FOREST CERTIFICATION: BIOLOGICAL BENEFITS OR JUST LANDOWNER COSTS?

D. Stuart Hale
Department of Forestry, Wildlife, and Fisheries
University of Tennessee—Knoxville

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Outline

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  - Sustainable forest management (SFM)
- Current Knowledge
  - Landowner costs
  - Current management
  - Ecological considerations
- Future Directions
- Conclusions

Introduction

- What is forest certification?
  - “the process of verifying that a forest meets the requirements of a standard” (Nessbourm and Simulo 2005).
  - Current systems ~15 years old
  - Voluntary
  - Verified and audited by third parties
  - “Sustainable management”
What is sustainable management?

- "The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems."
- Food and Agriculture Organization (FAO) of the United Nations

Certification programs

- Forest Stewardship Council (FSC) – 257 million acres
- Programme for the Endorsement of Forest Certification (PEFC) – 500 million acres
  - Sustainable Forestry Initiative (SFI) – 151 million acres
  - The American Tree Farm System (ATFS) – 30 million acres
  - Canadian Standards Association (CSA) – 188 million acres
  - Other international organizations – 41 million acres

⇒ 798 million acres total or ~8-10% of world’s forests

Source: Cubbage 2008

Certification in the Americas

- United States:
  - 109 million acres or ~1.5% of forests
  - FSC has ~25 million acres
  - SFI has ~54 million acres
  - ATFS has ~30 million acres

- Canada:
  - 188 million acres or ~45% of forests

- Central and South America:
  - Brazil ~1.5%, Bolivia ~2.9%, Argentina ~0.6%
Why be certified?

- Market benefits
  - Eco-labeling
  - Consumer demand
- Recognition and credibility
- Improved forest management
  - Beyond BMPs
- Promotion and verification of good forestry
- Improved external relations

Requirements of certification

- Adherence to objectives and principles
  - Sustainable harvests levels
  - Compliance with laws and regulations
  - Protect water quality
  - Provide for habitat and species diversity
  - Provide for social, economic, and ecologic benefits

Requirements of certification

- Management plan
  - Inventory, description of resources, explanation of management
- Auditing, monitoring, and assessment
  - Adaptive management
  - Third party audits
- Chain of Custody (COC)
  - Certification must be maintained throughout process for marketed goods to be certified
Chain of Custody

Source: ATFS

Landowner costs

- Administrative
  - Additional timber sale preparation and staff knowledge
  - Auditing and monitoring
  - Opportunity costs
  - Additional paper work in COC
- Forgone harvests
  - Could be 20% or more of harvestable timber

>$1-8 per acre depending on property size and certification program (Cubbage 2002)

Biological considerations

- Forest certification is used a tool for conservation (Brown 2001).
- How are ecological principles applied in harvest of certified stands?
- Is certified timber management ecologically better than other timber management?
Management applications

- Spatial analysis of fragmentation and loss of forest cover
  - Cumulative impact analysis

  Ensure that managed forests do not result in the loss of native ecosystems

Management applications

- Variable retention forestry
  - Retention corridors
  - Scattered retention
  - Marked buffers

  Areas of retention may not be the best quality as a result of trying to maximize economic returns

Management applications

- Maintenance and protection of representative areas of existing forest types
- High Conservation Value Forests (HCVF)
  - Focal species management
    - Endangered, threatened, species of concern
    - Desirable species

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Ecological considerations

- Account for cumulative impacts
- Retain and ensure continuous forest environment and representative structures including early, mid-, and late successional habitats
- Additional environmental protection measures
  - SMZs
  - Exotic species
  - Genetically modified organisms (GMOs)
  - Chemical use
- Opportunity to enhance forest health and promote biodiversity

Future directions

- Proliferation of certification systems
  - Increased awareness and desire
- Competition between systems
  - Market impacts
- Evolution of systems and management
  - Systems and policy
- Convergence
  - Including with Leadership in Energy and Environmental Design (LEED)

Conclusions

- Requirements of certification influence forest management actions (Cubbage 2008).
- Certification promotes biodiversity (Gullison 2003)
  
  “…certification is broadening the scope of forestry—making it more comprehensive with an increased emphasis on ecological and social considerations.” (Hartsfield and Ostermeier 2003)

- Cost are significant but most participants state a willingness to maintain certification (Cubbage et al. 2008)

- Therefore forest certification has and will continue to have positive biological impacts