

Explore Data using Pivot Tables (Microsoft Excel)

Exercise # 1

INTRODUCTION

A pivot table can be a powerful tool for exploring the relationships or distributions of a few specific data variables of interest. Pivot tables can be used to show specific attributes or thresholds of interest. The results from pivot tables can also be placed into a chart for visually displaying the information or for creating information graphics. This exercise will guide you through the steps of creating a pivot table using county-level data.

TASK(S)

Create a pivot table and resulting chart that shows the average area burned by large fires for each state in the Southeast and filter the table and chart by Primary Conservation Partner.

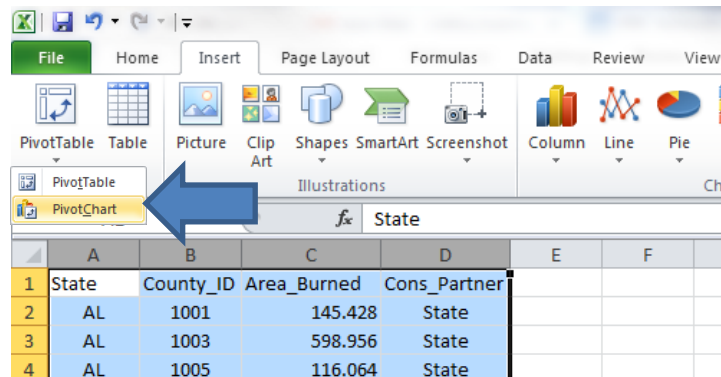
ACTIVITY/PROCESS

1. Open your spreadsheet "Exercise_1.xls"
2. View the columns and rows in the "Data" tab of spreadsheet. Each column contains a different data variable; you should see State, County_ID, Area_Burned, and Cons_Partner.

	A	B	C	D
1	State	County_ID	Area_Burned	Cons_Partner
2	AL	1001	145.428	State
3	AL	1003	598.956	State
4	AL	1005	116.064	State

A description of each data variable can be found in the "Description" tab of the spreadsheet. Each row contains the data for a county in the Southeast (1,340 counties).

