

# Riparian Forest Buffers

1. First, save and print out the EXCEL worksheet that you will use to record the inventory (diameter or circumference). Assemble the tools you will need:

- \* measuring tape,

- \* diameter tape,

- \* wire flag stakes or wooden stakes to mark plot boundary lines, and

- \* a compass or carpenter's square for laying out rectangular sample plots It is recommended that you use a diameter tape rather than a measuring tape to measure tree diameter since no conversion to diameter is required. Pocket diameter tapes 10 ft. in length that can measure up to 38 ft. in diameter can be obtained for about \$10 from forestry equipment suppliers (see below).

2. Portions of the riparian buffer that have very different mixes of species, ages or sizes of vegetation, or other conditions should be treated as separate parcels for the purposes of carbon storage estimation.

3. Trees will be sampled using one or more 1/20th acre fixed plots. The sampling procedure will be easier with two people. Locate plots in representative areas of the buffer so the plot boundaries are at least 10 ft. away from the stream bank and upland edge of the buffer. Avoid openings and disturbed areas.

4. Depending on the width of the buffer, you may use different rectangular configurations of the 0.05 acre (2178 square feet) plot. For example, 21.8 X 100 feet, 43.5 X 50 feet, etc.

5. Parcels of riparian buffer containing 1-10 acres require measurements from two fixed plots at a minimum. Take at least one extra fixed plot for each additional 10 acres of parcel size. If two or more plots are needed, their boundaries should be separated by at least 100 feet along the watercourse.

6. First establish the plot boundaries and mark the lines with paint or stake wire flags or string as you go along. Start by measuring a straight line along the longest side of your rectangle. Then measure out the shorter side, using a compass or carpenter's square as a guide to making a 90 degree angle. Continue laying out the entire rectangle.

7. All trees taller than 4.5 ft that fall within that plot will be measured. You can sample up to six of the most common tree species of the minimum height in your stand. Less common species do not need to be measured even if they fall within the fixed plot area.

8. Take the (DBH) or diameter at 4.5 ft. above ground of all eligible trees (see #7) whose trunks are within the plot. For "border line" trees, the center of the tree at 4.5 ft. above ground must be within the plot boundary to be measured. Trees that fork below 4.5 ft. are measured as two trees. Continue through the plot to determine and measure all "in" trees.

9. For each species, you will record the number of trees that fall within separate 2-inch diameter classes rather than the actual diameter measurements. On the tally form, hash marks or dots can be used to designate the trees as they are counted.