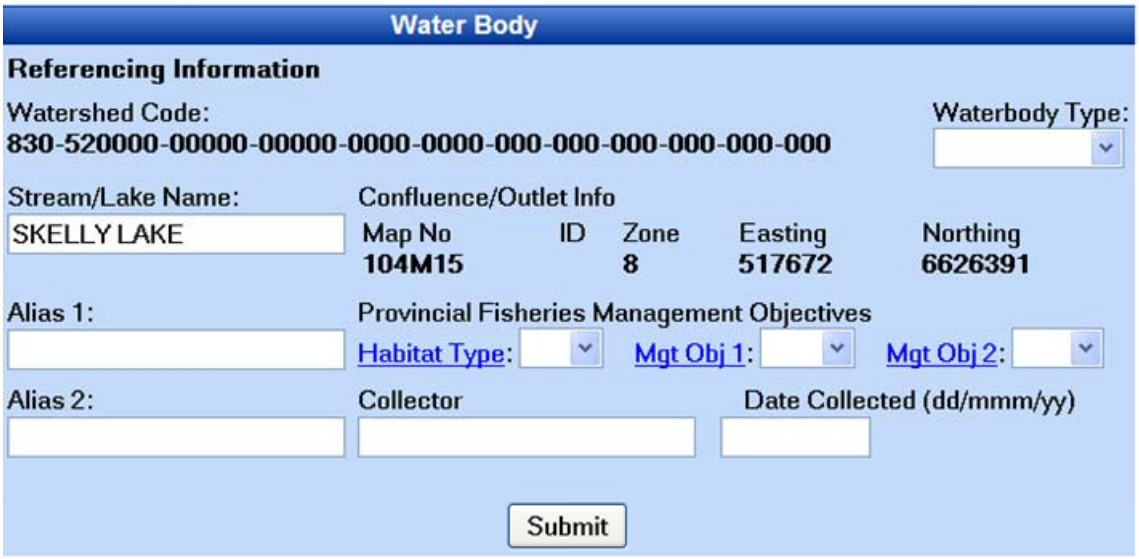


Figure 11. Example of Waterbody Form

9. The Watershed Code and UTM coordinates are already filled in (see top of Figure 10). Make sure that they are correct before proceeding. If incorrect close window without clicking submit and repeat the previous steps.
10. If the watershed code and the UTM coordinates are correct, fill out the required information which includes the Collector’s name, which is the name of the data entry person, and the Date Collected, which is the day that the information is being entered into CMN FISS.
11. If a point has not been previously digitized on the Waterbody, the user will have to select the “Waterbody Type”. The options for the “Waterbody Type” are:

    L - Lake

    S - Stream

    W - Wetland

12. Fill in any other information if it is known, then click submit.

    Note: "Stream/Lake Name" should only be filled in if the name of the waterbody is gazetted, otherwise the name should be typed into the Alias field.

13. Select a type of point from the drop-down list which is outlined in a red box in Figure 12 below. To decide what type of point to use, see Section 7.1.

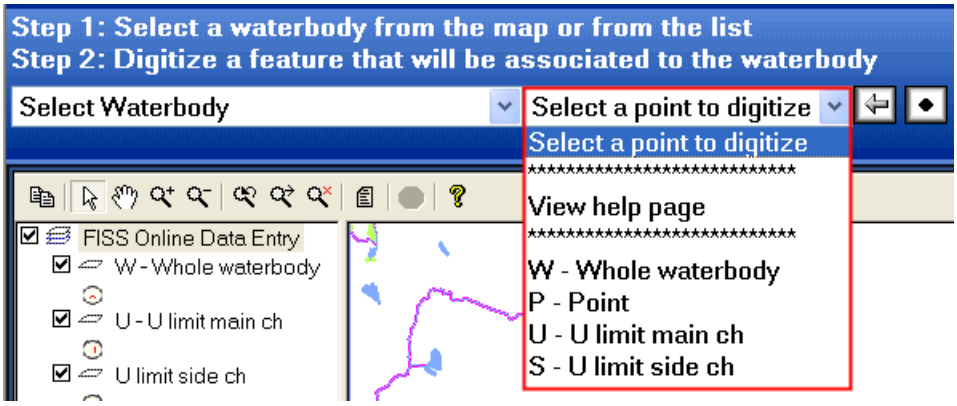


Figure 12. "Select a point to digitize" drop-down menu list is outlined in a red box

14. Click on the point button  and place the point on your waterbody. For rules for placing W Points, see Section 7.2.
15. A new form opens called "Digitize Point" form. Make sure that the information is correct, then type in a "Point No." The point number can be related to the FISS reference number but the point number must be numerical and unique.
16. Click "Submit", then "Close".
17. The point should now appear on the map.
18. Check to make sure point information is associated with the correct waterbody by double clicking the point.

7.4 Digitizing a Point on a waterbody that is mapped at a 1:20,000 TRIM scale

To digitize a point by selecting a waterbody on the map:

1. If you are not already in Mapping Tools, click on "Mapping Tools".
2. The UTM Locator (Section 6.1) or the Zoom Goto function (Section 6.2) can be used to zoom in to the location of the waterbody. Make sure that the map is zoomed in as close as possible. The larger scale helps ensure accuracy when placing a point.
3. On the left-hand side of the map is the Layers Panel which includes many Layer Groups. Click the box beside “TRIM 1:20K” so that the box is checked.

   Note: If the “TRIM 1:20K” Layer Group is not showing, the map needs to be zoomed in closer.
4. Double click on “TRIM 1:20K” to open the Layer Group.
5. Check the boxes beside each layer that is needed to add them to the map (i.e. Rivers, and Lakes). The map refreshes automatically.
6. From this point, a waterbody can be selected and a point can be digitized following Section 7.3, Steps 3-18.

7.5 Digitizing a point by selecting a waterbody from a list

To digitize a point by selecting a waterbody on the map:

1. If you are not already in Mapping Tools, click on "Mapping Tools".
2. In “Mapping Tools” click on the “Select Waterbody” drop-down menu
3. Highlight “Select a Waterbody from a list”.
4. A new window pops up called “Waterbody - Select Form” similar to the example in Figure 15.

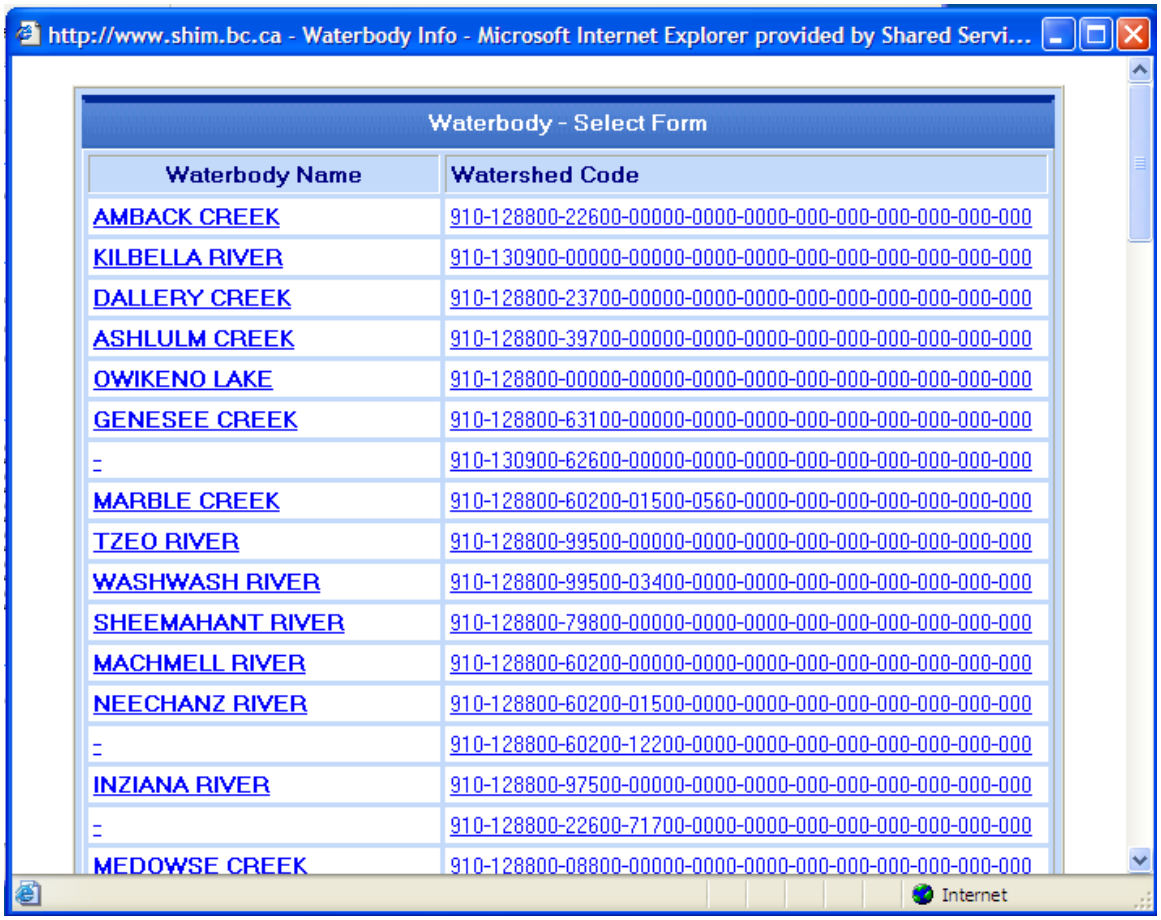


Figure 13. Example of the Waterbody Select Form

5. The waterbody list shown in Figure 13 is in order by watershed code. For a quicker search, users should check the watershed code for the waterbody in the B.C. Watershed Atlas <http://a100.gov.bc.ca/pub/fidq/main.do>.
6. Scroll down the form and look for the waterbody you wish to use and click on the hypertext link.

