

Adapting FIA protocol to Monitor Vegetation in National Capital Region of Park Service

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The National Capital Region on the National Park Service includes 11 forested parks and battlefields that are being included in a regional monitoring program. The objective is to establish a baseline network of plots to monitor forest health and trends in forest composition and structure, including special emphasis on the impact of deer browsing and invasion of exotic species. In summer of 2004, a modification of Forest Inventory and Analysis (FIA) protocol was field tested on 10 plots in 4 parks near Washington, DC. Five test-plots were overlaid on existing Rock Creek Park long-term plots (last measured in 2003). The remainder were measured in Catoctin Mountain Park, Manassas National Battlefield Park, and Prince William Forest Park. Data collection were designed to evaluate the modified-FIA protocol, establish plot sizes, and compare to existing Park Service methodology. The test protocol included sampling for: (1) large trees (>12.7 cm dbh) on an 18-m radius plot for live trees and 28-m radius for dead trees; (2) seedlings and saplings (<12.7 cm dbh) on three 4 m-radius plots; (3) understory herbaceous plants and trees (<30 cm height) on six 1-m square quadrats; (4) down woody materials on 3 transects up to 30-m length; and (5) shrub/vine cover and browse evidence on three 18-m transects. These test plots and transects were designed to sample 1.5 to 2 times as much area or length as the FIA protocol calls for. Results are evaluated to compare information on successively smaller plots to establish a recommended size for each protocol component. Key features of techniques and lessons learned are discussed, and comparison is made to the FIA protocol design.