The National Fire Plan
US Department of the Interior and USDA Forest Service
www.fireplan.gov

NFPORS – How To

Using Pivot Tables to Produce Ad Hoc Summary Reports

You should be familiar with the entire suite of standing reports available through the NFPORS Data Collection Tool and Management Dashboard and depend on them to answer the frequently asked questions. Producing ad hoc reports can be a time consuming process and because of the complexity of the data may sometimes produce reports with conflicting results. You should resort to producing ad hoc reports only when the question being asked cannot be answered through a standing report.

This document provides instructions for using Microsoft Excel pivot table reports for NFPORS ad hoc reporting. Microsoft Excel pivot table reports are a fairly simple to produce, yet quite powerful for ad hoc reporting.

Step 1: Download one of several Microsoft Excel extracts from the NFPORS Management Dashboard (http://dashboard.nfpors.gov).

> **Note:** The file is stored in a compressed or zipped format. You must extract the file with WinZip before use.

Step 2: Open the extracted file with Microsoft Excel. You should see a data set that is similar to Figure 1.

Figure 1. Microsoft Excel extract of hazardous fuels information from NFPORS.

Step 3: Click on Data and select the PivotTable and PivotChart Report… menu item.

The Pivot Table and Pivot Chart Wizard dialog box will be displayed (Figure 2). Experienced users may disregard the wizard by clicking the Finish button.

Step 4: For the purpose of this exercise change the report type to PivotChart report (with PivotTable report).
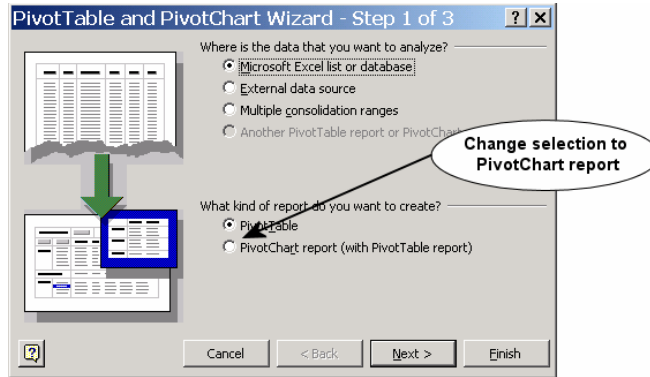
Step 5: Click the Next button.

The PivotTable and PivotChart Step 2 dialog box will be displayed (Figure 3). By default the entire range of the Results spreadsheet will be selected and the full set of information in the spreadsheet will be accessed in the process. You may select a different range by clicking on the spreadsheet to the right of the Range text box. However, you should just accept this default.

Figure 2. PivotTable and Pivot Chart Step 1 Dialog Box.
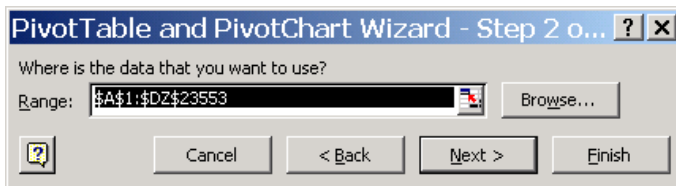
Figure 3. Step 2 of the PivotTable and PivotChart wizard.

Step 6: Click the Next button.

This will display PivotTable and PivotChart Wizard Step 3 dialog box.

Step 7: Click the Layout button.

This will display the PivotTable and PivotChart Layout Wizard dialog box (Figure 5). Pivot tables are constructed of Page, Column, Row and Data fields. The layout wizard allows you to drag field buttons from the right into the different types of fields on the left.

Figure 4. Step 3 of the PivotTable and PivotChart wizard.