   Note: Many waterbodies are not in this form yet, as a point for the waterbodies must be digitized first to appear in this form. It may be necessary to use the "Digitizing a point by selecting a waterbody on a map" method instead of "Digitizing a point by selecting a waterbody from a list"

7. A new window pops-up with the reference information for the waterbody similar to Figure 16.

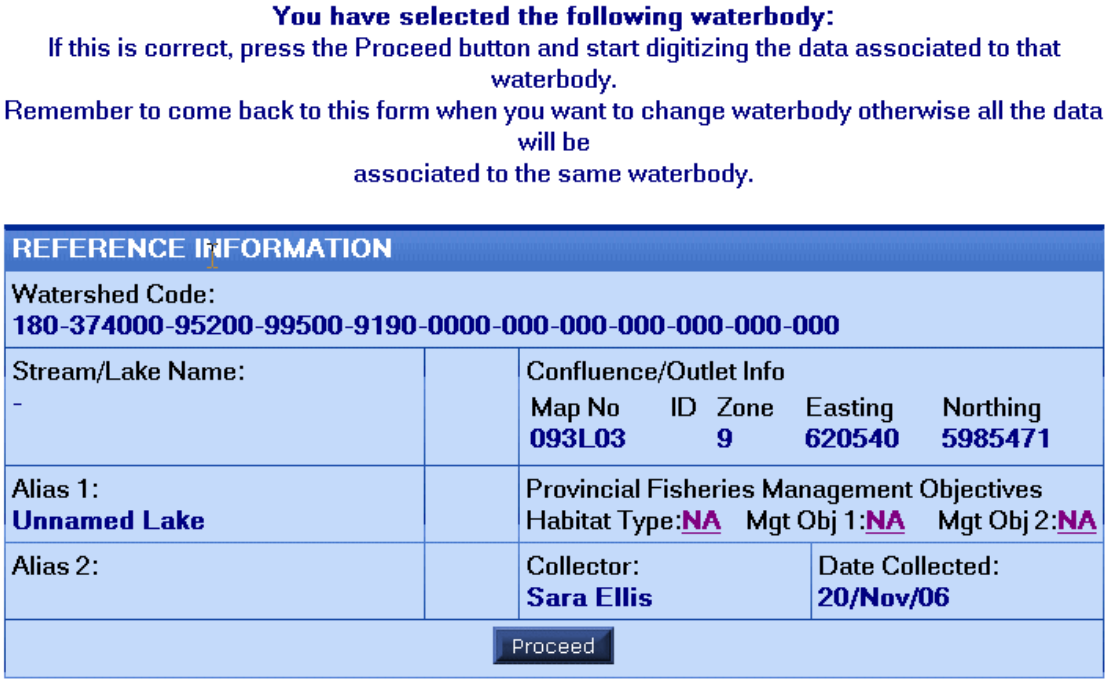


Figure 14. Example of the Waterbody Reference Information Form

8. Click proceed to begin to digitize the data.

   Note: Map does not zoom to location of the waterbody. It is possible to zoom to the location of the waterbody by using the "Zoom Goto" function which is described in the Section 6.2.
9. Your current selection will appear in the top left hand corner of the webpage.

8.0 Adding, Editing and Deleting Data to a Selected Point

There are several types of FISS Themed data that can be attached to a selected point. The FISS Theme data provide basic data about the waterbody. It is not necessary to complete all of the theme data forms for the point. The FISS Theme data categories are described in Table 2. Each FISS Theme data form has a series of codes which are specific to the type of theme data (see Appendix 3).

Table 2. What each FISS Theme Represents[8]

FISS Theme	Representation
Water Quality Stations	Contains information for only permanent sites used to access water quality including System for Environmental Assessment and Management (SEAM) and Environmental Monitoring (EMS) sites.
Enhancement/Management Activities	Provides information about the activities taken to enhance and manage fish habitats or stocks.
Sensitivity Comments	Provides information on the sensitivity of the fish habitats/stocks.
Resource Use	Provides information about how the fisheries resource is used (i.e. Commercial use, Domestic Use, Fishing Lodge, Native, Recreation and Viewing).
Obstructions	Provides information about obstructions in the waterbody which affect fish passage, and lists the fish species which are affected.
Fisheries Potential/Constraints	Provides information about activities which affect fisheries production.
Value Comments	Provides information about the type of value placed on the stream and the sensitivity of fish habitat/stocks of the waterbody. This information helps to flag significant attributes of waterbodies such as potential for angling, recreation and aesthetic considerations.
Species/Stock Information	Identifies the species and stock related to Fish Distribution and Life History Themes.
Fish Distribution	Provides information about where the fish stocks are located. The Fish distribution indicates the presence of a fish species and describes the main activities of those fish.
Life History	This record indicates the life history activities occurring for each fish species.

[8] Desrochers, B. 1997.

8.1 Adding New Data to a Selected Point

To add new data to a point:

1. Select the point you wish to add information to with the arrow button.
2. If you are not already in Mapping Tools, click on "Mapping Tools" then click on the “Insert new information to the selected point”  button.
3. Select the type of FISS theme data that you want to attach to the point from the list provided under the “Data Entry Menu”.
4. For each type of FISS Theme data, reference information must be attached.
5. To attach a reference to a FISS Theme, check the reference to see if it is in the database first.
6. If the reference is in the database, you can click the “Select” hyperlink beside the reference. This will attach the reference information to the data.
7. If the reference is not in the database, you may wish to add the reference. Close the “Database Search Engine Window”, and go back to the “FISS Water Body Form” in your selected theme data form and click on the “Add” 

button beside Reference box.
8. A FISS Reference Form window will open. Fill in the appropriate information and click the “Submit” button.
9. A message will appear confirming that the data will be committed to the database. Click the “Close” button.
10. A reference can also be added by clicking the add/edit reference button on the Map Toolbar. 

    Note: To add Fish Distributions or Life History themes, a Species/Stock record must be created first. After creating the Species/Stock record, click on the Species/Stock theme for the option to add a Fish Distribution or a Life History theme.

8.2 Editing Data

To edit data associated with a point:

1. With the arrow mouse select the point you wish to add information to.
2. Click on the “Edit Data” button. 
3. Select the type of FISS theme data that you edit from the list provided under the “Data Entry Menu”.
4. When the existing data comes up, there will be two options: Edit or Delete which are shown in Figure 17.

   Figure 15. Edit or Delete options in Edit Menu

5. Select the Edit option. After making preferred changes click the submit button.
   You will get a message “Data committed to the database”.
6. Click the “Proceed” button to resume editing.

8.3 Deleting Data

To delete data associated with a point:

1. Select the point you wish to add information to with the arrow button.
2. Click on the “Edit Data” button  .
3. Select the type of FISS theme data that you edit from the list provided under the “Data Entry Menu”.
   When the existing data comes up, there will be two options: Edit or Delete (see Figure 15).
4. Click on the Delete button.
5. A message will appear “The record has been deleted”.
6. Click the “Proceed” button to continue.

9.0 Viewing a Report for a Point

Viewing a report is used to view data that is attached to a point and is a mandatory step to verify the data entered. It is important to check the "Point Reference Report" in order to verify that the point is attached to the correct waterbody and that theme information attached to the point is correct.

There are two methods to view a report:

a. Double click on a point and the report will open;
b. Or highlight a point by selecting it, then click on the "View a report" button  in the Mapping Toolbar.

10.0 Additional Features and Options

This section contains information about additional features and options in the CMN FISS Data Entry Tool.

10.1 To Print a Map

To print, you must right click on the map and click “Print→” then “Print…”

Note: If you press print from your browser toolbar or from the file menu, you will just get a blank page, or a print out of the map toolbar.

10.2 Copying a Map to another application

Copying a Map to another application is useful for saving and editing the map that is shown in the Internet Browser.

To copy a map to another application:

1. Right click on the map, and click “Copy→” then “Copy”.
2. Open a graphics editing program such as Paint.
3. Within the graphic editing program, click on the “Edit” menu, then “Paste” or on the keyboard press “Ctrl + V”.
4. The map will be pasted into the canvas of the graphic editing program, and can be edited and saved at this point.

10.3 Distance Tool

The Distance Tool is used to measure distance. An example of its use would be to measure 1.5 km from the stream mouth.

To use the Distance Tool:

1. Right click on the map.
2. Click on "View →" then on "Distance".
3. Click on the map on at the place you want to start measuring from.
4. Click as many times as necessary to create segments to get the distance of all the curves in the waterbody.
5. A Tool Tip will tell you how long each segment is and the total distance from the first point which is demonstrated in Figure 18.

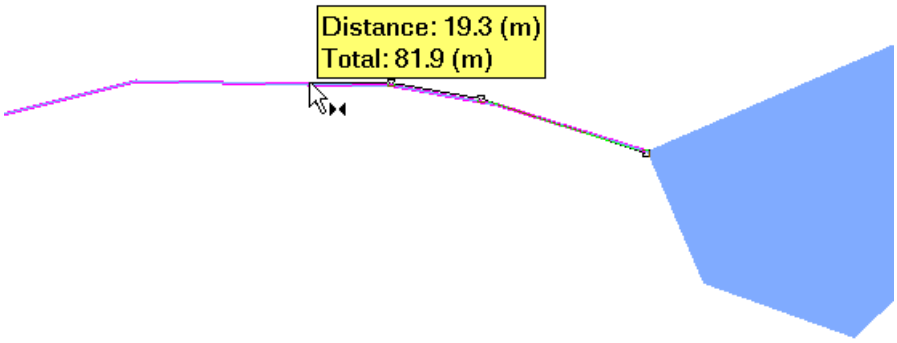


Figure 16. Measuring with the Distance Tool

10.4 Identifying a waterbody on a zoomed in map with Tool Tips

Identifying a waterbody can be easily done using Tool Tips. Tool Tips are when the user hovers the mouse over a waterbody without clicking on it, and a yellow box appears with the Waterbody name (if available), the Watershed Code, and the Internal ID Number.

To identify a waterbody on a map with Tool Tips:

1. The map needs to be zoomed in at least to 1:132,000 scale which can be quickly done using the “Goto” Zoom tool (Section 6.2).
2. Hover mouse over the waterbody you wish to identify.
3. The watershed code will appear in a box with the name if the waterbody is named.
4. Caution should be taken with this. If the wrong watershed code keeps popping up, one should zoom in more as the mouse may be picking up adjacent waterbodies.

10.5 Bookmarks

Bookmarks are a way to mark a screen view, similar to “Favorites” menu in Internet Explorer. They are very useful for marking a screen view so that they can it be revisited at a later date. When a bookmark is revisited, it brings up the exact image at the same zoom which is seen on the screen at the time the bookmark was created. Bookmarks can be added and deleted so they do not have to be permanent.

10.5.1 Adding a Bookmark

To add a bookmark:

1. Right click on the map where you would like to place a bookmark.
2. Click on “Bookmarks→” then “Add Bookmark…”
3. The “Add Bookmark” window opens which is shown in Figure 19. Type what you would like to name the bookmark.

