

**5.8. Research plots.** One of the research scientists associated with the Brown Tract is interested in measuring a few of the research plots on the forest, to study the growth of certain stand types.

Both of the questions below require use of the stands and research plots GIS databases related to the Brown Tract. Open an ArcView View window and open both of these GIS databases.

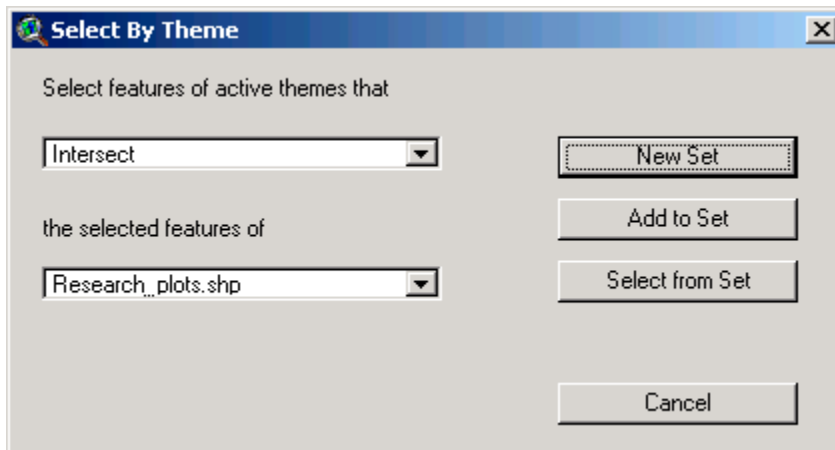
a) How many research plots are located in stands with ages ranging from 30 to 50 years?

To develop the answer to this spatial query, first perform a regular query of the stands GIS database for stand ages that are described as "between 30 and 50 years of age." Make the stands GIS database the active theme in the Table of Contents, and use the following query:

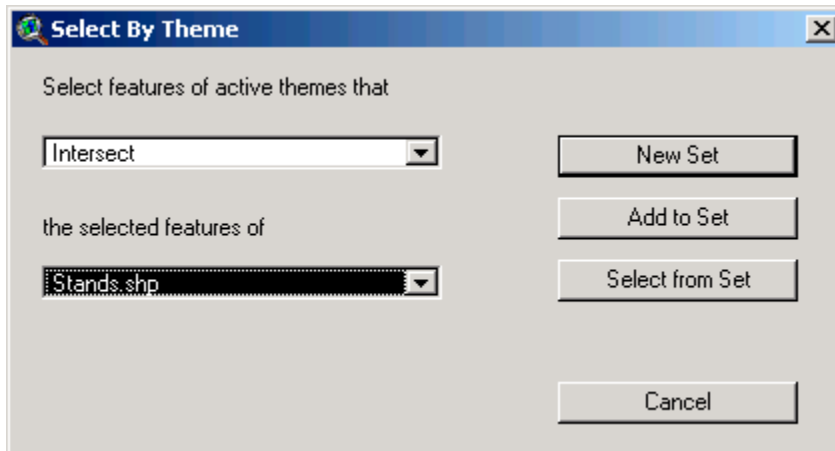
Query: ( [Age] >= 30 ) and ( [Age] <= 50 )

Result: 1,346.5 acres

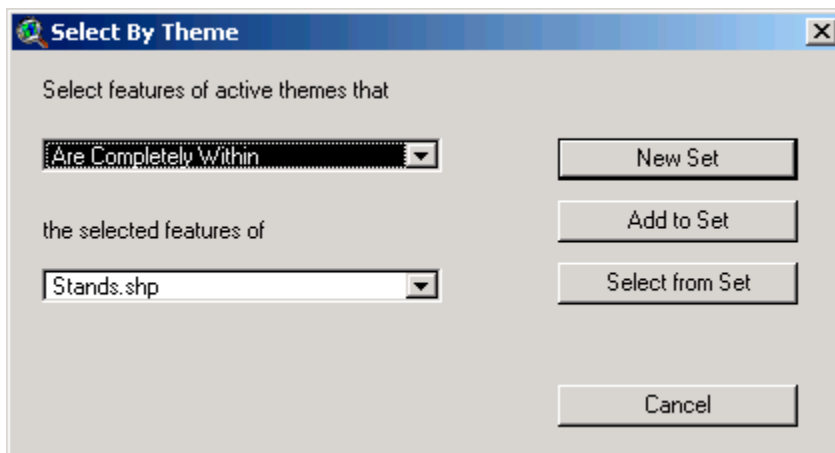
Then perform a spatial query using this selected set of stands polygons. First make the research plots GIS database the active theme in the Table of Contents. Then select from the Main Menu system, *Theme*, then *Select by theme*. A dialog box similar to the one shown below should appear.



Change the option under *the selected features of* to "Stands.shp."



Then change the option under *Select features of active themes that* to "Are completely within."



The spatial query now indicates that you desire to understand which research plots are completely contained within the selected features of the active theme noted in the Table of Contents (the selected polygons in the stands GIS database).

Press the New Set button.

Open the Theme Table related to the research plots GIS database and note that only five of the research plots are contained completely within stands aged 30 to 50 years.

b) If the query were expanded to include stands with ages ranging from 20 to 60 years, how many research plots would this spatial query locate?

Follow similar steps as described above to find that nine research plots are now contained within stands aged 20 to 60 years.