



A Position Statement of the Michigan Society of American Foresters

White-tailed Deer (*Odocoileus virginianus*)

Position:

The Michigan Society of American Foresters advocates the sustainable use and management of all Michigan forest resources for the good of society. To do this, white-tailed deer (*Odocoileus virginianus*) populations must be low enough to allow for the regeneration of forests and the development of desired plant communities and wildlife habitats.

Issues & Background:

- Free-ranging white-tailed deer are a public resource owned by the people of the State of Michigan and managed by the Department of Natural Resources under the authority of the Michigan legislature.
- The Michigan Natural Resources Commission Policy 2007 on Deer Management, issued April 14, 1994, says:
 - The Department's goal is to manage the deer herd using management practices based on scientific research to:*
 1. *Maintain healthy animals and keep the deer populations within limits dictated by the carrying capacity of the range and by its effect on native plant communities, agricultural, horticultural, and silvicultural crops and public safety.*
 2. *Maintain an active public information program designed to acquaint the public with the methods of deer management and the conditions needed to maintain a healthy, vigorous herd.*
- Heavy deer browsing can harm the diversity of plants and animals. The field experience of many foresters indicates that such deer browse damage is significant in some parts of Michigan.
- Deer population and habitat condition data, and research from Michigan and elsewhere, indicate that deer population densities are too high in some parts of the state to sustain healthy habitats for deer and other species.
- Deer overabundance could impact the forest certification status of both public and private forest lands.
- Deer hunters are management partners and recreational deer hunting is a critical management tool that must be part of any solution.
- High deer densities contribute to car-deer collisions and the spread of certain diseases.

Recommendations:

- State-wide, research-based, deer population, and habitat quality assessments and goals are needed in Michigan.
- A lack of site-specific research, however, should not prevent decisions to reduce deer populations in areas where excessive habitat damage is recognized by local resource managers and landowners.

- Innovative deer-population control methods should be considered, especially where damage from deer is known and where current hunting strategies are ineffective.
- Hunter and public education programs regarding the ecological impacts and management of white-tailed deer must be part of any solution.
- Non-hunting funding sources should be explored for supporting statewide wildlife management.

Discussion:

Many issues of habitat management, deer population management, and natural resource management are highly contentious. Many challenges lie in funding, management philosophy, public outreach, and the application and implementation of the results of scientific research. Michigan is not alone in this situation. The stakes for current and future generations are high. Charting alternative courses will require the best resources which biological, social, and economic sciences can offer. The existing process for managing the white-tailed deer resource must be modified to allow for the input of all segments of the public. Affected publics must have ownership in the process. A degree of failure and learning must be expected and accepted, but the status quo is neither sustainable nor desirable. On-going dialogue about - and cumulative action on - these issues should be a high priority in the management of Michigan's natural resources.

References:

- Alt, G. 2005. *Challenges of deer management from an ecosystem perspective*, IN *Proceedings "Forests & Whitetails-Striving for Balance," the Spring 2005 conference of the Michigan Society of American Foresters*, [<http://forestry.msu.edu/msaf>]
- Alverson, W.S., and D.M. Waller. 1997. *Deer populations and the widespread failure of hemlock regeneration in northern forests*. pp. 280-297 in W. McShea and J. Rappole, eds., *The Science of Overabundance: Deer ecology and population management*, Smithsonian Inst. Press, Washington, DC.
- Caughley, G. 1981. *Overpopulation*. In *Problems in Management of Locally Abundant Wild Mammals*. Ed. P.A. Jewell, S. Holt, 1:7-20, New York: Academic. 361 pp.
- Cote, S.D., T.P. Rooney, J.P. Tremblay, C. Dussault, & D.M. Waller. 2004. *Ecological impacts of deer overabundance*. *Annual Review of Ecology Evolution and Systematics* 35: 113-147. (preprint). [www.botany.wisc.edu/waller/deer]
- deCalesta, D.S. 1994. *Impact of white-tailed deer on songbirds within managed forests in Pennsylvania*. *J. Wildlife Mngt.* 58: 771-718.
- deCalesta, D.S. and S.L. Stout. 1997. *Relative deer density and sustainability: A conceptual framework for integrating deer management with ecosystem management*. *Wildlife Soc. Bull.* 25: 252-258.
- Donovan, G. 2005. *Chronic regeneration failure in northern hardwood stands: A liability to certified forest landowners*, IN *Proceedings "Forests & Whitetails-Striving for Balance," the Spring 2005 conference of the Michigan Society of American Foresters*, [<http://forestry.msu.edu/msaf>]
- Frelich, L.E. and C.G. Lorimer. 1985. *Current and predicted long-term effects of deer browsing in Michigan, USA*. *Biological Conservation* 34: 99-120.
- Garrott, R.A., P.J. White, and C.A. Vanderbilt White. 1993. *Overabundance: An issue for conservation biologists?* *Conservation Biology* 7: 946-949.
- Healy, W.M., D.S. deCalesta, and S.B. Stout. 1997. *A research perspective on white-tailed deer overabundance in the northeastern United States*. *Wildlife Society Bulletin* 25:259-263.

