

# 3c – A Guide to Pie Charts

Pie charts are commonly used by researchers to show how a whole set of data is split between different categories. They are normally used to show the relative frequency of data rather than be a presentation of raw data, as generally they are displayed without the data actually listed alongside each segment.

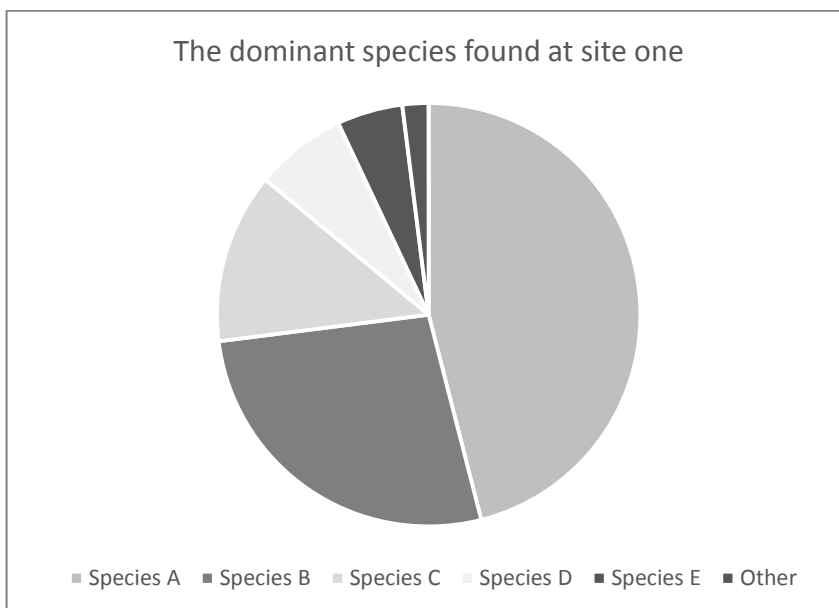
## Why would we use a pie chart?

Pie charts are best deployed by researchers trying to show the amount of a phenomenon in a relatively small number of categories. Through the use of different colours, pie charts can allow the reader to quickly see the majority and minority categories without having to read exact numbers in the data set.

To calculate the size of each part of the 'pie', the following equation should be used:

$$\frac{\text{value}}{\text{total value}} \times 360 = n^\circ$$

Pie charts can be difficult to read if there are too many categories with very low values – this creates a chart where many categories are compressed into one part of the pie. Depending on the nature of the data, the researcher may be able to create an 'Other' category which encompasses all these small values. However, this method should be used with caution as creating an 'Other' category also effectively hides some of the data that might actually be significant to the conclusions the researcher wishes to make.

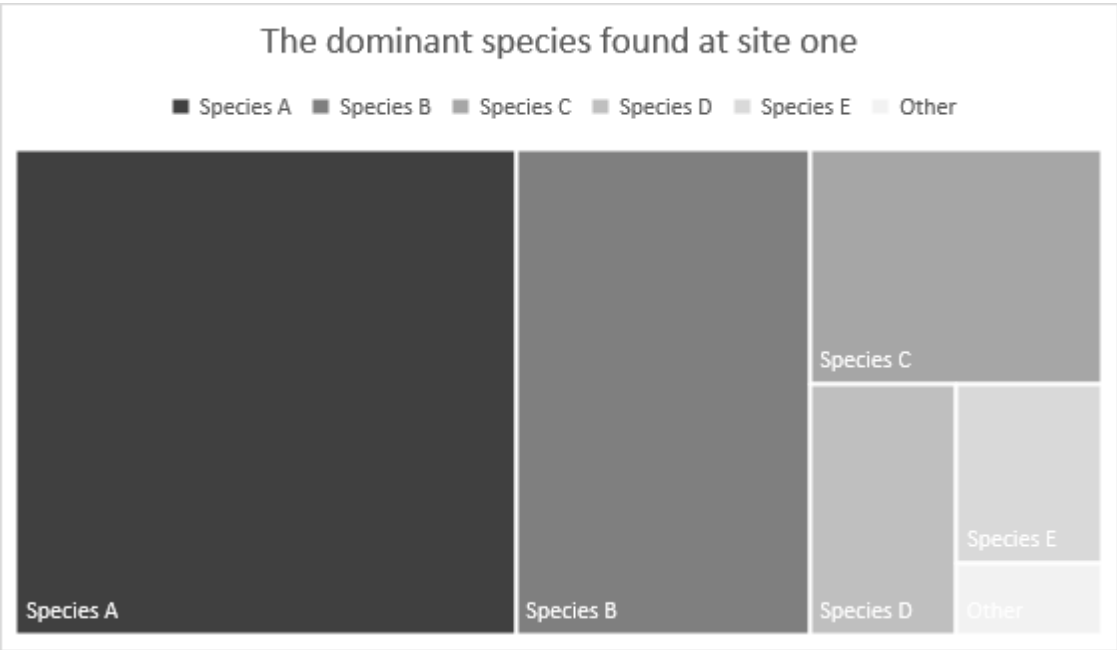




Pie charts can also be used with GIS. If the data changes from place to place, the pie charts can be placed as an overlay on a map of all the data collection sites, allowing the reader to compare one site's data, relatively, to another.

### Tree Maps

Tree maps are the same as pie charts in all ways except their shape. Instead of a circle, a rectangle or square is used and is split according to the values of the different categories of data.



Generally, tree maps are set out with the highest to lowest values reading from top left to bottom right.