3. Highlight all the columns in the spreadsheet and in the top banner go to: Insert>PivotTable>PivotChart.

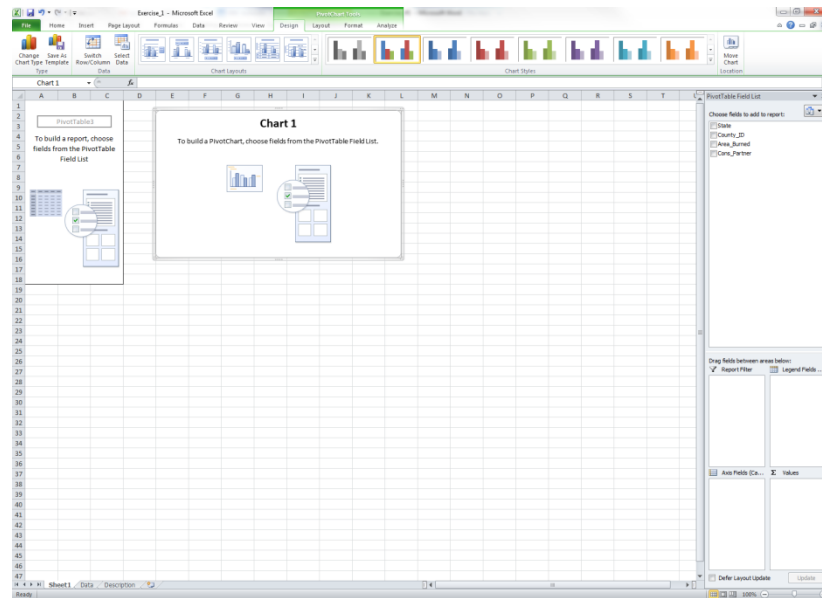


4. A dialogue box will appear. Make sure the rows and columns are shown in the Table/Range and click OK.

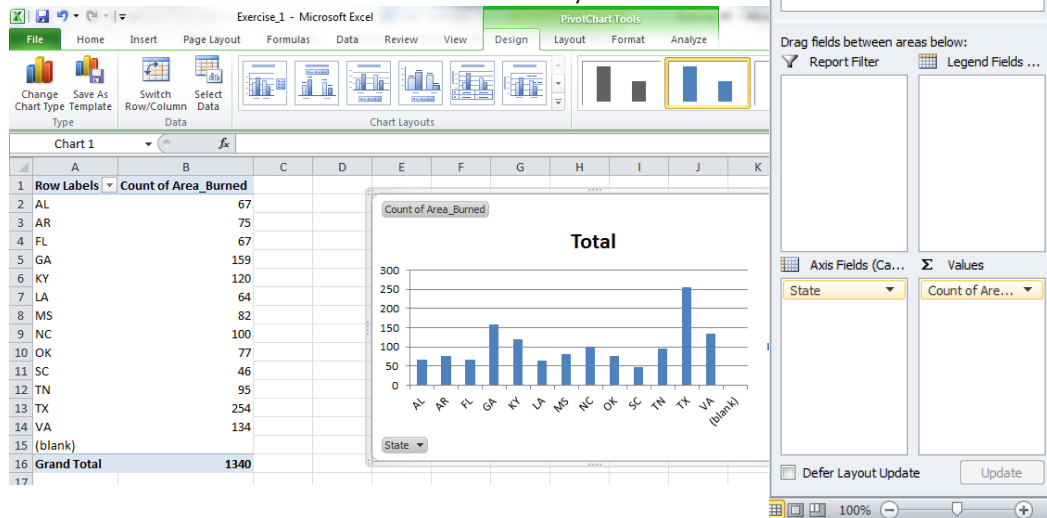
Explore Data using Pivot Tables (Microsoft Excel)

Exercise # 1

5. You should now see a blank table and chart with a PivotTable Field List to the right. You will use the PivotTable Field List “drag and drop” interface at the right to place variables into the areas below.



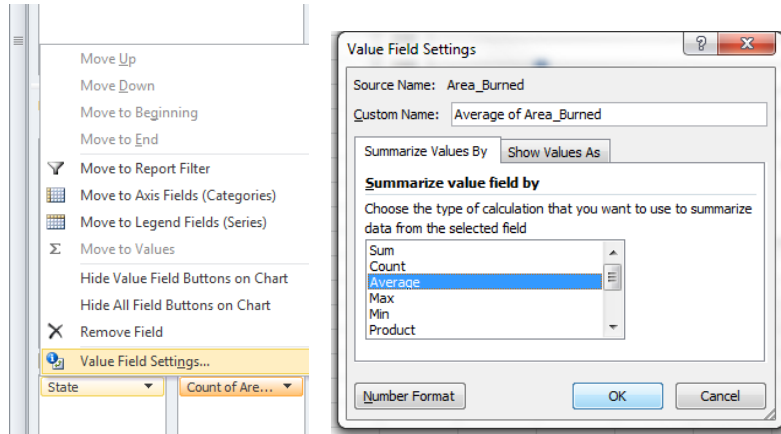
6. Drag and drop the State variable into the “Axis Fields” area and the Area Burned variable into the “Values” area. As you drag and drop these variables you should see the table and chart begin to be populated with the States on the x axis and area burned on the y axis.



