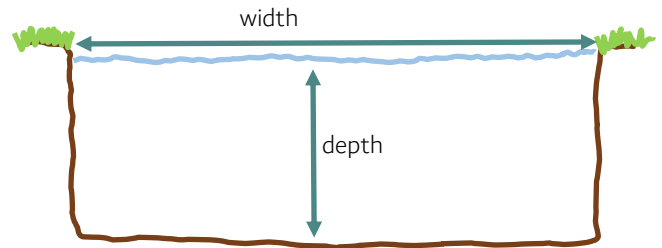
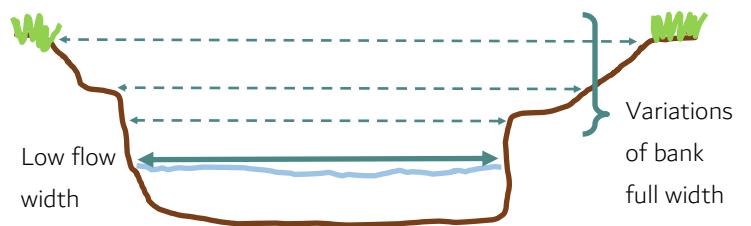


The cross sectional area of a river channel is made up of two elements: the width of the channel and the depth. Whilst it may seem that two simple measurements will give one these dimensions, in fact, the changing and often unusual shape of river channels means these measurements are more complicated to achieve in the field.

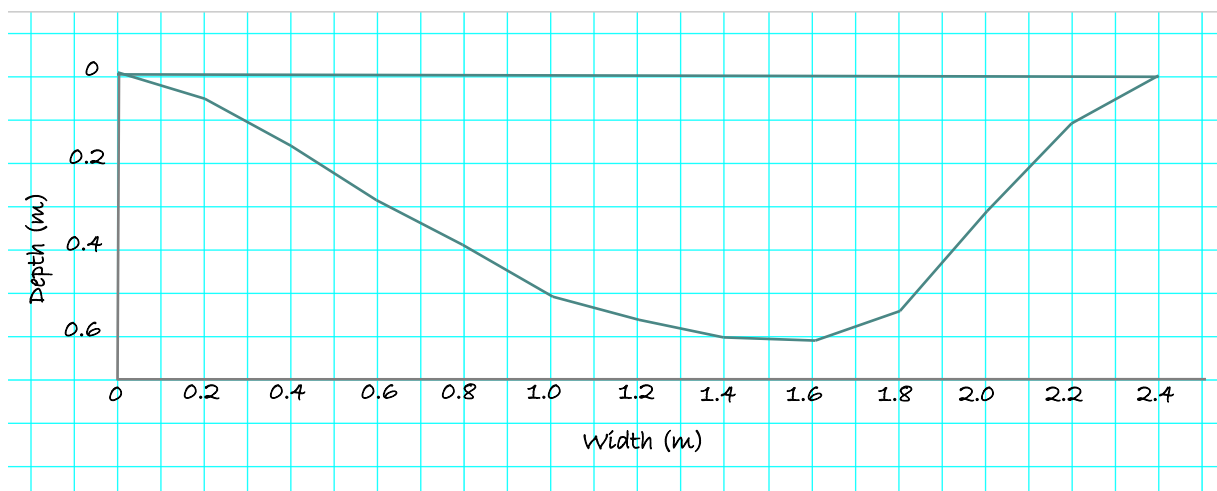
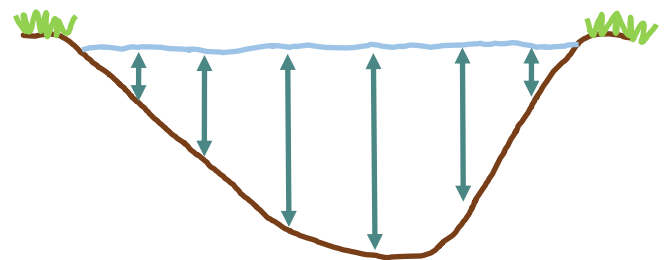
Natural river channels are not square in shape. If they were, one could simply multiply the width of the channel with its depth to get the cross sectional area of the channel:



Many river channels do not have clear edges to their banks and the way one might interpret the dimensions of the channel may depend on whether the river is at low flow or in spate at bank full. If a number of sites are being measured for the purpose of comparison, one must be consistent in the way one chooses which dimensions to measure.



River channels also vary in depth from one bank to the other, especially on a meander bend. Therefore, it is likely to be more accurate to take a number of depth readings, at equal distances across the channel. These depths readings could then be used to find the mean depth.



Alternatively, one could use these depth measurements to draw a cross sectional area on graph paper. This should be drawn such that the scale used for the width measurement is the same scale as that used for the depth measurements. One can then count the number of full squares shown inside the channel on the graph paper and use this as a measure of the size of the cross sectional area. One can also count the number of part squares or inside the channel and add half of this number to the total for an even more accurate measure.