FIDO Custom Retrieval Tutorial

Created with FIDO version 1.5.1.05 – the screen shots may not match exactly with other versions. **Red font indicates specific instructions for you to follow; FIDO key words are in bold font.**

Users may want to refer to the **FIADB Users Manual**, which describes the Forest Inventory and Analysis Database (FIADB) structure and defines all the variables in the database. The guide can be downloaded from the FIA Web site library page at [http://fia.fs.fed.us/library/database-documentation/](http://fia.fs.fed.us/library/database-documentation/). FIDO reports are created using the FIADB.

1. Start the FIDO application - From the FIA Data and tools page ([http://www.fia.fs.fed.us/tools-data/](http://www.fia.fs.fed.us/tools-data/)), click on the FIDO button (Forest Inventory Data Online) to go to the FIDO Welcome Page. The home page provides a general overview of FIDO, and information about system configuration requirements to run the program.

   - **Select Custom Retrievals** in the left-hand side box to go to the Custom Retrieval Welcome page.
2. Custom Retrieval Welcome Page

a. Review the list of the 8-step process, beginning with **Start New Retrieval**. Note that these buttons are not active on this page, but will be active once you start the Custom report application.

   - **Start New Retrieval**: You start your custom retrieval with this step. You can choose to start a completely new retrieval or template, or pick one of the existing retrievals/templates to use as a starting point.
   - **Set Summary Attribute**: The summary attribute is the value that will be displayed in the cells of your tabular report. Examples include Area of Land, Tree volume, Tree mortality, etc.
   - **Design Report Layout**: When you define your report layout, you select how the summary attribute defined above is grouped and reported. FIDO C report is broken down into three parts: Tabular reports, the area defines table, row, and column breaks. You will be required to select an attribute for each axis.
   - **Set Filter Options**: Set filters to restrict the data that will be used to generate your report. Each of the filter options has subcategories. You may select as many as you wish.
   - **Define Region of Interest**: Define the geographic region for your report by selecting states and counties here. You can specify a circular boundary (latitude, longitude, and radius in miles) to further refine the region.
   - **Choose Survey Years**: From this page, you will select the survey years on which you want to base your retrieval. The survey years displayed are dependent on the states you selected in the previous step.
   - **Produce Report**: Once you have finished setting up your reports, this step allows you to review your selections and generate a report in various formats (currently only HTML tables are supported, but more are coming soon).
   - **Save Active Retrieval**: Click this button if you want to save your custom retrieval. You will have the option to name the retrieval, give it a title, description, and author. You can also choose in which category the retrieval will appear.

b. Click on the **Begin Creating Custom Reports>>** button to start the Custom FIDO session.

3. Layout of the FIDO tool site. Every page has 3 sections.

   a. The right hand column displays the 8-step menu buttons to building a custom report.

   b. The left hand column contains selections that are dependent on which menu is currently running.
c. The upper middle space shows the report output, provides information on the menus, and displays maps for selecting the geographic area of your report. The lower middle space contains the FIDO Wizard, which provides instruction for the current menu and an update as to the status of the report. As you’ll see in subsequent menus, the Wizard’s Continue>> button leads the user to the next step required to create a report. Also, a Minimize Wizard option will become available to provide more viewing space for the upper middle section.

4. Start New Retrieval Page

a. The report template is the basic structure of the report, and is the first step towards generating a report. Note the FIDO Wizard states that, in order to continue, a report template must be selected.
b. Click on **Net** in the **Tree Volume** category in the left hand column to view the list of report types that use net tree volume for a report summary attribute.

![Diagram showing tree volume categories]

```
<table>
<thead>
<tr>
<th>Retrieval templates/reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
</tr>
<tr>
<td>Sampled</td>
</tr>
<tr>
<td>Sampled and non-sampled</td>
</tr>
<tr>
<td>Tree count</td>
</tr>
<tr>
<td>Live trees &gt;= 1’ diameter</td>
</tr>
<tr>
<td>Growing-stock</td>
</tr>
<tr>
<td>Standing dead &gt;= 5’ diameter</td>
</tr>
<tr>
<td>Seedling count</td>
</tr>
<tr>
<td>Seedlings less than 1’ diameter</td>
</tr>
<tr>
<td>Tree volume</td>
</tr>
<tr>
<td>Net</td>
</tr>
<tr>
<td>Gross</td>
</tr>
<tr>
<td>Change in volume</td>
</tr>
<tr>
<td>Average annual net growth</td>
</tr>
<tr>
<td>Average annual increment</td>
</tr>
</tbody>
</table>
```

```
<table>
<thead>
<tr>
<th>Selected template information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Template name</td>
</tr>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Live trees &gt;= 5” diameter</td>
</tr>
</tbody>
</table>
| Net volume of live trees (at least 5 inches d.b.h./d.c.), in cubic feet. For woodland species (trees where the diameter is measured at root collar (DRC)), this is the net volume of wood and bark from the DRC measurement point(s) to a 1-inch top diameter; includes branches that are at least 1 inches in diameter along the length of the branch. Tree
| Forest land                 |
| By Ownership and Reserved status |
| By Forest type group and stand size |
| By Species group and Diameter class |
| By species group and ownership group |
| Summary Attribute:          |
| Volume of all live on forest land (cu ft) (14).
| Volume of all live on timberland (cu ft) (17). Filter Options: | No selections made. Geographic Region: | Not selected. |
```

