

# FAQ



## DEER MANAGEMENT AND FOREST HEALTH

The objective of the Monmouth County Park System's Deer Management Program is to reduce and maintain deer populations at a level that is compatible with a healthy forest. This sheet explains what the Park System is doing to evaluate the effectiveness of the Program in pursuing this objective.

### ***How is the Park System assessing deer impact on forest health?***

The Park System has initiated two related studies that over time will enable staff and others to evaluate where hunting is decreasing deer impact by stabilizing or reducing the deer population at various parks. The Forest Health and Composition Study, initiated in 2006, has sampled the species of trees, saplings, shrubs, vines and herbaceous plants as well as measuring height and percent of vegetative cover in fourteen parks. The Deer Exclosure Study, initiated in 2003, creates permanent plots within and outside fenced areas or "exclosures" that allow a comparison of vegetation between plots that are and are not protected from deer damage. There are currently eight exclosures in six parks.

### ***How will the Forest Health and Composition Study influence decisions about deer management?***

This study yields a description of each forest type and results in the assignment of a Floristic Quality Assessment Index (FQAI) and a Plant Stewardship Index (PSI) for each sampled plot. The processing of the data in Geographic Information System software results in the mapping and quantification of the forest communities within a park and supports the assessment of the potential quality of the forest community and the extent to which it may be degraded. By comparing the mature trees present to the quantity of samplings and seedling trees, it can be determined whether deer browsing pressure may be limiting forest regeneration. Over time, this information will enable the Park System to evaluate the need for and effectiveness of its management activities, including both deer management and invasive species control, and to identify the higher quality and more vulnerable forest areas where action is a priority.

### ***Will additional park areas be included in the Forest Health and Composition Study?***

The initial surveys of seven park areas in 2006 allowed Park System staff to determine the variability of forest types. By establishing a profile of each type, a less-intensive sampling protocol can be applied in other like park areas to determine their specific composition and general health. Priority for future study will be given to the better definition of forest types, to targeted elements of the forest community such as spring ephemerals, and to specific species populations and utilization.

### ***What information does the Deer Exclosure Study provide?***

The pressure of deer on the forest vegetation can be measured by comparing species composition and vigor inside and outside an exclosure. By repeating the sampling over multiple years it can be determined whether the pressure is increasing or decreasing; this can be evaluated in the context of the management activities in place during that same period. The plot comparisons also provide important information about the ability of the forest to recover from deer damage if the pressure of deer overpopulation is removed.

### ***Are more Deer Enclosures planned?***

The eight current deer enclosures have been situated in parks that represent different forest types. These enclosures can be used as reference sites in order to determine the deer browsing pressure in other parks of the same forest type; for example, conditions observed in Huber Woods Park can be compared to conditions in an enclosure at Hartshorne Woods Park. In this manner, it is not necessary to monitor enclosures in every forested area. If, through the Forest Health and Composition Study, forest types are identified that are not yet surveyed with a deer enclosure, additional enclosures can be installed.

### ***Do these studies conform to accepted scientific practice?***

Forest plot sampling is ubiquitous in the scientific community as a method for evaluation of plant communities. Every Federal land management agency, including the US Forest Service, National Park Service, and Bureau of Land Management, employs plot sampling as a measure for evaluation. It is the standard for the Ecological Society of America, The Nature Conservancy, and other similar science-based organizations.

The Floristic Quality Assessment Index (FQAI) is a practical and standardized tool for natural area assessment developed in the Midwest by Floyd Swink and Gerald Wilhelm (1994). The method replaces earlier subjective measures of quality with a quantitative index that allows comparison of the floristic quality among many sites and the tracking of changes at the same site over time. The Plant Stewardship Index (PSI) is a variation of FQAI developed by Bowman's Hill Wildflower Preserve specifically for habitats in New Jersey and eastern Pennsylvania; many land trusts, conservation groups, and local governments in the region are implementing it.

Deer enclosures studies are a survey technique accepted and conducted by the National Park Service, National Forest Service, state and local government agencies, and scientific and conservation communities at large. Some have been ongoing for decades, and exist at many scales from ten-meter square plots to multiple acre enclosures.

### ***What have the studies shown to date?***

The studies support the conclusions that browsing pressure is still too high at the current level of deer population and that forests will regenerate when browsing pressure is reduced or removed. Until sufficient forest health data is collected to establish trends that can be compared to deer harvest data, staff will be unable to determine if the deer management activities as currently implemented are having the desired effect on deer population and densities.

### ***Why not just count the number of deer?***

It is the impact of the deer on forest health, their ecological sustainability, which is of concern to the Park System. A reliable, consistent assessment of vegetative health is achievable. Counting deer is less reliable and more difficult because of their mobility and the fact that they spend a good deal of time under cover and cannot be seen or counted. Nevertheless, the Park System is committed to continuing its efforts to count deer populations from the air by helicopter during periods of snow cover and on the ground by spotlight counts each spring at those parks where the methodology is most appropriate. While neither of these counting methods is scientifically valid, they can be useful in establishing conservative estimates of deer densities. Data collected from these efforts is included in the Deer Management Program Annual Report.