Using the Fisher Habitat Retention Guidance Tool

This spatial analysis tool is designed to help forest licensees, forest planners, agency reviewers, First Nations referral staff, layout crews, and others to conserve habitat for fishers within proposed forest harvest units (cutblocks). To help achieve this, the tool identifies:

(1) Clear targets for the number of habitat features to retain within each proposed cutblock (and its associated reserves) so that important fisher habitat is conserved and the cutblock can return to supporting fishers as quickly as possible.

(2) Spatial identification of areas within the proposed harvest area for which forest harvest is expected to significantly reduce the ability of the area to support a resident fisher.

The tool calculates this information by intersecting input spatial data (Shapefile or Feature Class) for each proposed cutblock with the Fisher Habitat Retention Feature Class data to calculate cutblock-specific retention targets and identify areas with harvest impact warnings.

Complete details on how to run the Fisher Habitat Retention Guidance Tool can be found at https://www.bcfisherhabitat.ca/habitat-tools/

If you encounter problems with the execution of this tool and spatial data, please contact Rich.Weir@gov.bc.ca.

System Requirements

This tool requires the user to have the following:

1) access to ArcCatalog or ArcMap 10.1 (or higher) GIS platform. The tool uses Python scripts to conduct the analysis within this platform.
2) input spatial data in shapefile or feature class format for their cutblocks of interest.

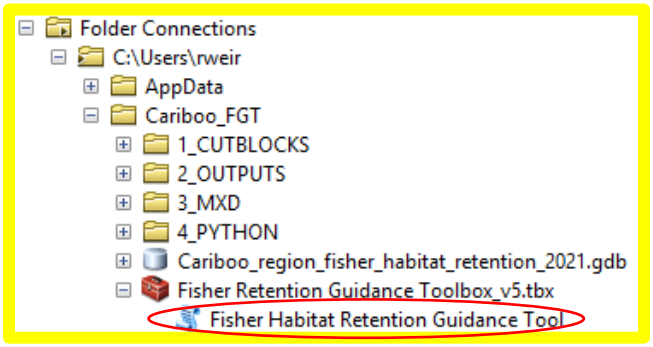
Depending on the complexity of the input spatial data (i.e., number of vertices), the tool takes approximately 1 minute per cutblock to complete.

Steps for using the Fisher Habitat Retention Spatial Tool

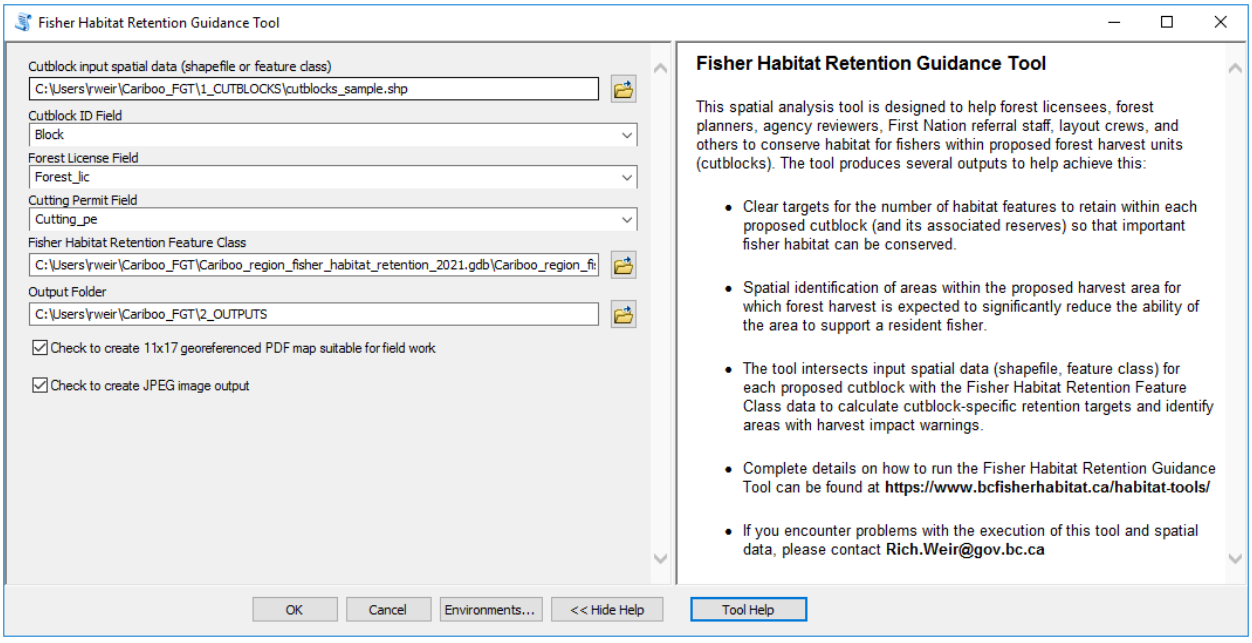
1. Download the Retention Data Package for your Natural Resource Region (e.g., Cariboo_FGT.zip) and unzip the contents to a folder as close to the root directory as possible (*Caution:* long file paths can create challenges for this tool. For example, C:\GIS\FISHER would work well, but C:\Superlongnetworkpath\tomuchlargernamedpaththatisveryspecific\tosubfolderandevenmore

detial\tofuthersubfolder etc. will not work well, and could cause the tool to fail in unexpected ways).

