UNIVERSITY OF CALIFORNIA
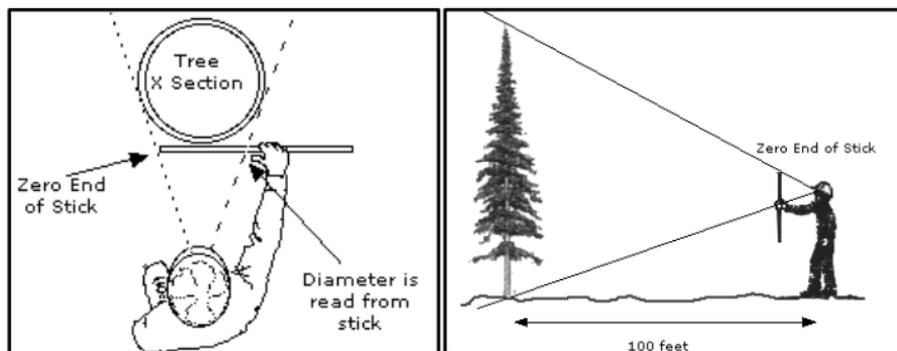## Agriculture and Natural Resources

California Tree Stick:
Information & Tips

The California Tree Stick can be used to identify trees and their characteristics and to quantify a forest stand by diameter and height of standing trees, the number of logs and board feet they contain, and their market potential.

Identify tree species: Examine the shape, leaves/needles, bark and cones/acorns of the tree to identify what species the tree may be. Note, not all California tree species are listed here and some trees found on each list (coast and inland) are also found in the other location.

Understand tree characteristics: Once you've identified the species of tree in question, check the performance rating table to learn more about its market potential and tolerance to or affinity for shade, fire, drought, wet soil, snow load and fog. Note, fire resilience can mean that a tree has many adaptations to survive wildfire itself, OR that it easily seeds in or re-sprouts so that the species is maintained on site.

Estimate diameter at breast height (DBH): Measure diameter as directed on the stick.

Estimate height: Measure height as directed on the stick. For the 100-foot distance, tree height is read directly—30 percent of 100 feet is 30 feet (.30 x 100 = 30). However, it may be necessary to measure tree height from less than 100 feet. For example, if you stood 50 feet from the tree and the scale read 30, then the tree would be 30 percent of 50 feet or 15 feet tall (.30 x 50 = 15).

Determine Crown Class: Using the diagram on the stick, identify the shape of the crown that the conifer tree has to help characterize the health and stature of individual trees. Leaving the healthier dominant and wolf trees and taking out intermediate and suppressed trees is a standard way to thin a forest for fire hazard reduction.

Identify Spacing and Trees per Acre: The California Forest Practices Act requires a certain number of trees per acre on

your woodland after a harvest. This table calculates how many trees per acre are required to achieve a specific spacing. Note, spacing does not have to be square, see formula. When deciding on trees, consider what species will best fit your site by consulting the performance rating table.

Estimate Log Volume: (For conifers) Use the DBH and height measurements of a tree to identify the volume of the first or second log that could be cut from it. Find the diameter class of the tree across the top of the table (estimate what the diameter would be without the bark on the tree – as a rule of thumb, subtract at least two inches from the measured value). Read down the table using the length of logs that will be cut from the tree. The intersection of the row and column lists the board feet that would be contained in this log when multiplied by 10 (Scribner Decimal C notation omits the final zero).

Identify Log Height: The drawing shows the location of each 16-foot log in a single tall tree that has been cut leaving a 1-foot tall stump (16 feet is the length of a standard log truck).

Measure Fixed Plot Areas: This table lists the radius of a circular plot needed to survey a specified area per acre. You can use these dimensions to lay out plots to measure trees or seedlings per acre, fuels, or other forest management purposes.

Measure Fuels: Monitoring fuels can be done by using a Brown's transect. Lay down a tape to the desired length for the plot you are measuring and then inventory the fuels intersecting the tape by size class. 1 hour fuels are less than ¼ inch in diameter, 10 hour fuels are between ¼ and 1 inch, 100 hour fuels are 1" to 3" and 1000 hour fuels are more than 3" in diameter. The inch scale opposite these diameters on the stick can be used to measure the depth of litter and duff.

For more information, see the California Tree Stick webpage: http://ucanr.edu/catreestick