BOSQUE ECOSYSTEM MONITORING PROGRAM

Cottonwood Monitoring Directions

Cottonwood Monitoring Background

The diameter and gender of all cottonwoods in each 5 x 30 m vegetation plot is assessed. Cottonwood monitoring coincides with the cottonwood flowering season, around the first week of April.

Cottonwood forests were once widespread. Now their range is much more limited because of human activities. We pay particular attention to cottonwood trees because they are under tremendous threats; they are an important part of native habitat; and they can provide information about other conditions such as groundwater and flooding activities.

Cottonwood Monitoring Materials

- at least two 50 m tapes
- cottonwood monitoring data sheets and map sheet, clipboard and pencil
- binoculars
- diameter tape

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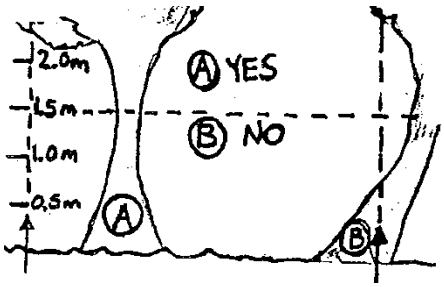
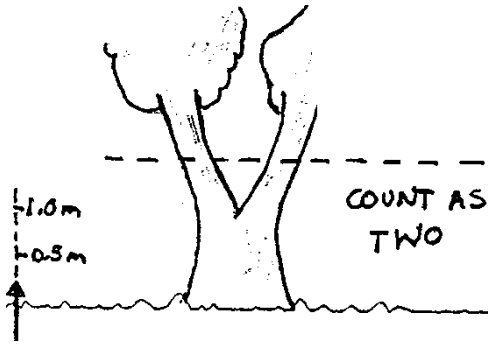
If the trees are not yet tagged, locate the corners of a vegetation plot marked by blue rebar.

Starting at the east side of the plot, locate the first cottonwood. Count only live cottonwoods within the vegetation plot that are present at 1.5 m above ground (see image).

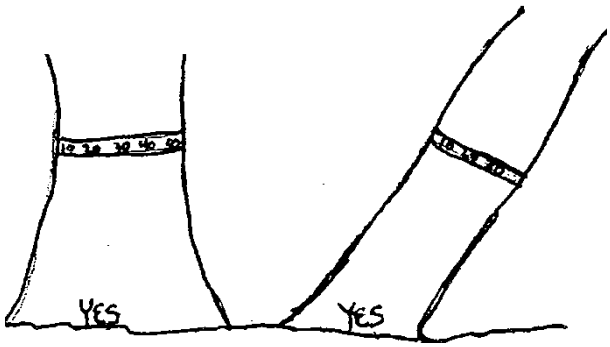


Trees that originate together but split into distinct trunks at or below the 1.5 m above ground level are counted as individual trees (see image). On the data sheet indicate which trunks are joined and where they are joined.



Each cottonwood within a study site should have its own tag indicating the vegetation plot in which it is located and the number assigned to the tree. The tag is nailed into the tree's west side, 1.5 m above ground. On the back of the data sheet map the tree's approximate location (see following page).

Determine the tree's diameter at breast height (DBH). Measure 1.5 m above ground level on the tree's west side – this should be where the tree's identification tag is located. Confirm that the tag is in the correct location. Measure and record the tree's circumference at 1.5 m above ground level. Keep the tape level with the trunk. It should be perpendicular to the trunk length, not necessarily level to the ground (see image).



Using binoculars, examine the tree's flowers to determine if it is male, female, or undetermined. The male cottonwood flower is reddish and hangs down (see image). The female cottonwood flower is green and looks like a clump of grapes (see image). Record

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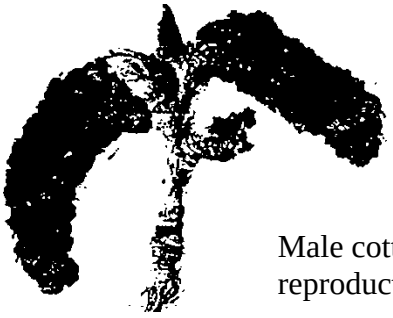
gender on data sheet (see following page).