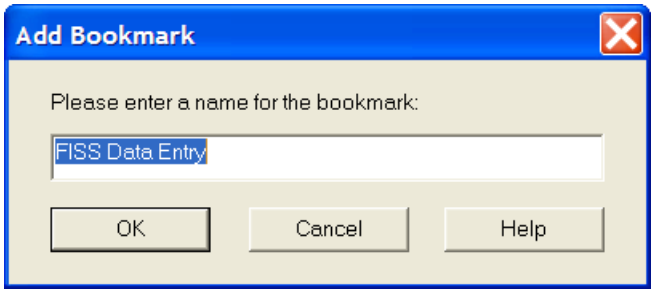


Figure 17. Add Bookmark Window

4. Click “OK”.
5. The Bookmark has been added.

10.5.2 Viewing a Bookmark

To view a bookmark:

1. Right click anywhere on the map.
2. Click on “Bookmarks→”.
3. Click on the name of the Bookmark you wish to visit.

10.5.3 Deleting a Bookmark

To delete a bookmark:

1. Right click on the map then click on “Bookmarks→” then “Delete Bookmark…”
2. The “Delete Bookmarks” window opens, similar to the one shown in Figure 20.

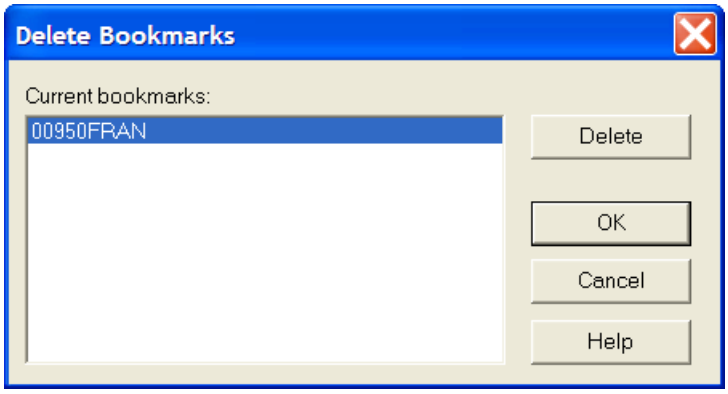


Figure 18. Delete Bookmarks Window

3. Select the bookmark you wish to delete.
4. When you are finished deleting the bookmarks, press the “OK” button.
5. If you accidentally delete a bookmark you wish to keep, click cancel, and the bookmark will still be there. Then you can go back and delete the bookmark you want to.

10.6 Selecting Map Objects

The “Select Map Objects” function selects features on the map. When the map is zoomed in, the user only has options to select map objects that are visible on the current map view. When zoomed out to the whole province, the “Select Map Objects” function can select any object on the map. This is useful for users to see all the existing Point ID’s so that users can see what Point ID’s have been used to help determine new unique point numbers.

To use the “Select Map Objects” function:

1. Right click on the map and click on “Select” → “Map Objects…” which is shown in Figure 21.

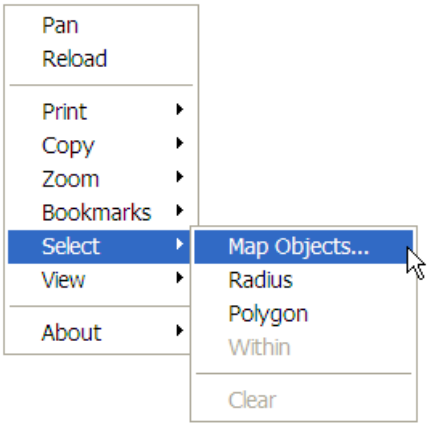


Figure 19. Select Map Objects menu

2. A Window called “Select Map Features” similar to Figure 22 opens up.

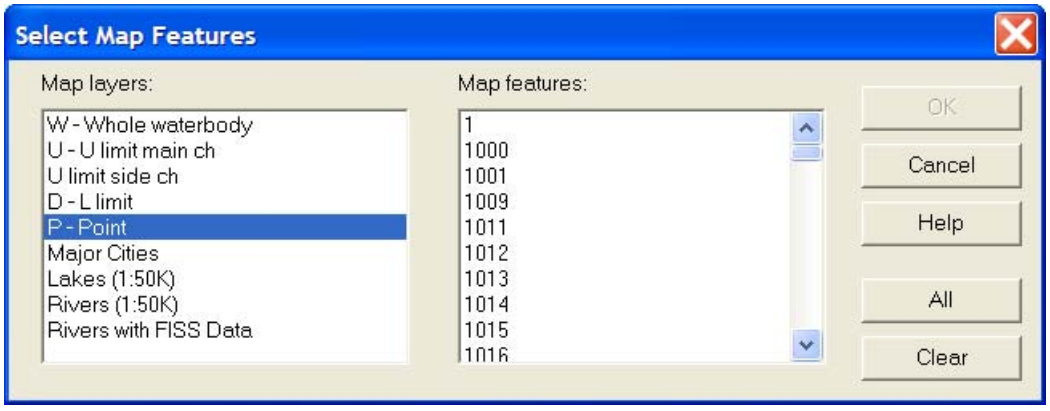


Figure 20. Select Map Features window

3. The user can then select the feature selecting the “Map layers” then selecting the “Map features”.
4. Multiple features can be selected by using the Control and Shift keys on the Keyboard.

References

Desrochers, B. 1997. Fisheries Information Summary System (FISS): Data Compilation and Mapping Procedures. Prepared by Enviro-Links, West Vancouver for Province of British Columbia Resource Inventory Branch, Victoria, B.C. and Fisheries and Oceans Canada, Vancouver, B.C. October, 1997. v + 139 pp.

Porter, G.L.; Moon, R.; & Trent, C. 2002 Apr 3. “Planning Sustainable Communities.” Prepared by G.L. Porter Consulting, Sun-Esprit Lifestyles Inc., & Sunshine Coast Regional District. Online. <http://www.shim.bc.ca/pdf/Combined_SHIM_document-scrd_July18.pdf> Accessed 2007 Feb 6. v + 119 pp.

Province of British Columbia. 2007 Jan 24. “FISS Background and Further Information.” Prepared by Gordon Oliphant for Ministry of Environment. Online. <http://www.env.gov.bc.ca/fish/fiss/background.htm> Accessed 2007 Jan 25.

List of Appendices

Appendix 1 - Additional Resources

General Inquiries

- **Gordon Oliphant**
FISS Project Manager - Ministry of Environment
Ecosystems Information Section

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Mailing Address:
PO Box 9358 STN PROV GOVT
Victoria, BC V8W 9M2

Reference Numbers

- Contact Gordon Oliphant at the Ministry of Environment for pre-approved FISS reference numbers (see “General Inquiries”).

Changes to Oracle FISS

- If a reference in Oracle FISS needs to be changed, contact Gordon Oliphant at the Ministry of Environment (see “General Inquiries”).

Useful Links

- **CMN FISS Data Entry Tool**
  The direct link in the Data Entry Tool.
  http://www.shim.bc.ca/atlases/fiss/login_screen.cfm?atlas=fiss

- **Watershed Dictionary**
  The Watershed Dictionary is useful for searching Watershed Codes and UTM coordinates.
  http://a100.gov.bc.ca/pub/fidq/main.do

- **EcoCat**
  The Ministry of Environment Ecological Reports Catalogue stores actual reports and projects. Many of the reports that are referenced in FISS are stored in EcoCat.
  http://www.env.gov.bc.ca/ecocat/

- **WAVES**
  Fisheries and Oceans Canada’s Virtual Library Catalogue
  http://inter01.dfo-mpo.gc.ca/waves2/index2.html?__LANG=en

Appendix 2 - CMN FISS Buttons

Table A1 Buttons in Map Toolbar

	Back button: exits mapping tools
	Digitize a point button: click on the map where point is to be placed
	Insert new data: attaches new data to a point
	Edit data: edits or deletes data attached to a point
	Add/Edit Reference: add, edit and search for references
	Delete Data: deletes a selected point
	View a Report: view a report of a selected point
	Print: prints map
	SHIM Homepage: link to the SHIM homepage
	Help: link to Autodesk MapGuide® Viewer Help

Table A2 Buttons in Autodesk Toolbar

	Copy: copies map that can be pasted in a graphics application
	Select: Arrow mouse selects objects in the map screen
	Pan: Hand mouse pans the map screen
	Zoom In: Zooms in to a selected part of the map
	Zoom Out: Zooms out from a part of the map
	Zoom Previous: Reverts the map to the previous zoom view
	Zoom Goto: Zooms to a specific location on the map (see Section 9.3).
	Unzoom: Unzooms map to whole of British Columbia
	View Report: Opens report for a selected point containing reference information
	Stop: Only available when CMN FISS is processing a function. When clicked on, stops the process.
	Help: link to Autodesk MapGuide® Viewer Help

Table A3 Other Buttons

	Reference Search: Opens Reference Search window.
	Add Reference: Opens Add Reference form
	Edit Data: Opens information for a selected FISS Attribute Data
	Delete Data: Deletes selected FISS Attribute Data

Appendix 3 - FISS Codes

FISS Codes: Alphabetical

CODES	ACTIVITY	"SECTION"
A	Accessible by Road	Lake Info.
A	Angler Use	Management Objective 1
A	Augmented	Management Objective 2; Species/Stock ID
A	Winter	Season
AD	Adfluvial	Species/Stock ID
AG	Agriculture	Land Use
AGU	Guides	Resource Use Info.; Harvest and Use
AH	Angler Use High	Management Objective 1
AL	Angler Use Low	Management Objective 1
AM	Angler Use Medium	Management Objective 1
AN	Anadromous	Species/Stock ID
ANG	Angling Sites	Value and Sensitivity
AR	Anadromous River	Habitat Type
AR	Restricted/Controlled Access	Lake Info.
AW	Road to Near Lake, then Walk	Lake Info.
B	Biotic Interactions	Fish Production Constraint or General Info.
B	Spring	Season
BC	Competition/Predation	Fish Production Constraint or General Info.
BCC	Competitive Species	Fish Production Constraint or General Info.
BCP	Predatory Species	Fish Production Constraint or General Info.
BD	Beaver Dam	Obstruction
BD	Disease/Parasitism	Fish Production Constraint or General Info.
BDD	Diseased Stocks	Fish Production Constraint or General Info.
BDP	Parasitized Stocks	Fish Production Constraint or General Info.
BR	Bridge	Land Use
C	Cascade	Obstruction
C	Constraint	Fish Production Potential Constraint
C	Summer	Season
CN	Canyon	Obstruction
COM	Commercial	Resource Use Info.; Harvest and Use

