i-Tree Eco Project Cost Estimation

Number of Plots: 200 [1]

Number of personnel per crew: 3 [2]

Cost per crew day: $800 ($100/hr x 8 hours/day) [3]

Number of plots per day: 3-4 (as few as one and as many as seven per day) [4]

Total number of days for project with 200 plots: 50-67 days

Total cost based on 200 plots, 3 plots/day avg., and $800/day: $40,000 - $50,000

[1] As a general rule, 200 plots (1/10 acre) in a stratified random sample in a city will yield a standard error of about 10% for an estimate for the entire city (e.g., number of trees in the city). With the first 100 plots, the standard error drops more rapidly than with the second 100 plots, but standard error continues to drop with increased sample size. A crew of two people can typically measure 200 plots within one summer for a city with about 20% tree cover. Actual number of plots measured varies based on many factors, including size of city (increased drive time between plots) and tree cover (the more trees in a city, the more time is spent measuring trees). **– i-Tree 2.0 User's Manual, Section 1.3.1**

Personal note: Depending on the size of the area being assessed and the variability of vegetation cover, you may be able to use fewer plots and still approximate forest structure and the environmental services being provided for the area of interest. For the Auburn, AL project, we chose to assess 20 plots per land-use area and we had five land-use areas. The statistician on the project felt comfortable with those numbers.

[2] To increase data collection efficiency, we use three people to assess each plot.

[3] This is a conservative estimate based on an experienced crew leader at $40/hr, two other crew members at $20/hr, and transportation/incidental costs at $20/hr [40+2(20)+20=100]. You may want to consider pricing the project by the plot (i.e. $100-$200 per plot).

[4] You may increase the number of plots done per day by only assessing trees and eliminating the shrub component. You may also want to indicate a lower limit on the tree size that you want to include in the assessment. By default UFORE's lower limit for tree size is one inch. By using a lower limit of three or four inches, more time is saved per plot because all of the smaller trees are avoided.

Eric A. Kuehler, Technology Transfer Specialist
Urban Forestry South
320 Green St., Athens, GA 30602
706-559-4268
ekuehler@fs.fed.us
www.urbanforestrysouth.org