

11.5 Operations around research plots. Assume that the managers of the Daniel Pickett forest have decided to clearcut harvest stand 28. They noticed, just prior to allowing loggers to begin operations, that a research plot (number 3) was located in the stand. If a 300 foot buffer was left around the research plot,

a. How much forest area in stand 28 will actually be clearcut?

116.50 acres.

b. If timber values are \$400 per thousand board feet (MBF), what is the value of timber that will remain around the research plot?

According to the attribute table, there is 21.2 MBF per acre within the stand 28 (and hence the buffer around the research plot in stand 28). If the research plot and buffer represent 6.46 acres, this amounts to 136.3 MBF (total). At \$400 per MBF, the value of the timber that remains around the research plot is \$54,520.

c. What is the difference in timber volume and value between leaving the buffer around the research plot and not leaving the buffer?

The original size of stand 28 was 122.96 acres. The value of the timber within the stand was thus \$1,037,782. After removing the value of the timber in the plot buffer, the total value of the timber for the sale is \$983,262. The volume in the original stand was 2,594.5 MBF, and 2,458.2 MBF after the plot buffer is removed. The volume and value are reduced to about 95% of their original condition if the buffer around the plot is retained.

d. Develop a map that describes the vegetation conditions on the forest after the harvesting operation is completed. Assume that the 300-foot buffer was maintained around the research plot. Illustrate on the map (either with annotation or with a shading scheme) the basal area of all the stands.

We'll let you decide how to do this. If you feel you have a rather good map, send a .JPG file to Pete Bettinger (pbettinger@smokey.forestry.uga.edu), and he may post it on the book's web site. Of course all of the maps sent to him cannot be posted, so Dr. Bettinger will be the final arbiter of the choice of example maps posted there.