CV	Culvert	Obstruction
D	Dam	Obstruction
D	Fall	Season
DOM	Domestic	Resource Use Info.; Harvest and Use
E	Fish Presence in Estuary	Life History and Timing
E	Enhancement Activities; unspecified	Enhancement and Management
EB	Biological Enhancement; unspecified	Enhancement and Management
EBB	Fish Barrier; international	Enhancement and Management
EBE	Exclusion Fencing	Enhancement and Management
EBI	Invertebrate Introduction	Enhancement and Management
EBL	Lake Rehabilitation; chemical	Enhancement and Management
EBR	Riparian	Fish Production Potential; Enhancement and Management
EC	Fish Culture Activities	Enhancement and Management
ECA	Artificial Production; unspecified	Enhancement and Management
ECAC	Spawning Channel	Enhancement and Management
ECAH	Hatchery	Enhancement and Management
ECAL	Hatchery on Lake	Enhancement and Management
ECAO	Off Channel Ponds	Enhancement and Management
ECAP	Rearing Pens	Enhancement and Management
ECN	Seminatural Production	Enhancement and Management
ECNB	Hatchery Broodstock	Enhancement and Management
ECNJ	Japanese Hatchery	Enhancement and Management
ECNX	Incubation Box	Enhancement and Management
ECS	Colonization/Stocking	Fish Production Potential; Enhancement and Management
ECSC	Colonization; species not present	Enhancement and Management
ECSJ	Juvenile Outplant; species present	Enhancement and Management
ECSP	Transplant	Enhancement and Management
ECST	Trap/Truck	Enhancement and Management
EF	Water Volume/Flow Regime	Fish Production Potential
EH	Habitat Enhancement; unspecified	Enhancement and Management
EHB	Bank Stabilization	Enhancement and Management
EHBF	Riparian Zone Fencing	Enhancement and Management
EHBP	Planting	Enhancement and Management
EHBR	Rip Rap/Rock Work	Enhancement and Management
EHC	Stream Cleaning	Enhancement and Management
EHF	Fertilization	Enhancement and Management
EHM	Man Made Reef	Enhancement and Management
EHR	Rearing Habitat	Fish Production Potential
EHR	Rearing Habitat Enhancement	Enhancement and Management
EHRE	Improve Estuary	Enhancement and Management

EHRI	Instream Structure Placement	Enhancement and Management
EHRL	LOD Placement	Enhancement and Management
EHRM	Marsh Create/Planting	Enhancement and Management
EHRR	Rock/Boulder Placement	Enhancement and Management
EHRS	Side Channel / Pool	Enhancement and Management
EHS	Spawning Habitat	Fish Production Potential
EHS	Spawning Habitat Enhancement	Enhancement and Management
EHSD	Destroy Spawning Habitat	Enhancement and Management
EHSG	Gravel Cleaning	Enhancement and Management
EHSP	Spawning Gravel Placement	Enhancement and Management
EHSS	Spawning Platforms	Enhancement and Management
EHST	Sediment Trap Construction/ Cleanout	Enhancement and Management
EO	Obstruction Removal	Fish Production Potential
EO	Barrier Modification/Obstruction Removal; unspecified	Enhancement and Management
EOB	Beaver Dam Removal	Enhancement and Management
EOC	Baffle Culvert	Enhancement and Management
EOF	Fishway	Enhancement and Management
EOL	Log Jam Removal	Enhancement and Management
EOP	Tailwater or Resting Pools	Enhancement and Management
EOS	Fish Screens at Outlets/Diversions	Enhancement and Management
EW	Water Quality and Quantity	Enhancement and Management
EW	Water Quality Improvement	Fish Production Potential
EWA	Aeration	Enhancement and Management
EWC	Cold Water Release Structure	Enhancement and Management
EWD	Dam to Increase Water Level	Enhancement and Management
EWF	Flow Control	Enhancement and Management
EWS	Stream Diversion	Enhancement and Management
EWW	Warm Water Release	Enhancement and Management
F	Falls	Obstruction
F	Flow Regime	Fish Production Constraint or General Info.
FA	Lake Access	Fish Production Constraint or General Info.
FAB	Stream Braided at Low Flow	Fish Production Constraint or General Info.
FAI	Intermittently Accessible	Fish Production Constraint or General Info.
FAN	Not Accessible	Fish Production Constraint or General Info.
FAS	Seasonally Accessible	Fish Production Constraint or General Info.
FF	Flow Fluctuations	Fish Production Constraint or General Info.

FFF	Flashy Flows	Fish Production Constraint or General Info.
FG	Groundwater Fed	Fish Production Constraint or General Info.
FIS	Sensitive Fish Stock	Value and Sensitivity
FL	Fishing Lodge/Resort	Lake Info.
FL	Fluvial	Species/Stock ID
FL	Low Flows	Fish Production Constraint or General Info.
FLD	Dewatering	Fish Production Constraint or General Info.
FLF	Seasonal Flow	Fish Production Constraint or General Info.
FLG	Fishing Lodge	Resource Use Info.; Harvest and Use
FLI	Intermittent Stream	Fish Production Constraint or General Info.
FLP	Permanent Flow	Fish Production Constraint or General Info.
FLS	Summer Low Flows	Fish Production Constraint or General Info.
FLW	Winter Low Flows	Fish Production Constraint or General Info.
FO	Forestry	Land Use
FP	Peak Flows; flooding	Fish Production Constraint or General Info.
FPA	Floods Banks Annually	Fish Production Constraint or General Info.
FPF	Floods Banks Several Times Per Year	Fish Production Constraint or General Info.
FPR	Floods Banks Every Several Years	Fish Production Constraint or General Info.
FRC	Diversion Channel	Fish Production Constraint or General Info.
FRD	Reservoir Drawdown	Fish Production Constraint or General Info.
FRI	Irrigation Ditch	Fish Production Constraint or General Info.
FRP	Placer Lease and Claim	Fish Production Constraint or General Info.
FU	Water Use/Diversion	Fish Production Constraint or General Info.
FUF	Fully Subscribed With Licenses	Fish Production Constraint or General Info.
FUP	Pump Intake	Fish Production Constraint or General Info.

FUS	Water Storage Reservoir	Fish Production Constraint or General Info.
G	General Information	Fish Production Potential/Constraint
H	Habitat Quality	Fish Production Constraint or General Info.
H	Hatchery	Management Objective 2; Species/Stock ID
H	High Potential/Constraint	Fish Production Potential/Constraint
HA	Alienated Habitat	Fish Production Constraint or General Info.
HAB	Sensitive Habitat	Value and Sensitivity
HB	Bed/Bank Characterization	Fish Production Constraint or General Info.
HBB	Bank/Bar Composition	Fish Production Constraint or General Info.
HBBC	Cobble Bank/Bar Composition	Fish Production Constraint or General Info.
HBBG	Gravel Bank/Bar Composition	Fish Production Constraint or General Info.
HBBM	Mud Bank/Bar Composition	Fish Production Constraint or General Info.
HBBS	Sand Bank/Bar Composition	Fish Production Constraint or General Info.
HBD	Developed Bed/Bank	Fish Production Constraint or General Info.
HBDB	Booms/Booming Ground	Fish Production Constraint or General Info.
HBDD	Dredging	Fish Production Constraint or General Info.
HBDG	Gravel Extraction / Scalping	Fish Production Constraint or General Info.
HBDP	Pier	Fish Production Constraint or General Info.
HBDR	Rip Rap	Fish Production Constraint or General Info.
HBR	Riverbed Substrate	Fish Production Constraint or General Info.
HBRC	Cobble Riverbed Substrate	Fish Production Constraint or General Info.
HBRG	Gravel Riverbed Substrate	Fish Production Constraint or General Info.
HBRM	Mud Riverbed Substrate	Fish Production Constraint or General Info.
HBRS	Sand Riverbed Substrate	Fish Production Constraint or

		General Info.
HBV	Aquatic Vegetation	Fish Production Constraint or General Info.
HBVE	Emergent Aquatic Vegetation	Fish Production Constraint or General Info.
HBVS	Submergent Aquatic Vegetation	Fish Production Constraint or General Info.
HC	Channel Stability	Fish Production Constraint or General Info.
HCE	Erosion / Sedimentation	Fish Production Constraint or General Info.
HCEB	Lateral Stream/Bank Erosion	Fish Production Constraint or General Info.
HCEI	Streambed Incision	Fish Production Constraint or General Info.
HCES	Streambed Sedimentation	Fish Production Constraint or General Info.
HD	Habitat Diversity	Constraints or General Info.
HD	Hydro Dam	Obstruction
HDH	High Diversity of Habitat	Fish Production Constraint or General Info.
HDL	Low Diversity of Habitat	Fish Production Constraint or General Info.
HDM	Medium Diversity of Habitat	Fish Production Constraint or General Info.
HM	Waterbody Morphology	Fish Production Constraint or General Info.
HMW	Wetlands	Fish Production Constraint or General Info.
HMWI	Intermittently Flooded Wetlands	Fish Production Constraint or General Info.
HMWP	Permanently Flooded Wetlands	Fish Production Constraint or General Info.
HMWS	Seasonally Flooded Wetlands	Fish Production Constraint or General Info.
HMWT	Tidal Wetlands	Fish Production Constraint or General Info.
HOL	Holding or Staging Location	Fish Distribution
HR	Rearing Habitat	Fish Production Constraint or General Info.
HRA	Quantity/Amount of Rearing Habitat	Fish Production Constraint or General Info.
HRAH	High Quantity Rearing Habitat	Fish Production Constraint or General Info.
HRAL	Low Quantity Rearing Habitat	Fish Production Constraint or General Info.

HRAM	Medium Quantity Rearing Habitat	Fish Production Constraint or General Info.
HRF	Food Production	Fish Production Constraint or General Info.
HRQ	Quality of Rearing Habitat	Fish Production Constraint or General Info.
HRQH	High Quality Rearing Habitat	Fish Production Constraint or General Info.
HRQL	Low Quality Rearing Habitat	Fish Production Constraint or General Info.
HRQM	Medium Quality Rearing Habitat	Fish Production Constraint or General Info.
HS	Spawning Habitat	Fish Production Constraint or General Info.
HSA	Quantity/Amount of Spawning	Fish Production Constraint or General Info.
HSAH	High Quantity of Spawning Habitat	Fish Production Constraint or General Info.
HSAL	Low Quantity of Spawning Habitat	Fish Production Constraint or General Info.
HSAM	Medium Quantity of Spawning Habitat	Fish Production Constraint or General Info.
HSG	Groundwater Influence on Spawning Habitat	Fish Production Constraint or General Info.
HSQ	Quality of Spawning Habitat	Fish Production Constraint or General Info.
HSQH	High Gravel Quality of Spawning Habitat	Fish Production Constraint or General Info.
HSQL	Low Gravel Quality of Spawning Habitat	Fish Production Constraint or General Info.
HSQM	Medium Gravel Quality of Spawning Habitat	Fish Production Constraint or General Info.
HZ	Riparian Zone	Fish Production Constraint or General Info.
HZF	Exclusion Fencing	Fish Production Constraint or General Info.
HZV	Vegetation	Fish Production Constraint or General Info.
HZVA	Riparian Vegetation Cover 0-20%	Fish Production Constraint or General Info.
HZVB	Riparian Vegetation Cover 20-40%	Fish Production Constraint or General Info.
HZVC	Riparian Vegetation Cover 40-60%	Fish Production Constraint or General Info.
HZVD	Riparian Vegetation Cover 60-80%	Fish Production Constraint or General Info.