Before you begin an ad hoc report you need to know what data fields you are going to

> **Note:** A complete list of the Column Definitions can be downloaded from the NFPORS document library. There is a link to the library on the NFPORS login page (http://nfpors.gov). Look for the document titled: "MS Excel Column Definitions."

need. For the purpose of this exercise assume that <u>you have been asked to produce a report of the number of planned Treatments and the acres by Fund Code and Treatment Category for Fiscal Year 2005</u>. For this report you will need the following list of fields: PLN_INT_FY, CLASS, CAT_NM, FND_CD_NM, TRT_ID, and PLN_ACRES. A complete list of the field names and their definitions is available from the NFPORS document library.
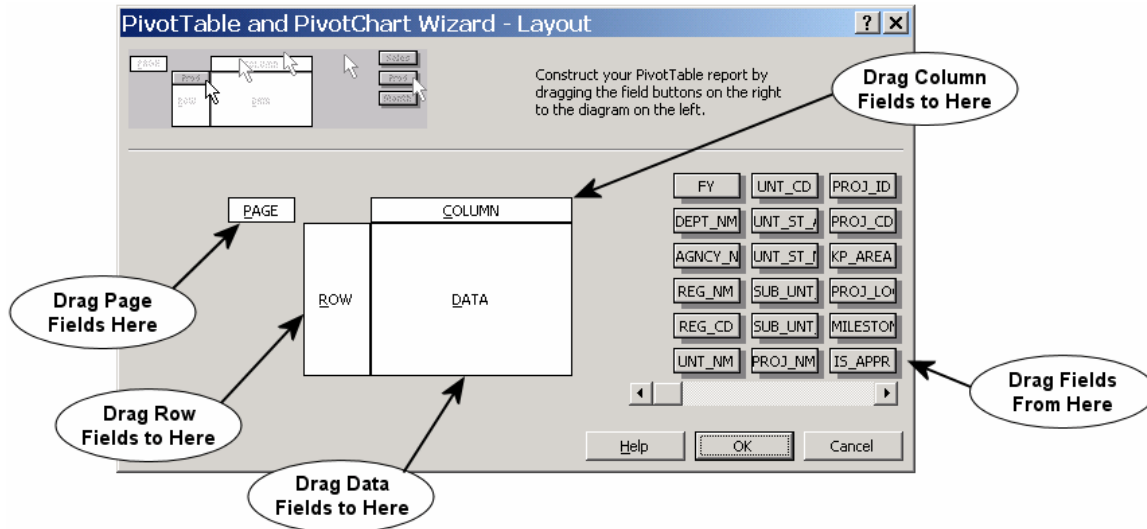

Figure 5. PivotTable and PivotChart Layout Dialog Box.

Step 8: Since the report will only include Treatments planned to start in FY 2005, drag the field button PLN_INT_FY (i.e. Planned Initiation Fiscal Year) from the list of field button on the right and drop it into the PAGE field area.

Step 9: Apply a filter to display only FY2005 by double-clicking on the PLN_INT_FY field button and selecting all fiscal years except 2005 to hide (Figure 6). *Hint:* To select more than one item press and hold your Ctrl key down and select the all fiscal years except 2005 by clicking on them. Then click the OK button.

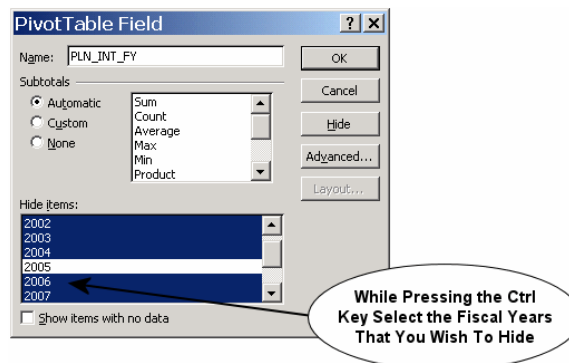**Figure 6.** Pivot Table Field Dialog Box.

Step 10: Repeat steps eight and nine for CLASS. Choose to hide Activities.

Step 11: Drag the FND_CD field button to the ROW field area.

Step 12: Drag the CAT_NM field button to the COLUMN field area.

Step 13: Drag the TRT_ID field button to the DATA field area. Notice that by default it is assumed that you want to report the count (number of records) of TRT_ID.

Step 14: Drag the PLN_ACRES field button to the DATA field area.

Step 15: Double-click on the Count of PLN_ACRES. Change "Summarized by" from "Count" to "Sum" in order to report the acreage totals.

