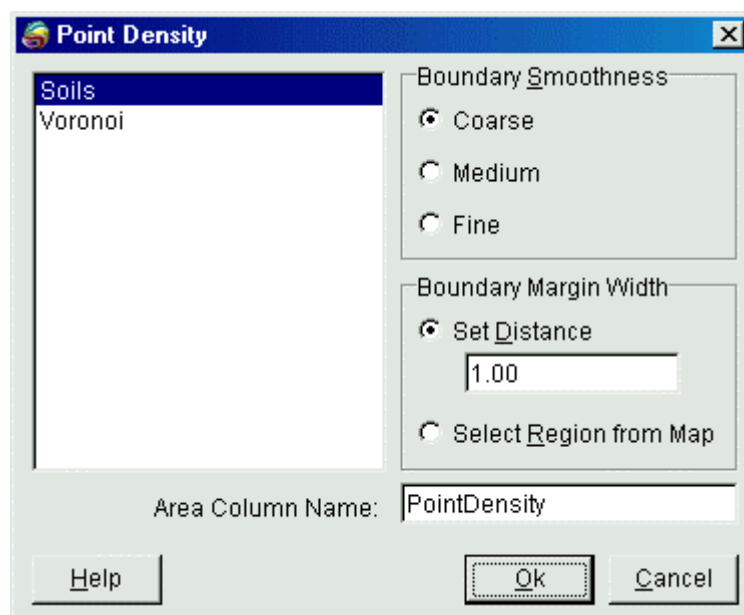


Calculate Point Density

The *Calculate Point Density* process in *Vertical Mapper* calculates the area of the natural neighbourhood region for each point and updates this value as an attribute in the point file. Using *Vertical Mapper's* interpolation techniques, it is possible to create a representative density surface grid with these point values. For an instructional lesson on *Calculating Point Density* refer to Lesson 10 of the *Installation and Tutorials* manual.

- From the main *Vertical Mapper* pull down menu, select the command *Natural Neighbour Analysis > Create Point Density*. The **Point Density** dialogue box appears.



- Unlike the Voronoi creation process described in the previous section, the point density technique does not pass attribute fields from the point table to the new polygon table. However, the file is checked for duplicate points. Because exactly coincident points are not allowed in the point density calculation, the routine will return an error message if duplicates are found and advise the user to first process the file using simple point aggregation.
 1. Select a table of points from the list provided.
 2. The **Boundary Margin Width** and **Boundary Smoothness** controls are the same as those that appear in the *Voronoi Options* dialogue and have been discussed in the previous section. Particular attention should be given to the size of the margin computed around the extremity (convex hull) of all points as this will determine the arbitrary natural neighbourhood area for the outer unbounded points.
 3. The user is prompted to enter an **Area Column Name** in the edit box. This column will be added to the same point table that is currently being processed. By default, the new column is labeled “**PointDensity**”.
- Select the **OK** button to begin the procedure. Voronoi processing continues to completion in memory. Area values are extracted for each Thiessen polygon and added to the “PointDensity”

column in the original point table. The Voronoi map is erased from memory and the user is left with a new column in the point table containing the area of each natural neighbour region generated according to the spatial distribution of the points.