HZVE	Riparian Vegetation Cover 80-100%	Fish Production Constraint or General Info.
I	Accessible by Air	Lake Info.
IP	Industrial Processing	Land Use
IR	Inland River	Habitat Type
L	Fish Presence in Lower River	Life History and Timing
L	Low Potential/Constraint	Fish Production Potential/Constraint
LD	Linear Development	Land Use
LL	Large Lake; ≥400 ha	Habitat Type
LU	Land Use; unspecified	Land Use
M	Accessible by Water	Lake Info.
M	Average Potential/Constraint	Fish Production Potential/Constraint
M	Management Activities; unspecified	Enhancement and Management
MA	Special Agreements With Other Agency or Concern	Enhancement and Management
ME	Environmentally Sensitive Area	Enhancement and Management
MF	MOF Recreation Site	Lake Info.
MI	Mining	Land Use
MP	Management Plan	Enhancement and Management
MR	Water Specific Angling Regulation	Enhancement and Management
MS	Biophysical Surveys; unspecified	Enhancement and Management
MSB	Biophysical Inventory/Assessment	Enhancement and Management
MSC	Creel Census	Enhancement and Management
MSF	Counting Fence	Enhancement and Management
MSM	Mark Recovery	Enhancement and Management
MSS	Fish Sampling	Enhancement and Management
MW	Maintain Walk In Status	Management Objective 1
NAT	Native	Resource Use Info.; Harvest and Use
NFC	No Fish Caught	Fish Distribution
NFO	No Fish Observed; YUKON ONLY	Fish Distribution
NFP	No Fish Present	Fish Distribution
NS	Not Specified	Species/Stock ID
OBL	Fish Observed at this Point or Zone	Fish Distribution
P	Peak	Life History and Timing
P	Potential	Fish Production Potential/Constraint
P	Preservation	Management Objective 1
PB	Preservation/Broodstock	Management Objective 1
PD	Persistent Debris	Obstruction
PG	Preservation/Genetic Refugia	Management Objective 1

PK	Park	Lake Info.
PL	Pipeline Crossing	Land Use
PM	Placer Mining	Land Use
PR	Parks	Land Use
PR	Preservation/Research	Management Objective 1
PU	Pump	Obstruction
PX	Powerline Crossing	Land Use
R	Rock	Obstruction
RD	Road	Land Use
RE	Reserves	Land Use
REA	Rearing Location	Fish Distribution
REC	Recreational	Resource Use Info.; Value and Sensitivity; Harvest and Use
RS	Resident	Species/Stock ID
SEE	High Aesthetic Values	Value and Sensitivity
SL	Small Lake; <400 ha	Habitat Type
SPE	Spawning in Estuary	Fish Distribution
SPL	Spawning Location	Fish Distribution
SPM	Major Spawning Location	Fish Distribution
UD	Urban Development	Land Use
UNC	Unconfirmed Siting; YUKON ONLY	Fish Distribution
VB	Velocity Barrier	Obstruction
VUE	Viewing	Resource Use Info.; Value and Sensitivity; Harvest and Use
W	Water Quality	Fish Production Constraint or General Info.
W	Wild	Management Objective 2; Species/Stock ID
W	Wilderness, no Road Access	Lake Info.
WA	Acidity	Fish Production Constraint or General Info.
WAH	Acidic; pH < 5.5	Fish Production Constraint or General Info.
WAL	Alkaline; pH > 8.5	Fish Production Constraint or General Info.
WAM	Medium; 5.5 < pH < 8.5	Fish Production Constraint or General Info.
WC	Turbidity/Colour	Fish Production Constraint or General Info.
WCG	Glacial Silt	Fish Production Constraint or General Info.
WCH	Humic Stained	Fish Production Constraint or General Info.
WCS	Suspended Sediments	Fish Production Constraint or

		General Info.
WCSL	Suspended Sediments; land use	Fish Production Constraint or General Info.
WCSN	Suspended Sediments; natural	Fish Production Constraint or General Info.
WD	Disturbance	Fish Production Constraint or General Info.
WDC	Cattle Crossing/Watering	Fish Production Constraint or General Info.
WDF	Forest Fire	Fish Production Constraint or General Info.
WDP	Placer Mining	Fish Production Constraint or General Info.
WDR	Cattle Range	Fish Production Constraint or General Info.
WF	Fish Contamination	Fish Production Constraint or General Info.
WFA	Consumption Advisory	Fish Production Constraint or General Info.
WFB	Bioassay Information	Fish Production Constraint or General Info.
WFC	Fishery Closure	Fish Production Constraint or General Info.
WI	Wild Indigenous	Management Objective 2; Species/Stock ID
WN	Nutrients	Fish Production Constraint or General Info.
WN	Wild Naturalized	Management Objective 2; Species/Stock ID
WNE	Eutrophic	Fish Production Constraint or General Info.
		General Info.
WNM	Mesotrophic	Fish Production Constraint or General Info.
WNO	Oligotrophic	Fish Production Constraint or General Info.
WO	Dissolved Oxygen	Fish Production Constraint or General Info.
WOB	BOD	Fish Production Constraint or General Info.
WOL	Summerkills	Fish Production Constraint or General Info.
WOS	Gas Supersaturation	Fish Production Constraint or General Info.
WOW	Winterkills	Fish Production Constraint or General Info.

WP	Pollutants	Fish Production Constraint or General Info.
WPA	Agricultural Runoff	Fish Production Constraint or General Info.
WPD	Storm Drain	Fish Production Constraint or General Info.
WPF	Fish Kills Caused by Pollution	Fish Production Constraint or General Info.
WPG	Groundwater Contamination	Fish Production Constraint or General Info.
WPL	Spills	Fish Production Constraint or General Info.
WPM	Municipal Effluent	Fish Production Constraint or General Info.
WPMD	Domestic Sewage Outfall	Fish Production Constraint or General Info.
WPML	Landfill Leachates	Fish Production Constraint or General Info
WPMP	Septic System Inputs	Fish Production Constraint or General Info
WPMS	Storm Sewer Outfall	Fish Production Constraint or General Info
WPMU	Underground Storage Tanks	Fish Production Constraint or General Info
WPP	Pulp Mill / Industrial Effluent	Fish Production Constraint or General Info
WPR	Runoff Contamination	Fish Production Constraint or General Info
WPS	Sediment Contamination	Fish Production Constraint or General Info
WPT	Toxic Waste Site	Fish Production Constraint or General Info
WT	Temperature	Fish Production Constraint or General Info
WTH	High Temperature	Fish Production Constraint or General Info
WTL	Low Temperature	Fish Production Constraint or General Info
X	Log Jam	Obstruction

Appendix 4A - B.C. Fish Species Codes: Taxonomic Groupings

B.C. Fish Species Codes: Taxonomic Groupings

CODE	COMMON NAME	LATIN NAME
	Fish (General)	
AF	All Species	
SP	Species Present, not identified	
NFP	No Fish Present	
	Salmonids (Salmon, Trout, Char)	
SA	Salmon (General)	*Oncorhynchus* spp., *Salmo salar*
AO	All Salmon	*Oncorhynchus* spp., *Salmo salar*
PK	Pink Salmon, Humpback Salmon	*Oncorhynchus gorbuscha*
CM	Chum Salmon, Dog Salmon	*Oncorhynchus keta*
CO	Coho Salmon	*Oncorhynchus kisutch*
SK	Sockeye Salmon	*Oncorhynchus nerka*
KO	Kokanee	*Oncorhynchus nerka*
CH	Chinook Salmon, Spring Salmon, King Salmon, Tyee	*Oncorhynchus tshawytscha*
TR	Trout (General)	*Oncorhynchus* sp
CT	Cutthroat Trout (General)	*Oncorhynchus clarki* (formerly *Salmo clarki*)
ACT	Anadromous Cutthroat Trout	*Oncorhynchus clarki* (formerly *Salmo clarki*)
CCT	Coastal Cutthroat Trout	*Oncorhynchus clarki clarki* (formerly *Salmo clarki clarki*)
WCT	Westslope Cutthroat Trout (preferred) Yellowstone Cutthroat Trout	*Oncorhynchus clarki lewisi* (formerly *Salmo clarki lewisi*)
RB	Rainbow Trout, Kamloops Trout	*Oncorhynchus mykiss* (formerly *Salmo gairdneri*)
ST	Steelhead	*Oncorhynchus mykiss* (formerly *Salmo gairdneri*)
SST	Steelhead (Summer-run)	*Oncorhynchus mykiss*
WST	Steelhead (Winter-run)	*Oncorhynchus mykiss*
AS	Atlantic Salmon	*Salmo salar*

GB	Brown Trout, German Brown Trout	*Salmo trutta*
AGB	Anadromous Brown Trout, Anadromous German Brown Trout	*Salmo trutta*
AC	Arctic Char	*Salvelinus alpinus*
BT	Bull Trout	*Salvelinus confluentus*
EB	Brook Trout, Eastern Brook Trout	*Salvelinus fontinalis*
AEB	Anadromous Eastern Brook Trout	*Salvelinus fontinalis*
SPK	Splake	*Salvelinus fontinalis x Salvelinus namaycush*
DV	Dolly Varden, Dolly Varden Char	*Salvelinus malma*
ADV	Anadromous Dolly Varden, Anadromous Dolly Varden Char	*Salvelinus malma*
LT	Lake Trout, Lake Char	*Salvelinus namaycush*
	Sturgeon	
SG	Sturgeons (General)	*Acipenser* spp.
GSG	Green Sturgeon	*Acipenser medirostris*
WSG	White Sturgeon	*Acipenser transmontanus*
WSK	White Sturgeon (Kootenay River Pop)	*Acipenser transmontanus* Pop 1
	Cod	
BB	Burbot, Freshwater Ling Cod, Ling, Loche, Lawyer	*Lota lota*
	Whitefish	
WF	Whitefish (General)	*Prosopium* spp., *Coregonus* spp., *Stenodus* sp.
PW	Pygmy Whitefish, Coulter's Whitefish	*Prosopium coulteri*
GPW	Giant Pygmy Whitefish	*Prosopium* sp., poss. subspecies of *Prosopium coulteri*
RW	Round Whitefish	*Prosopium cylindraceum*
MW	Mountain Whitefish, Rocky Mountain Whitefish	*Prosopium williamsoni*
DLW	Dragon Lake Whitefish	*Coregonus* Sp 1
LW	Lake Whitefish, Common Whitefish, Humpback Whitefish	*Coregonus clupeaformis*