Latham, R.E., J. Beyea, M. Brenner, C.A. Dunn, M.A. Fajvan, R.R. Freed, M. Grund, S.B. Horsely, A.F. Rhoads, and B.P. Shissler. 2005. *Managing white-tailed deer in forest habitat from an ecosystem perspective: Pennsylvania Case Study*. Report by the Deer Management Forum for Audubon Pennsylvania and Pennsylvania Habitat Alliance, Harrisburg. xix + 340 pp. [<http://pa.audubon.org/ExecutiveSummary.pdf>]

Marquis, D.A., R.L. Ernst, and S.L. Stout. 1992. *Prescribing silvicultural treatments in hardwood stands of the Alleghenies (revised)*. U.S. Forest Service General Technical Report NE-96. 102 pp.

Matonis M.S., M.B. Walters, J.D.A. Millington. 2010. *Gap-, stand-, and landscape-scale factors contribute to poor sugar maple regeneration after timber harvest*. *Forest Ecology and Management* 262: 286-298.

McShea, W.J., H.B. Underwood, and J.H. Rappole. Eds. 1997. *The Science of Overabundance, Deer Ecology and population management*. Smithsonian Books, Washington and London, 394 pp.

Michigan Traffic Crash Facts. Annual. [<http://www.michigantrafficcrashfacts.org>]

Miller, R.O. 2004. *Regeneration in a heavily browsed northern hardwood stand twelve years after scarification and fencing*. Michigan State University Upper Peninsula Tree Improvement Center Research Report. [<http://agbioresearch.msu.edu/fbic/research.html>]

Millington J.D.A., M.B. Walters, M.S. Matonis, J.G. Liu. 2010. *Effects of local and regional landscape characteristics on wildlife distribution across managed forests*. *Forest Ecology and Management* 259: 1102-1110.

Millington J.D.A., M.B. Walters, M.S. Matonis, E.J. Laurent, K.R. Hall, J.G. Liu. 2011. *Combined long-term effects of variable tree regeneration and timber management on forest songbirds and timber production*. *Forest Ecology and Management* 262: 718-729.

Powers, Matthew D. and Linda M. Nagel. 2008. *Pennsylvania sedge cover, forest management, and deer density influence tree regeneration dynamics in a northern hardwood forest*. *Forestry; An International Journal of Forest Research*, Vol. 82(3), pp241-254.

Randall, J.A., and M.B. Walters. 2005. *Deer and sedge impact regeneration in working forests: Possible restoration treatments*. Michigan State University Extension. [<http://michigansaf.org/Tours/05Deer/21-RandallEtal.pdf>]

Randall, J.A., and M.B. Walters. 2011. *Deer density effects on vegetation in aspen forest understories over site productivity and stand age gradients*. *Forest Ecology and Management* 261: 408-415.

Rawinski, Thomas J. 2008. *Impacts of white-tailed deer overabundance in forest ecosystems: An overview*. USDA Forest Service, Northeastern Area State and Private Forestry. [http://www.na.fs.fed.us/fhp/special_interests/white_tailed_deer.pdf]

Rooney, T.P., S.M. Wiegmann, D.A. Rogers, and D.M. Waller. 2004. *Biotic impoverishment and homogenization in unfragmented forest understory communities*. *Conservation Biology* 18: 787-798.

Rooney, T.P., and D.M. Waller. 2003. *Direct and indirect effects of deer in forest ecosystems*. *For. Ecol. Manage.* 181: 165-176. [www.botany.wisc.edu/waller/deer/Davos.pdf]

Sinclair, A.R.E. 1991. *Science and the practice of wildlife management*. *J. Wildlife Mngt.* 55: 767-772.

Tilghman, N.G. 1989. *Impacts of white-tailed deer on forest regeneration in northwestern Pennsylvania*. *J. Wildlife Mngt.* 53: 524-532.

White, Mark A. 2012. *Long-term effects of deer browsing: Composition, structure, and productivity in a northeastern Minnesota old-growth forests*. *Forest Ecology and Management* 269, p222-228.

A position adopted by the Executive Team of the Michigan Society of American Foresters on 7 November 2006 Revised and adopted on April 30, 2013. This Position Statement will expire after five years unless revised, extended, or withdrawn.

The Michigan Society of American Foresters is the scientific and educational association of professional foresters, including consultants, researchers, professors, students, and employees of public agencies and private firms. The Mission of SAF is to advance the science, technology, education and practice of professional forestry to benefit current and future generations.