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Deer Culling – A Critical Tool for Conserving Local Habitat Diversity: A Green Paper by the Bird Conservation Network

Purpose of This Paper

BCN is a coalition of 18 groups and organizations, representing many thousands of people who live throughout the Chicago region. Our members enjoy and value birds and the natural landscapes where we find them. Our coalition advocates and promotes the perpetuation and appreciation of the native bird species of the Chicago region, both resident and migratory. To achieve this purpose, we are not only advocates for the birds; we also strive to protect/enhance the habitats and ecosystems used by birds. BCN actively initiates, assists, and supports programs that seek to protect our native birds and the habitats they depend upon, and studies their interrelationships within the various habitats that occur within the Chicago region. In this role, BCN partners with many of the major land managers throughout the Chicago area.

We offer this paper (1) to outline our concerns that habitat within forest preserves and other natural areas in the region are being adversely affected by widespread overpopulation of white-tailed deer, and (2) to recommend ongoing proactive efforts to reduce this deer overpopulation. A limited bibliography from the scientific literature is included at the end of this Green Paper for those who wish to examine this problem and its causes in more detail. It should be noted that a preponderance of information within the literature underlines the severe negative impact of deer overpopulation on many bird species, as well as plants, small mammals, insects, reptiles and amphibians.

The problem

A New York Times editorial published on March 20, 2005, defines the problem very succinctly. "...White-tailed deer are a plague. In their overwhelming abundance, they are prime examples of an ecosystem badly out of balance. They denude forests, making life impossible for vulnerable native plants and birds while allowing invasive species to thrive...Unfortunately, deer contradict our innate assumption that only ugly creatures can be vermin. As the recent release of the "Bambi" DVD reminds us, they seem miscast as villains. But wise conservation means looking at the environment as a whole - from the smallest wildflower on forest floor to the biggest brown-eyed herbivore. The whole system - not just the prettiest mammals - needs protection."

The New Jersey Audubon White Paper on Forest Health and Ecological Integrity: Stressors and Solutions, which prompted this blunt editorial, characterizes the problem as follows:

If a forest or shrubland is subjected to continued elevated deer densities, the understory and mid-story layers will disappear. The long-term impact of such a scenario is the creation of "deer savannas" or "deer parks." These aesthetically pleasing but biologically destitute areas are characterized by higher densities of ferns and grasses (species not preferred by deer) or park-like habitats of large trees completely lacking as understory that are clear and open beneath, allowing extensive visibility for long distances. Such drastic changes in forest structure also impact wildlife...both species richness and abundance declined significantly for intermediate canopy nesting birds...on heavily browsed sites, with a number of

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species absent entirely from browsed areas... (and) with many species found exclusively (only) on the lightly browsed sites... These results show clear evidence of eventual avian species impacts and losses under increasing browsing pressure by deer.

For those birds that actually succeed in fledgling young within heavily browsed areas, their effort may still be futile... Wood Thrush seek shrubby, second growth areas within the forest during the post fledging stage to take advantage of heavier cover and food sources available in these areas. Young fledglings lacking adequate areas close to the nest site face a greater predation risk as they move longer distances seeking cover and food. Young birds in a heavily browsed forest are doomed. It provides no such sites for the newly fledged birds."

A corollary effect of this devastation of natural plant communities: Alien, invasive plants like buckthorn, garlic mustard, etc., which deer have no interest in browsing, have an even easier time getting established.

See the technical articles referenced below for a sampling of the very large body of evidence gathered (both within Illinois and nationally) supporting the conclusion that deer overpopulation has a cascading negative effect on natural landscapes and ecosystems.

The Management Solution

Deer management is effectively a two-stage process: First count, and then cull when necessary. Without accurate information on total deer numbers within a specific area, management planning is impossible. For small preserves and parks, wintertime 'on the ground' counting surveys can be used to estimate numbers. But for larger preserves and natural areas, wintertime aerial surveys are the usual method. This technique has been the subject of several statistical analyses (see references below) to establish whether the technique accurately determines the number of deer present. All these analyses indicate that aerial counting **undercounts** deer population totals (contrary to the assertions often made by those opposing deer removal, who claim deer populations are being overestimated).

After wildlife biologists have determined that deer culling has to be done to improve ecosystem health and sustainability, a limited number of choices exist to carry out the removal. Unlike rural areas, the areas around Chicago where deer are present in large numbers are not suitable for public hunting. Nighttime sharpshooting by trained professionals has proven to be the most effective culling method, widely used in many metropolitan areas. The venison resulting from these deer culls is usually donated to local food banks.

Occasionally, immunocontraception is proposed as a more humane method of reducing deer populations. In confined areas with deer proof fencing enclosures (or an effective natural barrier), this method has worked in a few situations to slowly decrease deer populations. Fire Island NY achieved just a 30% reduction over 7 years; the National Institute of Standards and Technology in Gaithersburg, MD, only achieved a 20% reduction after 4 years. If this is the best immunocontraception can do, the technique is simply too slow to make a difference in our woodlands, where the deer population is frequently many hundreds of percent larger than carrying capacity.

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Another problem with immunocontraception is cost. In Highland Park, IL, a community of just over 30,000 (where no fencing exists), the cost of a 3-year program exceeded \$200,000. The result: A somewhat diminished deer population.

Consequences

The evidence is clear. Failure to manage/reduce deer populations throughout the region results in widespread habitat degradation, especially in our forests and woodlands. The impact on our native bird population is severe, as is the impact on native plants, small mammals, invertebrates, etc. Deer overpopulation also increases adverse impacts within our everyday living and working areas, ranging from destructive browsing within residential community backyards to increased deer-vehicle collisions, sometimes resulting in serious injury or even death to a vehicle's occupants.

Members of the BCN coalition are united in their desire to see a healthy deer population living in balance with all the other native creatures present in our natural areas. Starvation and disease are the inevitable consequences should we fail to control deer numbers, after their overabundance has wreaked havoc within our natural areas.

Society does not stand by and do nothing when an elderly homeowner is discovered, trying and failing to provide for dozens or hundreds of starving cats. Letting 'nature take its course' is not even considered as an option in that sad scenario. Nor should it be a management tool in our natural areas. In the absence of large predators that would function as a check on deer population, those who manage our natural areas must be prepared to cull deer, using the best available science to assess their numbers, to assess their impact on the natural landscape, and then to use appropriate methods to reduce/control deer population levels to minimize that adverse impact.

BCN does not want to see the region's preserves and natural areas become biological junkyards, infested by starving deer which destroy healthy, functioning ecosystems and open the way for further incursions by invasive plant pests. We support the region's land managers and landowners who use deer culling as a management tool to sustain and enhance biodiversity.

References

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CA DeYoung. 1985. Accuracy of helicopter surveys of deer in south Texas. Wildlife Society Bulletin 13:146-149. (This study indicated 36-65% of deer present are seen using this count method)