c. Click on the radio button next to **Live trees >= 5” diameter**. Notice that the middle display section now contains descriptive information about the summary attribute (1), and a selection of report layouts (2).
d. Review the descriptive information (use the scroll bar to view all). Choose **Ownership and Reserved status** for your report layout. The **Selected template information** now includes descriptions of **Ownership** and **Reserved status** attributes for your review.

To continue, click on **Use as Template**.
5. **Define Region of Interest**

FIDO then automatically takes you to the next step that it needs to complete the report process, **Define Region of Interest**.

Note that FIDO skipped over steps **Set Summary Attribute** and **Design Report Layout** because these steps have already been taken care of in the pre-made template. Step **Select Filter Options** was skipped over because it is not a requirement to produce a report. The FIDO program will always jump to the next step required to produce a report.

Also note that the **FIDO Wizard** now contains the report information – what has been selected thus far and what information is still needed to complete a report.

a. The **Region of Interest** refers to the county(s), state(s), ecoregion(s), or circular boundary on which the report is based. Note that **FIDO Wizard** states that this step is required in order to continue (also note the **Minimize Wizard** option has appeared).

b. Selections can be made using the list on the left hand column or by using the map in the display window. This demo will show you both options.

c. **Check the Display map box** to view the map of the U.S. (depending on the network traffic, it may take half a minute for the map to appear).
d. To get a larger view of the map, click on the **Minimize Wizard** box.

e. Navigation can be accomplished in a variety of ways. You can pan the map either with a left mouse click and hold; or, use the up, down, right and left arrow buttons on the navigation bar. Zoom in with a double-left click, zoom out with a double-right click; or, use the + and – scale.

Note the various map view options – **OpenStreetMap**, **Google Physical**, **Streets**, **Hybrid**, and **Satellite**. Click on the options to view the different effects.
f. Zoom in on Michigan, and choose Google Physical view.

![Google Map of Michigan with various options]

- **Click on Michigan (26) in the Region selection scroll box** to view the list of Michigan FIA Survey Units and Counties. What is displayed on the map?

- **On the map, select and highlight counties in Michigan with a click of the mouse.**
i. What happens to the Michigan county list on the left side of the screen?

j. **Click on the box next to Michigan (26).** - Now what is selected on the map?

k. **Click on the check box next to Michigan (26) in the state list to deselect.**

l. **Close up the county selection list by clicking on Michigan again.** The county boundaries on the map should disappear.

m. **Click on Michigan and Wisconsin on the map to highlight and select both states.**
n. **Uncheck the Minimize Wizard box.** Review the FIDO Wizard to see that Michigan and Wisconsin now comprise the Area of Interest and that Survey Years are still to be determined.

Click **Continue >>** to go to the next step, **Choose Survey Years.**
6. Choose the **Survey Years** - the survey year represents the set of plots that are used to make an estimate. For FIA annual-basis inventories, the survey year defines the last annual inventory year for the rolling-panel set of plots. For FIA periodic-basis inventories, the survey year is the year that best represents when the set of plots were measured. For example, Michigan survey year 2012 contains all the plots measured in the 5 annual inventory panels from 2012, 2011, 2010, 2009, 2008, while survey year 2007 contains the 5 annual inventory panels from 2007, 2006, 2005, 2004, 2003.

   ![FIDO Custom Retrieval Tutorial](image)

   a. **Click on the box next to 2012 (MI, WI)** to view the listings of the surveys in the middle display area. These describe the years of the survey and what kind of estimations (timberland and/or forest land) can be produced with that survey. The default is that both state surveys are selected for 2012. To choose only one state for a survey year, click on the box next to the individual state/year in the display area.
b. Choose 2007 and 2012 surveys for both states.

c. Click on Continue >>, FIDO moves to the next step, Produce Report.
7. Produce Report

   a. The **FIDO Wizard** now lists all the options that have been selected for the report. Your report is listed in the left column.

   ![FIDO Wizard Screenshot]

   b. To produce the report, **click on the Submit button (once!)**. “Your request has been submitted” appears in the display window. The report list button revolves around until the report is ready for you to choose the display options.

   c. When finished, “This report is ready to be displayed.” will appear in the report window. Display options appear in the left column.