BW	Broad Whitefish, Round-nosed Whitefish, Sheep-nose Whitefish	*Coregonus nasus*
SQ	Squanga	*Coregonus* sp.
CL	Lake Cisco	*Coregonus artedii*
CA	Arctic Cisco	*Coregonus autumnalis*
CS	Least Cisco	*Coregonus sardinella*
CB	Bering Cisco	*Coregonus laurettae*
IN	Inconnu, Sheefish, "Conny"	*Stenodus leucichthys*
	Lampreys	
L	Lampreys (General)	*Lampetra* spp.
AL	Arctic Lamprey	*Lampetra japonica*
RL	River Lamprey, Western Lamprey	*Lampetra ayresi*
LL	Lake Lamprey, Cowichan Lamprey	*Lampetra macrostoma*
BL	Western Brook Lamprey	*Lampetra richardsoni*
MCL	Morrison Creek Lamprey	*Lampetra richardsoni marifaga*
PL	Pacific Lamprey, Sea Lamprey	*Lampetra tridentata*
	Grayling	
GR	Arctic Grayling	*Thymallus arcticus*
	Goldeyes	
GE	Goldeye	*Hiodon alosoides*
	Herrings	
SH	American Shad	*Alosa sapidissima*
	Minnows	
C	Minnows (General)	many, all cyprinids
CP	Carp	*Cyprinus carpio*
GC	Goldfish	*Carassius auratus*
TC	Tench	*Tinca tinca*
ESC	Emerald Shiner	*Notropis atherinoides*
STC	Spottail Shiner	*Notropis hudsonius*
RSC	Redside Shiner	*Richardsonius balteatus*

CBC	Chub, General	
FHC	Flathead Chub	*Platygobio gracilis*
LKC	Lake Chub	*Couesius plumbeus*
PCC	Peamouth Chub, Peamouth	*Mylocheilus caurinus*
NSC	Northern Squawfish	*Ptycheilus oregonensis*
CMC	Chiselmouth	*Acrocheilus alutaceus*
BMC	Brassy Minnow	*Hybognathus hankinsoni*
DC	Dace, General	*Rhinichthys* spp., *Phoxinus* spp.
NDC	Nooksack Dace, Nooky Dace	*Rhinichthys* sp.
LNC	Longnose Dace	*Rhinichthys cataractae*
LDC	Leopard Dace	*Rhinichthys falcatus*
SDC	Speckled Dace	*Rhinichthys osculus*
UDC	Umatilla Dace	*Rhinichthys umatilla*
FDC	Finescale Dace	*Phoxinus neogaeus* (formerly *Pfrille neogaea* and *Chrosomus neogaeus*)
RDC	Northern Redbelly Dace	*Phoxinus eos* (formerly *Chrosomus eos*)
XDC	Northern Redbelly Dace x Finescale Dace	*Phoxinus eos* (Cope) *x Phoxinus neogaeus* (Cope)
PDC	Pearl Dace, Northern Pearl Dace	*Margariscus margarita* (formerly *Semotilus margarita*)
FM	Fathead Minnow	*Pimephales promelas*
	Suckers	
SU	Suckers, General	*Catostomus* sp.
SSU	Salish Sucker	*Catostomus* sp.
LSU	Longnose Sucker, Fine-scaled Sucker, Northern Sucker	*Catostomus catostomus*
BSU	Bridgelip Sucker, Columbia Small-scaled Sucker	*Catostomus columbianus*
WSU	White Sucker	*Catostomus commersoni*
CSU	Largescale Sucker, Coarsescale Sucker	*Catostomus macrocheilus*

MSU	Mountain Sucker, Northern/Plains Mountain Sucker	*Catostomus platyrhyncus* (formerly *Pantosteus jordani*)
	Catfish	
BH	Catfish, General (pref.), Bullheads	
BNH	Brown Bullhead, Brown Catfish	*Ameiurus nebulosus* (formerly *Ictalurus nebulosus*)
BKH	Black Bullhead, Black Catfish	*Ameiurus melas* (formerly *Ictalurus melas*)
	Pike	
NP	Northern Pike, Jackfish, Jack	*Esox lucius*
	Smelts	
SM	Smelts, General	
RSM	Rainbow Smelt	*Osmerus mordax*
EU	Eulachon, Candlefish	*Thaleichthys pacificus*
PLS	Pygmy Longfin Smelt	*Spirinchus* spp.
LSM	Longfin Smelt	*Spirincus thaleichthys*
SSM	Surf Smelt	*Hypomesus pretiosus*
	Sticklebacks	
SB	Sticklebacks, General	
CSB	Unarmoured Stickleback	*Gasterosteus* sp.
SB3	Charlotte Unarmoured Stickleback	*Gasterosteus* sp.
SB11	Lake Sticklebacks	*Gasterosteus* sp.
SB1	Balkwill Lake Benthic Stickleback	*Gasterosteus* sp.
SB2	Balkwill Lake Limnetic Sticleback	*Gasterosteus* sp.
SB4	Emily Lake Benthic Stickleback	*Gasterosteus* sp.
SB5	Emily Lake Limnetic Stickleback	*Gasterosteus* sp.
SB6	Enos Lake Benthic Stickleback	*Gasterosteus* sp.
SB7	Enos Lake Limnetic Stickleback	*Gasterosteus* sp.
SB9	Hadley Lake Benthic Stickleback	*Gasterosteus* sp.
SB10	Hadley Lake Limnetic Stickleback	*Gasterosteus* sp.
SB12	Paxton Lake Benthic Stickleback	*Gasterosteus* sp.

SB13	Paxton Lake Limnetic Stickleback	*Gasterosteus* sp.
SBB	Priest Lake Benthic Stickleback	*Gasterosteus* sp.
SBP	Priest Lake Limnetic Stickleback	*Gasterosteus* sp.
GSB	Giant Black	*Gasterosteus* sp.
SB8	Giant Stickleback	*Gasterosteus* sp.
TSB	Threespine Stickleback	*Gasterosteus aculeatus*
BSB	Brook Stickleback	*Culea inconstans*
NSB	Ninespine Stickleback	*Pungitius pungitius*
	Sculpins	
CC	Sculpins, General (pref.), Bullheads	Primarily *Cottus* spp.
CCA	Sharpnose Sculpin	*Clinocottus acuticeps*
COM	Tidepool Sculpin	*Oligocottus maculosus*
CLA	Pacific Staghorn Sculpin, Staghorn Sculpin	*Leptocottus armatus*
CMT	Deepwater Sculpin	*Myoxocephalus quadricornis*
CCL	Cultus Lake Sculpin	*Cottus* sp.
CAL	Coastrange Sculpin, Aleutian Sculpin	*Cottus aleuticus*
CAS	Prickly Sculpin	*Cottus asper*
CBA	Mottled Sculpin	*Cottus bairdi*
CCG	Slimy Sculpin	*Cottus cognatus*
CCN	Shorthead Sculpin	*Cottus confusus*
CRH	Torrent Sculpin	*Cottus rhotheus*
CRI	Spoonhead Sculpin, Spoonhead Muddler	*Cottus ricei*
	Sunfish/Bass	
BS	Bass / Sunfish, General	*Micropterus* spp., *Lepomis* sp., *Pomoxis* sp.
SMB	Smallmouth Bass, Smallmouth Black Bass	*Micropterus dolomieui*
LMB	Largemouth Bass, Largemouth Black Bass	*Micropterus salmoides*

PMB	Pumpkinseed, Sunfish, Pumpkinseed Sunfish	*Lepomis gibbosus*
BCB	Black Crappie, Calico Bass	*Pomoxis nigromaculatus*
	Perches	
P	Perch, General	*Perca* sp., *Stizostedion* sp.
WP	Walleye, Pike-perch, Pickerel, Dore, many others	*Stizostedion vitreum*
YP	Yellow Perch, American Yellow Perch, many others	*Perca flavescens*
	Flounders	
SFL	Starry Flounder	*Platichthys stellatus*
	Troutperch	
TP	Troutperch	*Percopis omiscomaycus*
	Mosquitofish	
GAM	Mosquitofish, Gambusia	*Gambusia* sp.

Appendix 4B - B.C. Fish Species Codes: Alphabetical by Common Names

B.C. Fish Species Codes: Alphabetical by Common Names

CODE	COMMON NAME	LATIN NAME
AD	All Anadromous Species	
AO	All Salmon	*Oncorhynchus* spp., *Salmo salar*
AF	All Species	
SH	American Shad	*Alosa sapidissima*
AGB	Anadromous Brown Trout, Anadromous German Brown Trout	*Salmo trutta*
ACT	Anadromous Cutthroat Trout	*Oncorhynchus clarki* (formerly *Salmo clarki*)
ADV	Anadromous Dolly Varden, Anadromous Dolly Varden Char	*Salvelinus malma*
AEB	Anadromous Eastern Brook Trout	*Salvelinus fontinalis*
AC	Arctic Char	*Salvelinus alpinus*
CA	Arctic Cisco	*Coregonus autumnalis*
GR	Arctic Grayling	*Thymallus arcticus*
AL	Arctic Lamprey	*Lampetra japonica*
AS	Atlantic Salmon	*Salmo salar*
SB1	Balkwill Lake Benthic Stickleback	*Gasterosteus* sp.
SB2	Balkwill Lake Limnetic Sticleback	*Gasterosteus* sp.
BS	Bass / Sunfish, General	*Micropterus* spp., *Lepomis* sp., *Pomoxis* sp.
CB	Bering Cisco	*Coregonus laurettae*
BKH	Black Bullhead, Black Catfish	*Ameiurus melas* (formerly *Ictalurus melas*)
BCB	Black Crappie, Calico Bass	*Pomoxis nigromaculatus*
BMC	Brassy Minnow	*Hybognathus hankinsoni*
BSU	Bridgelip Sucker, Columbia Small-scaled Sucker	*Catostomus columbianus*
BW	Broad Whitefish, Round-nosed Whitefish, Sheep-nose Whitefish	*Coregonus nasus*
BSB	Brook Stickleback	*Culea inconstans*
EB	Brook Trout, Eastern Brook Trout	*Salvelinus fontinalis*

