

Certifying Sustainable Forestry: The Deer Factor

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Abstract: *The process developed by the Forest Stewardship Council for certifying that forest management operations sustain local and regional ecologies, economies, and cultures is a performance-based evaluation of ten principle components. Four of these components deal with forest regeneration, ecological diversity, local economies, and conservation of threatened and endangered plant and animal species, and each may be negatively affected by browsing by overabundant deer herds. Browsing by white-tailed deer was identified as the most important biological impediment to sustainable forestry on a majority of 16 certification assessments conducted in the northeastern United States. On some of these assessments, conditions were issued that required reduction of deer impact to maintain certification. With few exceptions, the operation seeking certification had few if any effective options for proactive management to reduce deer abundance, as regulation of deer abundance by hunting regulations was controlled by a separate state agency. This circumstance made it difficult for certifying agencies to develop realistic conditions that could be met for reducing deer impact, and made it equally difficult for operations being certified to affect meaningful reduction in deer impact. However, Pennsylvania provides an example of how proactive management by a state agency and certified operations, in concert with a series of harsh winters, may have resulted in reductions of deer abundance sufficient to satisfy conditional maintenance of certification.*

Introduction

Green certification is a process designed to assess, quantitatively, whether forest management operations are conducted in a way that sustainability is retained and enhanced. Two entities exist for certification: The Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI). Both bodies use similar processes to ascertain sustainability. The FSC process is a structured process that determines whether operations are conducted in a manner that sustains local ecosystems, local economies, and local cultures and heritages.

Assessments are conducted by teams, usually including a silviculturalist, a forest ecologist, and sometimes economists and/or sociologists. The teams utilize standards of sustainability developed by committees comprised of local experts: standards are divided into 10 principles, each with supporting criteria and indicators. Assessment teams evaluate operations based on their evaluations of performances related to the principles, criteria, and indicators. This process includes review of written documents, office visits to check compliance with administrative requirements, and field visits to evaluate compliance with management criteria and indicators. Responses are scored on a 5-point scale with 1 being non-compliance and 5 being exceptional compliance. Composite scores are assembled to determine whether candidate operations are deemed operating sustainably. Generally, a passing score must be awarded for each of the 10 principles for operations to be successful. Failure to make the grade results in preconditions (corrective actions that must be satisfied prior to being certified), and/or conditions (corrective actions that must be satisfied within a designated time period). Observations may also be made by the assessment team and are a part of the written report, but they are simply suggestions for improvement and are not binding. Additionally, interviews with stakeholders are conducted as part of the process and are part of the written report.

*A paper delivered at the Michigan Society of American Foresters "Forests & Whitetails-Striving for Balance" Conference
9-10 June, 2005 at the Little Bear Conference Center in St. Ignace, Michigan*



Annual audits are required as checks to determine progress towards meeting conditions as well as to observe any new field operations. At 5 year intervals, operations must undergo a full re-assessment to maintain their status as operating sustainably.

Certification is not for everyone, and usually not for owners of small woodlots. Consultants with pools of individual landowners, large public and private forest landowners, educational institutions, and partnerships (e.g. The Nature Conservancy and a private timber company) form the bulk of certified operations.

Many reasons exist for becoming certified: certification is good public relations (and sometimes demanded by clients of wood-producing companies), it may provide the “silver bullet” for protection against lawsuits lodged by environmental activist groups, it is often perceived as “doing the right thing” and is recognized as a way of confirming good management practices. The major advantage often cited is economic incentive, but to date certified wood does not bring the premium price needed to offset the cost of certification.

How Deer Affect Certification

Several of the 10 principles assessed in certifications are affected by overabundant deer herds and their impact on forest resources. **Principle 5, Benefits from the Forest** requires that forest management operations shall encourage the efficient use of the forest’s multiple resources and services to ensure economic viability and a wide range of environmental and social benefits. Specifically, sustainability of harvest levels is based on documented data on successful regeneration of tree species after harvest. On many managed forests in the Northeast, browsing by overabundant deer herds has eliminated or greatly reduced the abundance and type of tree seedlings required to regenerate forests after timber harvest. Lack of such regeneration prior to harvest is sufficient to result in failure and a failing score on assessments. Additionally, the principle requires that management diversifies forest uses and practices while maintaining forest composition, structure, and functions. Numerous scientific studies have demonstrated that browsing by overabundant deer herds eliminates or greatly reduces species composition of understory plants, including tree seedlings, simplifies structural (vertical) diversity, and negatively affects functions such as regeneration and nutrient cycling. Almost all assessments conducted by the author over the last five years included conditions and/or observations assessed for reducing the impact of overabundant deer herds.

