

Study Site Background

Each study site is set up as a rectangle with the length (200 meters) running parallel with the river. The site is located between the river and the levee and if local conditions permit, should be 100 meters wide, but not less than 80 meters. There should also be a buffer zone of at least 20 meters between the levee and the most inland long side because of potential future redesigning of the levee. The site should be representative of the general area and forest composition. To minimize disturbances and the potential for vandalism study sites should be selected in areas of low human impact. (It is almost impossible to select a site without human impact because the bosque receives intense human utilization particularly as a recreation resource). During the first phase of the project only sites with no or low recent fire activity should be included in the study.

Once the 200x100 meter rectangle is set up, ten 30 meter long lines, or transects, are put in place. The vegetation plots, arthropod traps, and litterfall tubs are all placed in relation to these ten 30 meter long transects. The transects are parallel to the north and south boundaries. The location of each 30 meter transect along a 100 meter line is determined randomly.

Random numbers are used to limit bias. For example, if given the chance, someone might avoid areas with

Russian Olives because they don't like working around thorny branches even though Russian Olives are a part of the Bosque. By using random numbers, there is a better chance of selecting fully representative sites.

To limit variability, each study site is set up in the same way. This makes it possible to make valid comparisons among and within sites. All sites are also monitored in the same way and at the same time. That is why following the procedures is critical to the success of the overall research program.

If you encounter difficulty following a procedure, record the problem in detail and notify the program coordinator. Setting up a site incorrectly may cause problems in all of the subsequently collected data. Please be careful.

Study Site Set Up Materials

1. Tape measures (two 50 meter tapes)
2. Comp gasses (2)
3. Log book and pen to record data
4. 100 Pinstake flags
5. Permanent markers
6. 100 pieces of 24 inch long rebar
7. Blue, orange, and white paint
8. Sledge hammer

Study Site Set Up Directions

Note: Use a permanent marker to label each pinstake flag for a given locality. For example, "East Boundary 30 meters south of northeast corner" or "nw corner of veg plot C" or "Transect D, 26 meters west of east boundary."

1. Select site area. Select an area fitting the criteria outlined in the background section listed above. Without being too precise rough out the site's shape to see if it will fit in the proposed location. This should be done with assistance of program coordinator and advisors.
2. Mark corners and 20 meter intervals. Using compasses and tape measures (and/or surveying equipment) precisely mark off the site corners and each 20 meter interval along the site boundaries with a pin stake flag. Check and double check for accuracy.
3. Select transect random numbers. Using a random number table, select a series of 10 two-digit numbers between 00 and 70 for a 100 meter wide study site. (For an 80 meter wide study site select ten numbers between 00 and 50.) Selection of these numbers enables the installation of a 30 meter long vegetation plot between any two transects.
4. Set transect locations.
 - ✍ Go to the study site's northeast corner.
 - ✍ Proceed south for 20 meters along the eastern boundary (200 meter long side).
 - ✍ Use the first two-digit number from your random number list to determine the distance of how far into the study site to proceed from the eastern boundary.
 - ✍ Proceed into the study site by going perpendicular to the eastern boundary.
 - ✍ Place a pinstake flag at the location determined by the random number. Label this flag with its transect letter and distance from east boundary. (For example "Transect A, 26 meters.")
 - ✍ Now, continue to proceed on that same line for another 10 meters. Place a second pinstake flag at that point (random number plus 10). Label flag with transect letter and distance from east boundary.
 - ✍ Continue along that same line for another 10 meters (random number plus 20) and place a third, labeled pinstake flag.
 - ✍ Proceed another 10 meters to place the fourth and final labeled flag for that transect, (random number plus 30).

(Example: If the first two-digit random number was 26, then you would walk 26 meters on a route that is perpendicular to the eastern boundary. At that point you would place your first flag. Then continuing along the same direction of travel, you would place flags at 36, 46, and 56 meters. If you drew a line between those four flags it would create a 30 meter long line, perpendicular to the east and west boundaries and parallel with the north and south boundaries.)

5. Return to east boundary. Return to the east boundary and move 20 meters to the south. Take the second two-digit random number and proceed west into the site repeating the steps outlined in step #4.
6. Repeat for all transects. Repeat the procedures outlined in steps 4 and 5 until all ten transects have been placed.
7. Set vegetation plots. The ten vegetation plots are aligned with the 10 transects and each vegetation plot is centered between two transects. Each plot is 30 by 5 meters, with its 30 meter sides parallel with the associated transect.
 1. Go into the study site and to the flag at the east end of your first 30 meter long transect.
 2. Proceed north along a line of travel that is parallel to the east and west boundaries. Go 7.5 meters north of the first transect flag and place a pinstake flag. This will be the south-east corner of the vegetation plot.
 3. Proceed north an additional 5 meters along the same line of travel. You should now be 12.5 meters north of the transect. Place a pinstake flag. This is the north-east corner of the vegetation plot.
 4. Now go to the west end of that same 30 meter transect. Proceed north along a line of travel that is parallel to the east and west boundaries. Go 7.5 meters north of the first transect flag and place a pinstake flag. This will be the south-west corner of the vegetation plot.
 - ☞ Proceed north an additional 5 meters along the same line of travel. You should now be 12.5 meters north of the transect. Place a pinstake flag. This is the north-west corner of the vegetation plot.
 8. Repeat for all vegetation plots. Repeat the procedures outlined in step # 7 until all ten vegetation plots have been established.
 9. Check for accuracy. Check distances and alignments between flags for all transects, and vegetation plots.
 10. Place rebars. Pound a 24" long piece of rebar where each flag has been placed. Pound it in so between 6 and 12" of it sticks out of the ground
 11. Paint rebar. Using the following color scheme paint the part of each rebar that extends out of the ground
 - ☞ White for corner & outside boundaries
 - ☞ Orange for transect lines
 - ☞ Blue for vegetation plot corners
 12. Tag Rebar. Identify each rebar with a stamped metal tag.
 13. Map your site. Make a map of your site showing each vegetation plot and transect. Follow example of concept map included here. Indicate distance from eastern boundary to the start of each transect.