BNH	Brown Bullhead, Brown Catfish	*Ameiurus nebulosus* (formerly *Ictalurus nebulosus*)
GB	Brown Trout, German Brown Trout	*Salmo trutta*
BT	Bull Trout	*Salvelinus confluentus*
BB	Burbot, Freshwater Ling Cod, Ling, Loche, Lawyer	*Lota lota*
CP	Carp	*Cyprinus carpio*
BH	Catfish, General (pref.), Bullheads	
SB3	Charlotte Unarmoured Stickleback	*Gasterosteus* sp.
CH	Chinook Salmon, Spring Salmon, King Salmon, Tyee	*Oncorhynchus tshawytscha*
CMC	Chiselmouth	*Acrocheilus alutaceus*
CBC	Chub, General	
CM	Chum Salmon, Dog Salmon	*Oncorhynchus keta*
CCT	Coastal Cutthroat Trout	*Oncorhynchus clarki clarki* (formerly *Salmo clarki clarki*)
CAL	Coastrange Sculpin, Aleutian Sculpin	*Cottus aleuticus*
CO	Coho Salmon	*Oncorhynchus kisutch*
CCL	Cultus Lake Sculpin	*Cottus* sp.
CT	Cutthroat Trout (General)	*Oncorhynchus clarki* (formerly *Salmo clarki*)
DC	Dace, General	*Rhinichthys* spp., *Phoxinus* spp.
CMT	Deepwater Sculpin	*Myoxocephalus quadricornis*
DV	Dolly Varden, Dolly Varden Char	*Salvelinus malma*
DLW	Dragon Lake Whitefish	*Coregonus* Sp.
ESC	Emerald Shiner	*Notropis atherinoides*
SB4	Emily Lake Benthic Stickleback	*Gasterosteus* sp.
SB5	Emily Lake Limnetic Stickleback	*Gasterosteus* sp.
SB6	Enos Lake Benthic Stickleback	*Gasterosteus* sp.
SB7	Enos Lake Limnetic Stickleback	*Gasterosteus* sp.
EU	Eulachon, Candlefish	*Thaleichthys pacificus*
FM	Fathead Minnow	*Pimephales promelas*

FDC	Finescale Dace	*Phoxinus neogaeus* (formerly *Pfrille neogaea* and *Chrosomus neogaeus*)
FHC	Flathead Chub	*Platygobio gracilis*
GSB	Giant Black	*Gasterosteus* sp.
GPW	Giant Pygmy Whitefish	*Prosopium* sp., poss. subspecies of *Prosopium coulteri*
SB8	Giant Stickleback	*Gasterosteus* sp.
GE	Goldeye	*Hiodon alosoides*
GC	Goldfish	*Carassius auratus*
GSG	Green Sturgeon	*Acipenser medirostris*
SB9	Hadley Lake Benthic Stickleback	*Gasterosteus* sp.
SB10	Hadley Lake Limnetic Stickleback	*Gasterosteus* sp.
IN	Inconnu, Sheefish, "Conny"	*Stenodus leucichthys*
KO	Kokanee	*Oncorhynchus nerka*
LKC	Lake Chub	*Couesius plumbeus*
CL	Lake Cisco	*Coregonus artedii*
LL	Lake Lamprey, Cowichan Lamprey	*Lampetra macrostoma*
SB11	Lake Sticklebacks	*Gasterosteus* sp.
LT	Lake Trout, Lake Char	*Salvelinus namaycush*
LW	Lake Whitefish, Common Whitefish, Humpback Whitefish	*Coregonus clupeaformis*
L	Lampreys (General)	*Lampetra* spp.
LMB	Largemouth Bass, Largemouth Black Bass	*Micropterus salmoides*
CSU	Largescale Sucker, Coarsescale Sucker	*Catostomus macrocheilus*
CS	Least Cisco	*Coregonus sardinella*
LDC	Leopard Dace	*Rhinichthys falcatus*
LSM	Longfin Smelt	*Spirincus thaleichthys*
LNC	Longnose Dace	*Rhinichthys cataractae*
LSU	Longnose Sucker, Fine-scaled Sucker, Northern Sucker	*Catostomus catostomus*
C	Minnows (General)	many, all cyprinids

MCL	Morrison Creek Lamprey	*Lampetra richardsoni marifaga*
GAM	Mosquitofish, Gambusia	*Gambusia* sp.
CBA	Mottled Sculpin	*Cottus bairdi*
MSU	Mountain Sucker, Northern/Plains Mountain Sucker	*Catostomus platyrhyncus* (formerly *Pantosteus jordani*)
MW	Mountain Whitefish, Rocky Mountain Whitefish	*Prosopium williamsoni*
NSB	Ninespine Stickleback	*Pungitius pungitius*
NFP	No Fish Present	
NDC	Nooksack Dace, Nooky Dace	*Rhinichthys* sp.
NP	Northern Pike, Jackfish, Jack	*Esox lucius*
RDC	Northern Redbelly Dace	*Phoxinus eos* (formerly *Chrosomus eos*)
XDC	Northern Redbelly Dace x Finescale Dace	*Phoxinus eos* (Cope) *x Phoxinus neogaeus* (Cope)
NSC	Northern Squawfish	*Ptycheilus oregonensis*
PL	Pacific Lamprey, Sea Lamprey	*Lampetra tridentata*
CLA	Pacific Staghorn Sculpin, Staghorn Sculpin	*Leptocottus armatus*
SB12	Paxton Lake Benthic Stickleback	*Gasterosteus* sp.
SB13	Paxton Lake Limnetic Stickleback	*Gasterosteus* sp.
PCC	Peamouth Chub, Peamouth	*Mylocheilus caurinus*
PDC	Pearl Dace, Northern Pearl Dace	*Margariscus margarita* (formerly *Semotilus margarita*)
P	Perch, General	*Perca* sp., *Stizostedion* sp.
PK	Pink Salmon, Humpback Salmon	*Oncorhynchus gorbuscha*
CAS	Prickly Sculpin	*Cottus asper*
SBB	Priest Lake Benthic Stickleback	*Gasterosteus* sp.
SBP	Priest Lake Limnetic Stickleback	*Gasterosteus* sp.
PMB	Pumpkinseed, Sunfish, Pumpkinseed Sunfish	*Lepomis gibbosus*
PLS	Pygmy Longfin Smelt	*Spirinchus* spp.
PW	Pygmy Whitefish, Coulter's Whitefish	*Prosopium coulteri*
RSM	Rainbow Smelt	*Osmerus mordax*

RB	Rainbow Trout, Kamloops Trout	*Oncorhynchus mykiss* (formerly *Salmo gairdneri*)
RSC	Redside Shiner	*Richardsonius balteatus*
RL	River Lamprey, Western Lamprey	*Lampetra ayresi*
RW	Round Whitefish	*Prosopium cylindraceum*
SSU	Salish Sucker	*Catostomus* sp.
SA	Salmon (General)	*Oncorhynchus* spp., *Salmo salar*
CC	Sculpins, General (pref.), Bullheads	Primarily *Cottus* spp.
CCA	Sharpnose Sculpin	*Clinocottus acuticeps*
CCN	Shorthead Sculpin	*Cottus confusus*
CCG	Slimy Sculpin	*Cottus cognatus*
SMB	Smallmouth Bass, Smallmouth Black Bass	*Micropterus dolomieui*
SM	Smelts, General	
SK	Sockeye Salmon	*Oncorhynchus nerka*
SP	Species Present, not identified	
SDC	Speckled Dace	*Rhinichthys osculus*
SPK	Splake	*Salvelinus fontinalis x Salvelinus namaycush*
CRI	Spoonhead Sculpin, Spoonhead Muddler	*Cottus ricei*
STC	Spottail Shiner	*Notropis hudsonius*
SQ	Squanga	*Coregonus* sp.
SFL	Starry Flounder	*Platichthys stellatus*
ST	Steelhead	*Oncorhynchus mykiss* (formerly *Salmo gairdneri*)
SST	Steelhead (Summer-run)	*Oncorhynchus mykiss*
WST	Steelhead (Winter-run)	*Oncorhynchus mykiss*
SB	Sticklebacks, General	
SG	Sturgeons (General)	*Acipenser* spp.
SU	Suckers, General	*Catostomus* sp.
SSM	Surf Smelt	*Hypomesus pretiosus*
TC	Tench	*Tinca tinca*
TSB	Threespine Stickleback	*Gasterosteus aculeatus*
COM	Tidepool Sculpin	*Oligocottus maculosus*

CRH	Torrent Sculpin	*Cottus rhotheus*
TR	Trout (General)	*Oncorhynchus* sp
TP	Troutperch	*Percopis omiscomaycus*
UDC	Umatilla Dace	*Rhinichthys umatilla*
CSB	Unarmoured Stickleback	*Gasterosteus* sp.
WP	Walleye, Pike-perch, Pickerel, Dore, many others	*Stizostedion vitreum*
BL	Western Brook Lamprey	*Lampetra richardsoni*
WCT	Westslope Cutthroat Trout (preferred) Yellowstone Cutthroat Trout	*Oncorhynchus clarki lewisi* (formerly *Salmo clarki lewisi*)
WF	Whitefish (General)	*Prosopium* spp., *Coregonus* spp., *Stenodus* sp.
WSG	White Sturgeon	*Acipenser transmontanus*
WSK	White Sturgeon (Kootenay River Pop)	*Acipenser transmontanus* Pop 1
WSU	White Sucker	*Catostomus commersoni*
YP	Yellow Perch, american Yellow Perch, many others	*Perca flavescens*