Step 16: Click on the Number button. This will display the Format Cells dialog box (Figure 8).
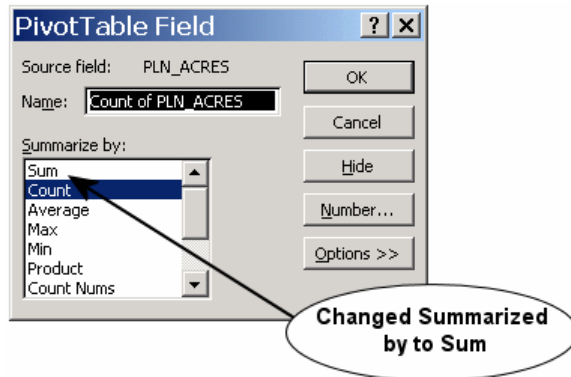
Step 17: Select Number within the Category select box. Then change the Decimal places to be displayed to 0. Finally check the Use 1000 separator check box and click the OK button to apply the number format.

Figure 7. Pivot Table Field Dialog Box for Data Field.

Step 18: Click the OK button to close the PivotTable and PivotChart Layout dialog box (Figure 5).

Step 19: Repeat steps 15, 17 and 18 to set the number format the TRT_ID to use comma-separated numbers.

Step 20: Click the Finish button on the PivotTable and PivotChart Step 3 dialog box (Figure 4). Two new worksheets will be created in your workbook.
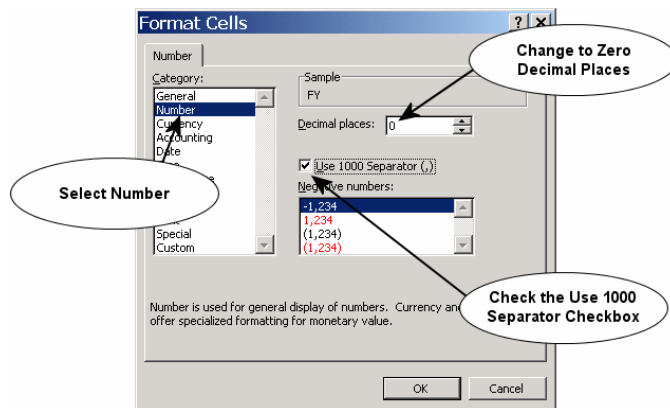
Figure 8. Format Cells Dialog Box.

We are nearly done, but the report could use a couple of finishing touches.

Step 21: Switch to worksheet named Sheet1.

Step 22: Click on the black triangle on the right side of the CAT_NM field button. Deselect the Planning and Administration as well as the Preparation for Treatment Categories. Then click OK. The only Categories that should be displayed now are Fire, Mechanical and Other.

	A	B	C	D	E
1	PLN_INT_	(Multiple Items) ▼			
2	CLASS	(All) ▼			
3					
4			CAT_NM ▼		
5	FND_C ▼	Data ▼	Fire	Mechanical	Grand Total
6	BDBD - Br	Count of TRT_ID	1		1
7		Sum of PLN_ACRES	155		155
8	CWKV - C	Count of TRT_ID	3		3
9		Sum of PLN_ACRES	350		350
10	Hazardou	Count of TRT_ID	4		
11		Sum of PLN_ACRES	97		
12	Hazardou	Count of TRT_ID			
13		Sum of PLN_ACRES			
14	NFCC - NF	Count of TRT_ID			
15		Sum of PLN_ACRES		56	
16	NFCC - NF	Count of TRT_ID		6	6

Drag and Drop the Data Field Button Directly Below the Category Names

Figure 9. Drag and Drop Data Field Button Directly Below the Category Names.

Step 23: Drag the Data field button directly under the Fire, Mechanical and Other category labels until a horizontal bar with vertical bars on each end is display. Then drop the button. This will allow the Number of Planned Treatments and Acres to be displayed side by side.

If you switch back to worksheet Chart1 you should observe that the chart is changed to reflect the changes you made in Steps 22 and 23. The pivot table and pivot chart are linked. Changes in one will be reflected in the other.

Frequently Asked Questions:

1)   *How do I know what fields I should drop where?*

PAGE fields allow you to filter (i.e. include or exclude) the information to be included within the pivot table report. Examples of common page fields could be fiscal year, planned initiation fiscal year and unit name.

