

Another Case for King Solomon:

White-tailed Deer Workshop Addresses Inter-regional Issues and Conflicts

By Susan P. Bratton

From April 15-17, 1989, NPS research scientists, managers and resource management specialists met with University-based ecologists and wildlife managers to discuss present issues and future management options for white-tailed deer herds resident in National Park Service areas in the east. The training workshop, held in Atlanta, was organized by Michael Soukup and Allan O'Connell of the North Atlantic Region, and was hosted by the Science and Resource Management Division of the Southeast Region. The initiative was sponsored by the Wildlife and Vegetation Division, NPS Washington Office. Attendees represented parks and regional offices in the North Atlantic, Mid-Atlantic, National Capital, Southeast, Midwest and Rocky Mountain Regions, as well as the Wildlife and Vegetation Division.

White-tailed deer (*Odocoileus virginianus*) are the most common large herbivore in the NPS areas east of the Mississippi, and they also inhabit western parks such as Yellowstone and Big Bend. Well-adapted to successional forest and field communities, white-tailed deer populations have increased in recent decades, causing a series of managerial problems, including frequent traffic accidents, heavy browsing of native forest communities, reduction of herbaceous plant populations, and depredation of crops and horticultural plants. Under intensive hunting or predation, or in poor habitats, deer populations can remain low. In fact, managers of a few park areas, such as Big Cypress National Preserve, are concerned that deer numbers may be below desirable levels. In these areas deer are an important prey item for the endangered Florida panther, found in both the Everglades and in Big Cypress.

Several presentations at the meeting documented concerns about intensive deer grazing and browsing. North Manitou Island of Sleeping Bear Dunes National Lakeshore has an introduced population of white-tails that has removed most tree seedlings and saplings. Catoctin Mountain Park is experiencing bark stripping from deciduous trees and depredation of rare plant species. Deer at Fire Island National Seashore are in the process of removing most of the herbaceous species from the understory of the Sunken Forest, an unusual maritime forest community. Historic parks, such as Morristown and Valley Forge, have very noticeable browse lines. Gettysburg has large herds of deer that invade crop lands, including areas managed by the park as part of the historic scene. Exclosure projects in several of these parks indicate eliminating deer grazing allows regeneration of forest understories.

Although white-tailed deer are very popular with park visitors, they sometimes become safety hazards. Of high concern are the property damage and personal injuries resulting from deer-automobile collisions and incidents such as those at Fire Island, where deer confront people strolling down island boardwalks. In the east, small park areas or those surrounded by suburbs often have greater difficulties with these sorts of human-deer interactions than do the larger parks.

The presentations by wildlife biologists documented deer population levels, nutritional condition, reproductive rates and parasite burdens. A series of telemetry studies has been completed, indicating deer herds are

variable from park to park in terms of their fidelity to the park area. Deer at Valley Forge and Morristown are unlikely to travel far outside the park, whereas a percentage of the deer population at Saratoga NHP move seasonally across park boundaries. The size of deer home ranges and the amount of movement between park and private lands influence management options.

During the workshop a vigorous debate arose between the wildlife biologists from the State University of New York at Syracuse and the plant ecologists and the wildlife biologists from the southeast. The SUNY researchers suggested that it was not clear whether the fluctuations in the deer population we are observing today are "unnatural" and may have occurred historically. They therefore question any decision to intervene in (i.e., reduce) these populations in natural zones. This leaves the difficulty that the NPS must try to differentiate between increases in deer numbers due to "natural processes" and those due to "human intervention."

The researchers from the southeast, in contrast, argued that the high deer populations had not been historically present, were reducing vegetation diversity in forests and wood lots, and may eventually modify the forest canopy structure as well. The increase in edge zone area in eastern sites with mixed fields and forests, provides optimal habitat for deer, but does not represent the historic distribution nor scale of disturbance patches. The plant ecologists suggested that, under present environmental conditions, when deer herds decline due to disease outbreaks, the temporary reduction in grazing pressure is not adequate to release the forest understory.

This discussion led to a major point at the Conference: Each park must clearly articulate its management goals for vegetation and wildlife. These can be very different in (and within) different parks, and it is not as simple as it sounds.

Some parks with legislated hunting are attempting to reduce or stabilize deer herds through public hunts. Park managers also reported poaching as a continuing impact on deer, and some site managers felt automobile accidents were a factor keeping deer herds in check. Cumberland Island National Seashore reintroduced bobcats in the fall of 1988, and although bobcats may not lower the deer population significantly, early results from the project do indicate bobcats are consuming deer as one of their favored prey items.

A number of parks are considering some form of deer hunting or controlled deer removal to lower populations—primarily for the purposes of vegetation restoration or preserving cultural biotic resources, such as

historic woodlots. Increased interest in animal rights inhibited a recent taking of deer on Fire Island by state-selected and supervised hunters, even though waterfowl, small game and occasional deer hunting has routinely been provided in the past under the "shall permit" language of the enabling legislation. An arguable linkage of the taking with ongoing research and monitoring was seized upon for political advantage.

Hal Greenlee of Gettysburg described his park's careful, long term program to communicate the problems created by large deer populations to the general public and discussed strategies for gaining acceptance for projected management activities. Gettysburg staff also have communicated extensively with Pennsylvania state officials in preparation for a deer management program. Like the animal rights activists, pro-hunting organizations are attempting to thwart certain park management strategies, and in this case have threatened to sue if the NPS attempts to use contraception to control deer herds in an NPS area in Pennsylvania.

The meeting concluded with a group discussion of future needs and management strategies. All attendees agreed that white-tailed deer management is a major, and potentially controversial, national level problem which will require a much more coordinated program in the future. All present also agreed that hunting was an unacceptable solution in some small parks and urban areas. Although contraception is not yet technologically feasible as a general, inexpensive management alternative, new methods, such as immuno-sterilization, should be scientifically tested. Contraception is acceptable to some, but not all, animal rights advocates. For larger parks, and those where deer move freely across the park's boundaries, contraception may never be a viable alternative.

Present legislation does not permit hunting in most historic and cultural parks, as well as most large natural area units. Larger natural areas have the option, in some cases, of encouraging or reintroducing predator populations, while most of the historic areas are too small for this strategy to be viable. The group suggested using Gettysburg as one prototype of the historic/small park problem, and obtaining national level support for dealing with the legal, technical and public relations issues. A final report on the meeting, designed as a resource paper for park managers, is being prepared. Parks interested in becoming part of the white-tailed deer mailing list and information network should contact Mary Foley in the North Atlantic Regional office.

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