Appendix 4C - B.C. Fish Species Codes: Alphabetical by Codes

B.C. Fish Species Codes: Alphabetical by Codes

CODE	COMMON NAME	LATIN NAME
AC	Arctic Char	*Salvelinus alpinus*
ACT	Anadromous Cutthroat Trout	*Oncorhynchus clarki* (formerly *Salmo clarki*)
AD	All Anadromous Species	
ADV	Anadromous Dolly Varden, Anadromous Dolly Varden Char	*Salvelinus malma*
AEB	Anadromous Eastern Brook Trout	*Salvelinus fontinalis*
AF	All Species	
AGB	Anadromous Brown Trout, Anadromous German Brown Trout	*Salmo trutta*
AL	Arctic Lamprey	*Lampetra japonica*
AO	All Salmon	*Oncorhynchus* spp., *Salmo salar*
AS	Atlantic Salmon	*Salmo salar*
BB	Burbot, Freshwater Ling Cod, Ling, Loche, Lawyer	*Lota lota*
BCB	Black Crappie, Calico Bass	*Pomoxis nigromaculatus*
BH	Catfish, General (pref.), Bullheads	
BKH	Black Bullhead, Black Catfish	*Ameiurus melas* (formerly *Ictalurus melas*)
BL	Western Brook Lamprey	*Lampetra richardsoni*
BMC	Brassy Minnow	*Hybognathus hankinsoni*
BNH	Brown Bullhead, Brown Catfish	*Ameiurus nebulosus* (formerly *Ictalurus nebulosus*)
BS	Bass / Sunfish, General	*Micropterus* spp., *Lepomis* sp., *Pomoxis* sp.
BSB	Brook Stickleback	*Culea inconstans*
BSU	Bridgelip Sucker, Columbia Small-scaled Sucker	*Catostomus columbianus*
BT	Bull Trout	*Salvelinus confluentus*
BW	Broad Whitefish, Round-nosed Whitefish, Sheep-nose Whitefish	*Coregonus nasus*

C	Minnows (General)	many, all cyprinids
CA	Arctic Cisco	*Coregonus autumnalis*
CAL	Coastrange Sculpin, Aleutian Sculpin	*Cottus aleuticus*
CAS	Prickly Sculpin	*Cottus asper*
CB	Bering Cisco	*Coregonus laurettae*
CBA	Mottled Sculpin	*Cottus bairdi*
CBC	Chub, General	
CC	Sculpins, General (pref.), Bullheads	Primarily *Cottus* spp.
CCA	Sharpnose Sculpin	*Clinocottus acuticeps*
CCG	Slimy Sculpin	*Cottus cognatus*
CCL	Cultus Lake Sculpin	*Cottus* sp.
CCN	Shorthead Sculpin	*Cottus confusus*
CCT	Coastal Cutthroat Trout	*Oncorhynchus clarki clarki* (formerly *Salmo clarki clarki*)
CH	Chinook Salmon, Spring Salmon, King Salmon, Tyee	*Oncorhynchus tshawytscha*
CL	Lake Cisco	*Coregonus artedii*
CLA	Pacific Staghorn Sculpin, Staghorn Sculpin	*Leptocottus armatus*
CM	Chum Salmon, Dog Salmon	*Oncorhynchus keta*
CMC	Chiselmouth	*Acrocheilus alutaceus*
CMT	Deepwater Sculpin	*Myoxocephalus quadricornis*
CO	Coho Salmon	*Oncorhynchus kisutch*
COM	Tidepool Sculpin	*Oligocottus maculosus*
CP	Carp	*Cyprinus carpio*
CRH	Torrent Sculpin	*Cottus rhotheus*
CRI	Spoonhead Sculpin, Spoonhead Muddler	*Cottus ricei*
CS	Least Cisco	*Coregonus sardinella*
CSB	Unarmoured Stickleback	*Gasterosteus* sp.
CSU	Largescale Sucker, Coarsescale Sucker	*Catostomus macrocheilus*
CT	Cutthroat Trout (General)	*Oncorhynchus clarki* (formerly *Salmo clarki*)
DC	Dace, General	*Rhinichthys* spp., *Phoxinus* spp.

DLW	Dragon Lake Whitefish	*Coregonus* Sp 1
DV	Dolly Varden, Dolly Varden Char	*Salvelinus malma*
EB	Brook Trout, Eastern Brook Trout	*Salvelinus fontinalis*
ESC	Emerald Shiner	*Notropis atherinoides*
EU	Eulachon, Candlefish	*Thaleichthys pacificus*
FDC	Finescale Dace	*Phoxinus neogaeus* (formerly *Pfrille neogaea* and *Chrosomus neogaeus*)
FHC	Flathead Chub	*Platygobio gracilis*
FM	Fathead Minnow	*Pimephales promelas*
GAM	Mosquitofish, Gambusia	*Gambusia* sp.
GB	Brown Trout, German Brown Trout	*Salmo trutta*
GC	Goldfish	*Carassius auratus*
GE	Goldeye	*Hiodon alosoides*
GPW	Giant Pygmy Whitefish	*Prosopium* sp., poss. subspecies of *Prosopium coulteri*
GR	Arctic Grayling	*Thymallus arcticus*
GSB	Giant Black	*Gasterosteus* sp.
GSG	Green Sturgeon	*Acipenser medirostris*
IN	Inconnu, Sheefish, "Conny"	*Stenodus leucichthys*
KO	Kokanee	*Oncorhynchus nerka*
L	Lampreys (General)	*Lampetra* spp.
LDC	Leopard Dace	*Rhinichthys falcatus*
LKC	Lake Chub	*Couesius plumbeus*
LL	Lake Lamprey, Cowichan Lamprey	*Lampetra macrostoma*
LMB	Largemouth Bass, Largemouth Black Bass	*Micropterus salmoides*
LNC	Longnose Dace	*Rhinichthys cataractae*
LSM	Longfin Smelt	*Spirincus thaleichthys*
LSU	Longnose Sucker, Fine-scaled Sucker, Northern Sucker	*Catostomus catostomus*
LT	Lake Trout, Lake Char	*Salvelinus namaycush*

LW	Lake Whitefish, Common Whitefish, Humpback Whitefish	*Coregonus clupeaformis*
MCL	Morrison Creek Lamprey	*Lampetra richardsoni marifaga*
MSU	Mountain Sucker, Northern/Plains Mountain Sucker	*Catostomus platyrhyncus* (formerly *Pantosteus jordani*)
MW	Mountain Whitefish, Rocky Mountain Whitefish	*Prosopium williamsoni*
NDC	Nooksack Dace, Nooky Dace	*Rhinichthys* sp.
NFP	No Fish Present	
NP	Northern Pike, Jackfish, Jack	*Esox lucius*
NSB	Ninespine Stickleback	*Pungitius pungitius*
NSC	Northern Squawfish	*Ptycheilus oregonensis*
P	Perch, General	*Perca* sp., *Stizostedion* sp.
PCC	Peamouth Chub, Peamouth	*Mylocheilus caurinus*
PDC	Pearl Dace, Northern Pearl Dace	*Margariscus margarita* (formerly *Semotilus margarita*)
PK	Pink Salmon, Humpback Salmon	*Oncorhynchus gorbuscha*
PL	Pacific Lamprey, Sea Lamprey	*Lampetra tridentata*
PLS	Pygmy Longfin Smelt	*Spirinchus* spp.
PMB	Pumpkinseed, Sunfish, Pumpkinseed Sunfish	*Lepomis gibbosus*
PW	Pygmy Whitefish, Coulter's Whitefish	*Prosopium coulteri*
RB	Rainbow Trout, Kamloops Trout	*Oncorhynchus mykiss* (formerly *Salmo gairdneri*)
RDC	Northern Redbelly Dace	*Phoxinus eos* (formerly *Chrosomus eos*)
RL	River Lamprey, Western Lamprey	*Lampetra ayresi*
RSC	Redside Shiner	*Richardsonius balteatus*
RSM	Rainbow Smelt	*Osmerus mordax*
RW	Round Whitefish	*Prosopium cylindraceum*
SA	Salmon (General)	*Oncorhynchus* spp., *Salmo salar*
SB	Sticklebacks, General	
SB1	Balkwill Lake Benthic Stickleback	*Gasterosteus* sp.
SB2	Balkwill Lake Limnetic Sticleback	*Gasterosteus* sp.

SB3	Charlotte Unarmoured Stickleback	*Gasterosteus* sp.
SB4	Emily Lake Benthic Stickleback	*Gasterosteus* sp.
SB5	Emily Lake Limnetic Stickleback	*Gasterosteus* sp.
SB6	Enos Lake Benthic Stickleback	*Gasterosteus* sp.
SB7	Enos Lake Limnetic Stickleback	*Gasterosteus* sp.
SB8	Giant Stickleback	*Gasterosteus* sp.
SB9	Hadley Lake Benthic Stickleback	*Gasterosteus* sp.
SB10	Hadley Lake Limnetic Stickleback	*Gasterosteus* sp.
SB11	Lake Sticklebacks	*Gasterosteus* sp.
SB12	Paxton Lake Benthic Stickleback	*Gasterosteus* sp.
SB13	Paxton Lake Limnetic Stickleback	*Gasterosteus* sp.
SBB	Priest Lake Benthic Stickleback	*Gasterosteus* sp.
SBP	Priest Lake Limnetic Stickleback	*Gasterosteus* sp.
SDC	Speckled Dace	*Rhinichthys osculus*
SFL	Starry Flounder	*Platichthys stellatus*
SG	Sturgeons (General)	*Acipenser* spp.
SH	American Shad	*Alosa sapidissima*
SK	Sockeye Salmon	*Oncorhynchus nerka*
SM	Smelts, General	
SMB	Smallmouth Bass, Smallmouth Black Bass	*Micropterus dolomieui*
SP	Species Present, not identified	
SPK	Splake	*Salvelinus fontinalis x Salvelinus namaycush*
SQ	Squanga	*Coregonus* sp.
SSM	Surf Smelt	*Hypomesus pretiosus*
SST	Steelhead (Summer-run)	*Oncorhynchus mykiss*
SSU	Salish Sucker	*Catostomus* sp.
ST	Steelhead	*Oncorhynchus mykiss* (formerly *Salmo gairdneri*)
STC	Spottail Shiner	*Notropis hudsonius*
SU	Suckers, General	*Catostomus* sp.
TC	Tench	*Tinca tinca*
TP	Troutperch	*Percopis omiscomaycus*

TR	Trout (General)	*Oncorhynchus* sp
TSB	Threespine Stickleback	*Gasterosteus aculeatus*
UDC	Umatilla Dace	*Rhinichthys umatilla*
WCT	Westslope Cutthroat Trout (preferred) Yellowstone Cutthroat Trout	*Oncorhynchus clarki lewisi* (formerly *Salmo clarki lewisi*)
WF	Whitefish (General)	*Prosopium* spp., *Coregonus* spp., *Stenodus* sp.
WP	Walleye, Pike-perch, Pickerel, Dore, many others	*Stizostedion vitreum*
WSG	White Sturgeon	*Acipenser transmontanus*
WSK	White Sturgeon (Kootenay River Pop)	*Acipenser transmontanus* Pop 1
WST	Steelhead (Winter-run)	*Oncorhynchus mykiss*
WSU	White Sucker	*Catostomus commersoni*
XDC	Northern Redbelly Dace x Finescale Dace	*Phoxinus eos* (Cope) *x Phoxinus neogaeus* (Cope)
YP	Yellow Perch, american Yellow Perch, many others	*Perca flavescens*