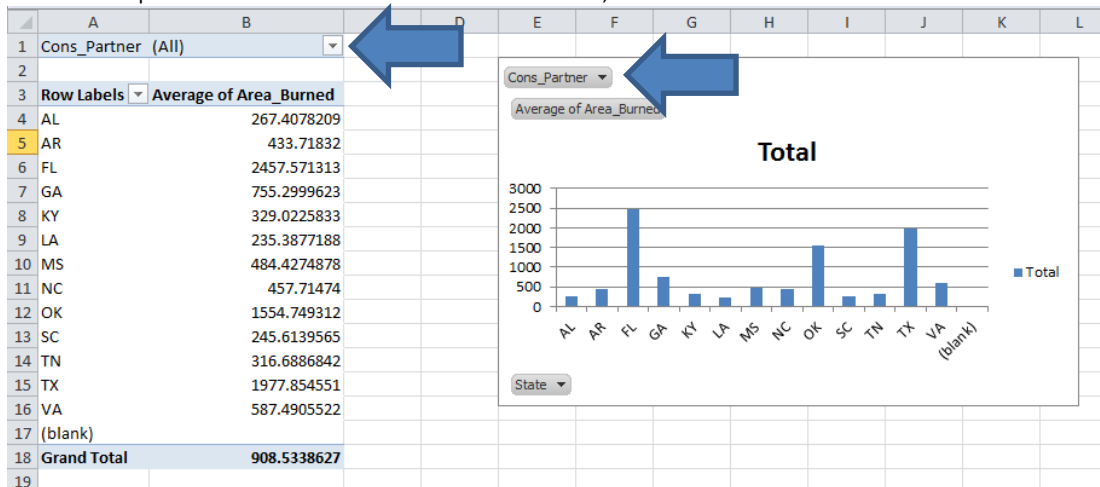
Explore Data using Pivot Tables (Microsoft Excel)

Exercise # 1

7. By default, the Pivot Table sums the values of the variables in the “Values,” which means the table and chart are simply showing the number of counties in each state. In order to show the average area burned you will need to change the format of the field setting. To change this click on the down arrow on the variable in the “Values” area and select “Value Field Settings.” Change the Summarize value field from “Sum” to “Average” and click OK. Now the Area Burned values in the Pivot Table and Chart should be showing the average area burned for each State.



8. To filter the data even further by Conservation Partner drag the Cons_Partner variable into the “Report Filter” area. Now you should see the Cons_Partner variable with a dropdown arrow on the table and chart, that looks like this:



Click on the dropdown arrow and select one or multiple Conservation Partners and click OK. After selecting one or multiple Partners (other than All) you should see the table and chart update with that filter being applied.

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Exercise # 1

9. If you wish to create a chart for each Conservation Partner instead of having to re-filter the data, select All in the Cons_Partner Report Filter> click somewhere on the Table of data> in the top banner go to Options> Options again under PivotTable Name and in dropdown click on Show Report Filter Pages> make sure your Report Filter variable is selected and click OK. This should generate a new sheet for each Conservation Partner. To view a chart on one of these sheets in the top banner go to Options> PivotChart (as shown in the picture below) and click OK.

The screenshot shows the Microsoft Excel interface with a PivotTable titled 'Count of Area_Burned'. The PivotTable is filtered by 'Cons_Partner' and shows the following data:

Row Labels	Count of Area_Burned
AL	22
AR	36
FL	10
GA	66
KY	66
LA	37
MS	29
NC	31
OK	51
SC	20
TN	47
TX	92
VA	26
Grand Total	533

The PivotTable Tools ribbon is visible, with the Design tab selected. A blue arrow points to the PivotChart button in the Tools group. The PivotTable Field List on the right shows the following fields:

- State
- County_ID
- Area_Burned
- Cons_Partner

RESOURCES

Tutorials on using Pivot Tables and Charts in Excel can be found online at the following links:

<http://office.microsoft.com/en-us/excel-help/pivottable-i-get-started-with-pivottable-reports-in-excel-2007-RZ010205886.aspx>

http://www.timeatlas.com/5_minute_tips/chunkers/learn_to_use_pivot_tables_in_excel_2007_to_organize_data#.UpzsZMRDtV8

CONCLUSION

In this exercise you used county-level data variables from a spreadsheet to create a Pivot Table and Chart showing the average area burned for each State in the Southeast and filtered these results according to Primary Conservation Partner.