Attribute fields with a limited number of categories or types (e.g. WUI_DESC with two types, CAT_NM with three types) make good COLUMN fields. This will keep the report for getting too wide.

Attribute fields with a large number of categories or types (e.g. Fund Code, Treatment Type, State Name and Unit Name) make better ROW fields. Including them as column fields makes for a very wide report.

Data (i.e. Measurement) fields are those things that you wish to count, sum or average (e.g. Planned Acres, Actual Acres).

2)   *Can I produce a single report that includes planned and actual information?*

The simple answer is yes you can, but I would do so very carefully. What is planned may be independent from what is accomplished. For example, I may have a Treatment that I planned to do in FY2005, but for some reason I decided to do it early and I accomplished it in FY2004. However, the actual Accomplishment for the Treatment would not be included if you place a page filter on planned initiation fiscal year (as we did in the exercise above.

It is far better to get in the habit of producing separate planned and actual reports and combining the information together into a final report by cutting and pasting.

3)   *There are five different fiscal years that I could use as Page, Column or Row fields. Which ones should I use?*

This depends on whether you want to produce a report of planned or actual information. To produce a report of planned information by fiscal year, use the planned initiation fiscal year (PLN_INT_FY). There is a NFPORS business rule in place that requires that the Planned Initiation date be in the same fiscal year as the Planned Completion date, so in reality you would get the same result regardless.

To produce a report of Actual Accomplishments you should use the FY. This is because we allow Actual Accomplishment to be split across two fiscal years.

4)   *Do I need to use the Layout Wizard (Step 7, Figure 5)?*

The simple answer is "no." It is really a matter of preference. For me, it depends on what version of Microsoft Excel I am using. I prefer to use the wizard with MS Excel 2000 and not use it with MS Excel 2002. In the latter case, I simply click the finish button and a blank pivot table is produce (Figure 10).

You then create your pivot table by dragging field names from the Pivot Table Field List menu and dropping them into the appropriate areas of the spreadsheet (i.e. Page, Row, Column or Data). The PivotTable Tool Bar and the PivotTable Field List float by default. I prefer to dock them; otherwise they always seem to be in my way. To dock a menu, simply click on the tool bar or field list title bar and drag it while holding down your left mouse button to the side (or top) of the window and it will be automatically "docked" when you reach the edge of the window.
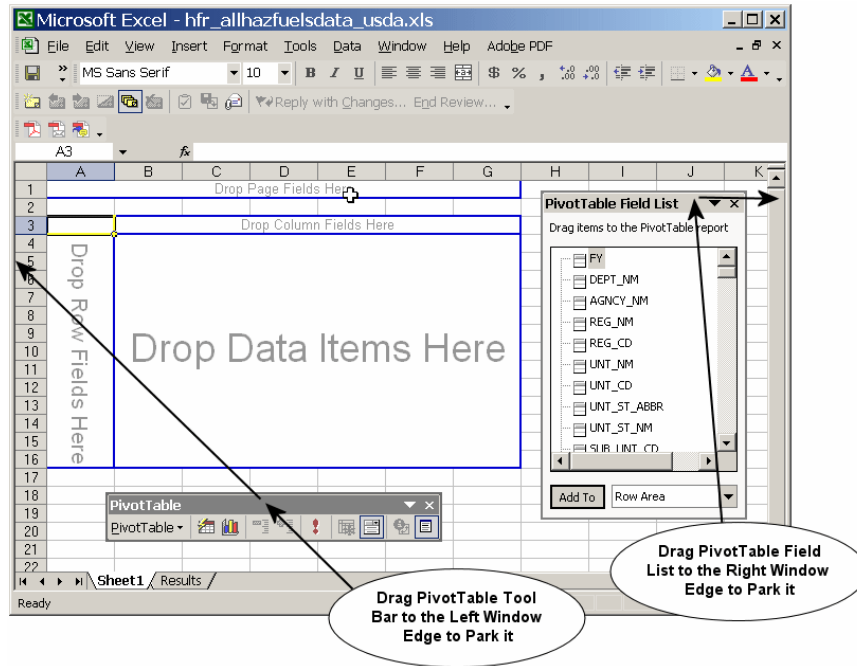
Figure 10. Blank Pivot Table Sheet.