Male cottonwood reproductive part

Female cottonwood reproductive part

Male flowers are able to be detected earlier in the season than females. Both may not be visible at the same time. Ideally, each tree should be checked twice in the spring. The time to observe and record will vary along the valley, with southern sites usually showing flowers before northern sites.

Repeat steps until all cottonwoods are tagged and DBH determined.

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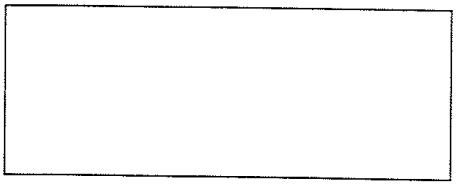
Bosque Ecosystem Monitoring Program: **Cottonwood Location Maps**

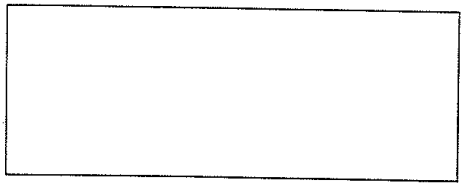
Site Name:_____ Collection Date: _____

Data Collected by:_____

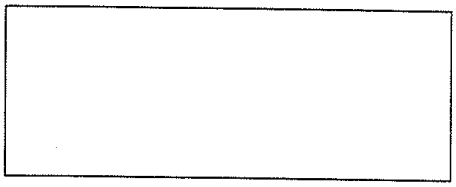
Plot A



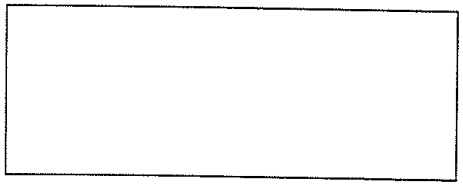
Plot B



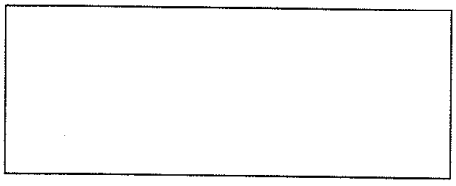
Plot C



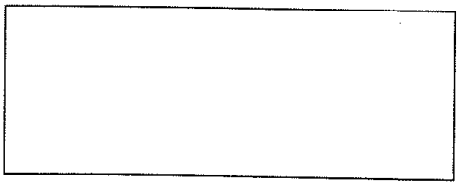
Plot D



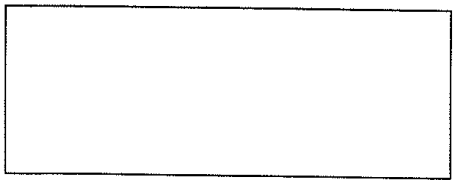
Plot E



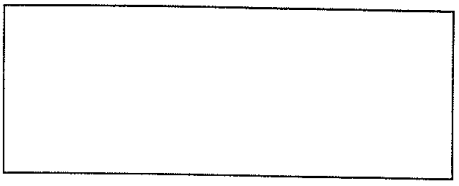
Plot F



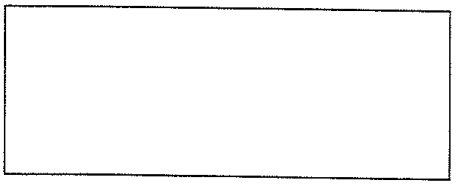
Plot G



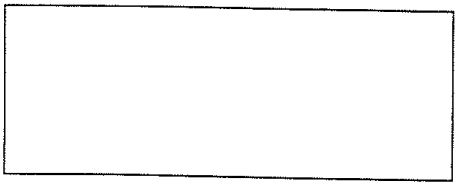
Plot H



Plot I



Plot J



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Page ____ of ____

Site Name:_____ Collection Date: _____

Data Collected by:_____

Comments:

Plot	Tree (tag) Number	DBH (in mm at 1.5 meters high)	Sex M/F/U	Comments

Sex: M=male, F=female, U=unknown (no flowers)

Data entry: file:_____ entry by: _____ date: _____