The 6th principle deals with **Environmental Impact** and requires that forest management shall conserve biological diversity and its associated values and maintain ecological functions and integrity of the forest. Specifically, the principle requires that safeguards exist to protect rare, threatened, and endangered species and their habitats, that ecological values and functions shall be maintained intact, enhanced, or restored, including forest regeneration and succession. A diversity of habitats for native species is to be protected, maintained, and/or enhanced, including vertical and horizontal structural complexity. Additionally, uneven-age silviculture is to be employed to avoid high grading and or diameter limit cutting. Management systems are to promote development and adoption of environmentally friendly non-chemical methods of pest management and ... avoid use of chemical pesticides.

Again, numerous studies have documented that overabundant deer herds reduce diversity and negatively affect ecological functions, including regeneration, structural complexity, and integrity of the forest. Many assessments note negative impacts on diversity, ecological functions and integrity, and of these, almost all are exclusively a result of deer browsing. Uneven-age management is not an option where there are overabundant deer herds, as the deer are attracted to the limited amounts of forage found in small areas harvested under uneven-age management and regeneration always fails on these sites. Often, use of chemical pesticides is the only way to eliminate ferns, grasses, and other interfering plants that are not eaten by deer and which crowd out desirable shrub, tree, and herb species.

Principle 8, **Monitoring and Assessment**, requires that monitoring is conducted to assess the condition of the forest, management activities ... and environmental impacts. Forest management is to include research and data collection to monitor ... regeneration and composition and ... observed changes in flora and fauna.



Few management operations monitor environmental impacts such as deer browsing or deer density, nor do they monitor changes in flora and fauna resulting from impacts of deer browsing. Indeed, such monitoring is expensive, extensive, and little documented or described by either forest or wildlife professions. Many operations receive conditions relative to monitoring of deer impacts on flora and fauna – it's too expensive and cost-effective technology is unknown.

Finally, the 9th principle, **Maintenance of High Conservation Value Forests**, requires that management activities in high conservation value forests (such as old-growth, or unique and rare plant communities) shall maintain or enhance the attributes which define such forests (including habitats for threatened or endangered species).

Most of the attributes that define high conservation value forests (unique plant species, unique vertical or horizontal structure) tend to be negatively affected by overabundant deer herds, sometimes in remote or inaccessible areas that land managers are not aware of. Again, conditions often are assessed for failure to protect high conservation value forests from the negative impact of deer browsing.

Thus it may be deduced that many forest operations fail, or receive conditions for improvement, in one or more principles solely as a result of deer browsing. The inherent problem in addressing such failures of management is that control of regulations designed to reduce overabundant deer herds by liberalizing hunting regulations rests not within the operations being certified but rather within state or federal game-managing agencies which are under tremendous political pressure by hunters to increase rather than decrease deer population abundance. Indeed, in > 70% of 20+ different management operations assessed by the author, conditions or pre-conditions were issued that required reducing the impact of browsing by overabundant deer herds. The list of affected operations includes individual state forest management agencies, large private timber companies, partnerships between environmental organizations and timber companies, consultants managing pools of smaller forest landholdings.

Problems with Certifications and Deer Impacts

The overriding difficulty in resolving deer-caused certification failures or problems is that while landowners being certified manage the vegetation, separate, often non-interested state game managing agencies control the legislation and other means by which regulations may be changed to allow higher harvest of deer. Given this political impasse, it is difficult to write conditions related to reducing deer impact that affected landowners can realistically meet, given their almost total lack of control over deer harvest. Additionally, it is hard to measure compliance with conditions written to force reduction of deer impact when affected landowners often cannot do anything to affect reduction in deer density.

The biggest challenge to, and perhaps responsibility of, assessing entities, is to how to force change in regulations affecting deer harvest and abundance that are totally within the purview of non-interested wildlife management agencies. An often-heard solution is to consolidate separate wildlife and forest managing state agencies into a single natural resource agency wherein resolution of forestry and wildlife issues may be forced by executives who not responsible to only one resource.

Problems

- Landowners control the vegetation, separate state agency controls deer herd management
- How to write conditions that address deer impact which landowners can actually achieve
- How to evaluate compliance with conditions
- How to engage state agencies to affect change in deer herd within large and small scale landscapes