2. In ArcCatalog or the Catalog window in ArcMap, navigate to the folder where Retention Data Package was unzipped and expand the folder (e.g., C:\Users\rweir\Cariboo_FGT\Cariboo_FGT)
3. Expand the **'Fisher Retention Guidance_v5.tbx'** toolbox.



4. Double-click **'Fisher Habitat Retention Guidance Tool'** to open the tool. Press the **'Show Help >>'** button to read more and to get help with the **'Fisher Habitat Retention Guidance Tool'.**
5. Fill in the information for each field (see details below) and press **'OK'** to run the tool. Help for each field appears in the Tool Help window by clicking on the field.



Inputs - Fisher Habitat Retention Spatial Tool

1. Cutblock input spatial data (shapefile or feature class)

   Navigate to the spatial data for your cutblocks of interest. You may include as many cutblocks as you would like, but your input spatial data needs to have at least 3 attribute fields that contain the following information:

a. Cutblock identifier (e.g., Block), unique for each proposed cutblock
b. Forest License information (e.g., Forest_lic)
c. Cutting Permit information (e.g., Cutting_pe)

Caution: The tool will not run without these 3 attribute fields being present.

2. Cutblock ID Field

This is the field that contains the unique identifier for each cutblock in the input spatial data. The tool will output retention guidance for each unique cutblock (e.g., Block) from your input spatial data.

3. Forest License Field

This is the field that contains the Forest License information associated with the proposed cutblocks. If this field does not already exist, please add it to your input spatial data. The tool requires a value for this field - use a dummy value of "XXXX", if necessary.

4. Cutting Permit Field

This is the field that contains the Cutting Permit information associated with the proposed cutblocks. If this field does not already exist, please add it to your input spatial data. The tool requires a value for this field - use a dummy value of "XXXX", if necessary.

5. Fisher Habitat Retention Feature Class

This is the Fisher Habitat Retention feature class that will be used in the analysis. When the tool is opened, it will automatically select the feature class associated with the specified Natural Resource Region.

6. Output Folder

This specifies the folder where all outputs from the analysis (i.e., PDF, JPEG, LOG files, and geodatabase) will be written. The tool automatically selects **'2_OUTPUTS'** from the Retention Data Package as the default folder. Other folders can be selected, but the tool will run most efficiently if outputs are directed to this folder.

7. Check to create 11"x17" georeferenced PDF map suitable for field work

This will create a georeferenced PDF map that is designed specifically for field crews so that they can have information at their fingertips while on-the-ground in the proposed cutblock:

1. A listing of the specific retention targets for each fisher habitat for the block.
2. Map showing areas within the cutblock in which forest harvest is predicted to have significant impacts on the ability of the area to support a resident fisher.

8. Check to create JPEG image outputs

This option allows for the output of both PDF and JPEG image files of the cutblock summary, cutblock detail, and georeferenced PDF map (if selected above) for each cutblock. If this option is not selected, only PDF files of the outputs for each cutblock will be generated.

Outputs - Fisher Habitat Retention Spatial Tool

Each run of the tool produces numerous outputs to help forest planners and layout crews to:

1. **Clearly identify retention targets for the cutblock area.**
2. **Identify areas within the proposed cutblock for which forest harvest is expected to significantly impact the ability of the area to support a resident fisher.**

The outputs of the tool are primarily retention target guidance specific to each cutblock, but also includes associated geospatial data from the resulting analyses. Your results will, by default, go into a folder named "2_OUTPUTS" which includes: a **(1) Results Output Folder** and a **(2) Geodatabase** labelled with a datetime stamp of the run:

(1) Results Output Folder (e.g., FGT_20210415_093514_RSLTS) contains results and PDF/JPEG outputs from the Fisher Guidance Tool analysis for all cutblocks.

a. A subfolder is created with the outputs for each unique cutblock, identified by Cutting Permit and Cutblock. For example, the output for cutblock 'KER01' in cutting permit 'H49' would be subfolder **'CP_H49_BLK_KER01_FGT'**. In this subfolder, there will be 4 different outputs:

   i. **A summary report in a PDF** (e.g., Pg1_CP_H49_BLK_KER01_FGT_smry.pdf): describing the number of features to retain within the cutblock area and associated reserves, any harvest impact warnings, and small inset map showing the location of harvest impact areas within the proposed cutblock.

   ii. **Descriptive details of retention features in a PDF** (e.g., Pg2_CP_H49_BLK_KER01_FGT_dtl.pdf): describing the number and type of features to retain within the cutblock and associated reserves, along with any harvest impact warnings.

   iii. (*If selected*) **A georeferenced PDF map of the proposed cutblock area** (**suitable for field work**; e.g., Pg3_CP_H49_BLK_KER01_FGT_fldmp.pdf)**:** showing where harvest impact areas occur at a navigable scale along with details on retention guidance for the cutblock.

   iv. **A shapefile and a layer file** (e.g. CP_H49_BLK_KER01_FGT.shp): showing the resulting intersection of the input spatial data and the fisher habitat feature class. Note that the WARNING field in the shapefile includes an additional 'caution' that specifies areas where harvesting fisher habitat features is predicted to affect the ability of the area to support fishers.

b. **A text file of the retention targets for each cutblock** (e.g., LOG_FGT_20210415_093514.txt): found in the input spatial data for use in other programs

(2) Geodatabase (e.g., FGT_20210415_093514.gdb)**:** contains geospatial data of the completed analysis from all cutblocks in the input spatial data.