   ![Report Display Screenshot]

   d. **General options** apply to all report formats, while **Mapping options** apply to Map format only. **Click on General options** to view the list. **Click on the box next to**
Customize report title and type in your own title. The option, Show empty rows, displays all possible categories of the row attribute, regardless of zero values for those categories. The option, Metric measurement displays the report in metric units.

e. The default format is Html Table. Use this default, and click on the Display button. The report appears in the center of the screen.

f. To get a better view of the report, click the maximize button in the upper right corner of the Report display.
g. There are 10 tables displayed in the report. The first five are forest land estimates for the two states and two survey years, followed by a summary report for forest land. The last five are timberland estimates for the two states and two survey years, followed by a summary report for timberland. Scroll down to view the reports. Note the different colors of the values throughout the table output. These indicate the range of percent sampling errors (pse) at 68% confidence interval; black estimates represent a pse of 25% or less, green is 26-50%, and red is greater than 50%. Move your cursor over any estimate to view the exact percent sampling error.

h. Scroll to the bottom of the report to view the **Domain break descriptions** included in the report.

![Report display]

- **Domain break descriptions**
- **Table break attribute**
  - State
    - U.S. State code and name.
- **Row attribute**
  - Owner Class
    - Landowner classes are a further categorization of the general landowner groupings. Landowner groups and classes:
      - 11 - National Forest
      - 12 - National Forest
      - 13 - National Forest
      - 21 - National Park Service
      - 22 - Bureau of Land Management
      - 23 - Fish and Wildlife Service
      - 24 - Department of Defense/Energy
      - 25 - Other federal
      - 31 - State
      - 32 - Local (County, Municipal, etc)
      - 22 - Other non-federal public
      - 40 - Undifferentiated private
- **Column attribute**
  - Reserve Status
    - Reserved land is land that is withdrawn by law(s) prohibiting the management of the land for the production of wood products. Reserved status is either 'Not reserved' or 'Reserved'.
    - 0 - Not reserved
    - 1 - Reserved

i. **Other display options and formats** --The other display formats are: **PDF**, **Spreadsheet** (MS Excel), and **Map** (Google map). **General options** apply to all display formats, while **Mapping options** apply to the **Map** format only.
j. Click on the arrow in the drop down box and select Map. Click on Mapping options to view the list of map display options. Click on the box for Quantile breaks.... These are the default Quantile breaks, which you may change to your preferences.

k. Click on Display to view the map. You can select different base layers, minimize the base layer box, move the legend to where you want it, and view the county name, code, and estimate by clicking on the county.
I. **Now go back to the display options and choose the Spreadsheet and then the PDF options.**

Note that the spreadsheet contains two worksheets – the first one contains the report estimates and the second one contains the percent sampling errors.

The PDF output contains the estimate and pse on the same line.

Both outputs can be saved for future use.

m. **Other options – Copy, Edit, Delete**

The **Edit** button will make the task buttons available, so that the report can be changed (user can alter anything – from the **Summary Attribute** to **Survey Years**)

The **Copy** button will add a duplicate report to the report list, which can then be edited.

The **X** button next to the report will remove the report from the list.

8. **Save Active Retrieval** – FIDO reports can be saved and uploaded for use in a future FIDO session. Saving is a two-step process – the report is first saved for the active session, and then the session configuration is saved to a file on the user’s computer.
a. Click on the Save Active Retrieval button.

b. Enter the Template information and select Save Template to save the report to your active session (first step).

c. This message will appear. Click OK
d. To see the results of the first step, click on the **Start New Retrieval** button and then **User-defined reports** to view your saved report. Note that the template has all the preselected **Region of Interest** and **Survey Years**. You can either submit the report as is, or edit it with other selections.

e. The second step is to save the active session configuration file to your PC. **Click on Save Active Retrieval** to go back to the save window. **Click on Save Custom FIDO**.
f. Click on **Save** to save the file on your PC (keep the default extension **.xacfg**)
g. To use the file again on another FIDO session, browse for the file and upload it to FIDO. To simulate a new session, use the **Restart** option to close your current FIDO session (if you open a new browser and open FIDO, it will return to your current active session). **Click on Restart, click OK for the warning.**

h. **Click on the Browse button, find the file, and then click on the Add Custom FIDO file button.** Your report appears in the list of templates that can be used as is, modified, or removed.
Within a FIDO session you can accumulate many reports. For later use, each report must be saved in the current session (step 1) and then many reports can be saved in the configuration file at one time (step 2).

9. Filter Options
   a. Reports can be further refined to include only selected attributes. FIDO will skip over the Filter Options menu because it isn't required for a report (such as Region of Interest and Survey Years). Filters can be selected anytime during the report making process (e.g. from the Define Region of Interest menu, you can click on Select Filter Options and select filters before selecting the sample area).
   
   b. Click on Select Filter Options to view the list of filters.
c. **Click on the main filter categories to view the subcategories.** You know you are at the bottom of a category when you no longer see the orange triangle pointing to the right of the attribute name.

Note: To filter by individual species, select **Tree attributes - Grouping of species into 4 major classes**, and then select one of the major classes to find the individual species.
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