MINIMIZING MISSING PLOT PROBLEMS

When time is short (as it so often is) you run into situations where the weather will not allow sampling in some areas. You don't always know which plots cannot be taken ahead of time, but typically here in the Northwest it is the high elevation ones. Suppose the snow line causes you to drop a lot of low volume plots from those high elevation locations – or those with a particular species mix. There is no chance to substitute appropriate plots – so how can you make the process at least more resistant to bias for the total volume of the area?

A ratio or regression approach is useful if you can make estimates of the stands before sampling. In a purchase, perhaps you can get the opposition to tell you their estimates of the stands. If they don't want to do that, perhaps they could give you volumes adjusted by an undisclosed amount. The volumes are wrong, but still proportional – that's enough for you, and does not release restricted company data (or involve lawyers).

The graph below shows missing high elevation plots (with low volumes). The difference in the simple average might be of large consequence (20% in this case) – but the regression line through either set of data is not much affected. Consequently, when the regression from your reduced sample is applied to all the estimated values, the bias is much reduced. You cannot eliminate this "non-response" or missing plots entirely, but this approach will help minimize the problem it causes. In this graph, you need the values for the missing plots. Just read the values from the line and substitute them. The average will now be far less biased than ignoring them because they could not be measured on the ground.

K.I.