



## Impacts of FSC and PEFC Forest Certification in North and South America

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## Outline

- Forest certification extent
- NCSU 2007 – 2008 North America surveys
  - SFI, FSC, ATFS
  - Certification impacts
  - Certification costs
  - Satisfaction and retention
- Discussion and Conclusions

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## World Forest Certification Systems and Area, September 2009 (million ha)

□ Forest Stewardship Council (FSC)	116
□ Programme Endorsement For Cert (PEFC)	223
➢ Sustainable Forestry Initiative (SFI)	71
➢ Canadian Standards Association (CSA)	74
➢ Europe	57
➢ Certificación Forestal (CertFor)	2
➢ Certificação Florestal (CerFlor)	1
➢ Australian Forestry Standard	8
➢ American Tree Farm System (ATFS)	10
□ Malaysian Timber Cert Council (MTCC)	5
<b>Total</b>	<b>344</b>

~9% of 3.9 billion ha of world forests; Note: ISO 14001 areas not included  
Sources: PEFC, FSC, MTCC web sites

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**Forest Certification as an Anathema**

- Social and economic problems
  - Caulfield et al.: Good, Sad, and Ugly
  - Tree Farm, SFI, and FSC
- Financial losses
  - Laband, Larson, Vardaman
  - high costs, no price benefits
- Political correctness, socialism, or worse
- Little impact of critics, and some recanted
- But doubts and costs do persist
- Certainly impede adoption

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**Forest Certification as Forest Management Driver**

- Certification and SFM keys
  - positive response to environmental critics
  - demonstrate good forest management
  - discussion and corporate social responsibility
- Complex objectives and principles
- Tree Farm / SFI - PEFC mutual recognition
- FSC small forests program
- All U.S. systems revising standards in 2009
- Positive for forestry image and practice

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**Forest Certification - SFI Objectives in Brief  
Land Management Objectives**

- 1) Forest Management Planning
- 2) Forest Productivity
- 3) Protection & Management of Water
- 4) Biological Diversity, Exceptional Conservation Value
- 5) Visual Quality & Recreational Benefits
- 6) Special Sites
- 7) Efficient Use of Forest Resources

2010-2014 Edition SFI Program

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**Forest Certification - SFI Objectives in Brief  
Fiber Sourcing Objectives**

- 8) Landowner Outreach
- 9) Use of Forest Management and Harvesting Professionals
- 10) Best Management Practices
- 11) Biological Diversity, Biological Hotspots, Tropical Wilderness Areas
- 12) Controversial Sources and Illegal Logging
- 13) Controversial Sources and Sources w/o Effective Social Laws

2010-2014 Edition SFI Program

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**Forest Certification - FSC Principles**

- 1) Compliance with laws & FSC principles
- 2) Tenure and use rights & responsibilities
- 3) Indigenous people's rights
- 4) Community relations & worker's rights
- 5) Benefits from the forest (multiple)
- 6) Environmental impact (biodiversity)
- 7) Management plan
- 8) Monitoring and assessment
- 9) Maintain high conservation value forests
- 10) Plantations

FSC 2003/2008

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**Forest Certification - ATFS Standards**

- 1) Ensuring sustainable forests
- 2) Compliance with laws
- 3) Commitment to practicing sustainable forestry
- 4) Reforestation
- 5) Air, water, and soil protection
- 6) Fish, wildlife, and biodiversity
- 7) Forest aesthetics
- 8) Protect special sites
- 9) Wood fiber harvest and other operations

ATFS 2005

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**Certificación Forestal (CERTFOR)  
Chile – 9 Principles**

- 1) Sustainable forest management planning
- 2) Native ecosystem values & biodiversity protection
- 3) Productivity & protection from damaging agents
- 4) Water quality protection
- 5) Respect for and assistance to communities
- 6) Respect for indigenous agreements and rights
- 7) Respects for workers rights, health, and fair pay
- 8) Respect for laws, regulations, and treaties of Chile
- 9) Evaluation and improvement of the principles

Certfor 2003

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**Certification Impacts**

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**Three Ways to Assess Certification Impacts**

- Field based inventories and comparisons
  - With and without certification
  - Difficult and expensive
- Statistical summaries of audit reports
  - Easiest with FSC – CARs and full report
  - Difficult with SFI - summary only
- Surveys of landowner/management opinions
  - Reflects experience of managers
  - Impacts and opinions

Cubbage et al. 2009

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**Wisconsin Survey of FSC Benefits/Satisfaction**  
**Three Roles for Certification**

- Market-based incentives
  - Price premiums
  - Market share
- Signal of high forestry standards to external stakeholders
- Improve forest practices through learning
  - Technology transfer to owners
  - Encourages more management review and adapting new practices
- Survey of 91 FSC certified forest owners in U.S.

Rickenbach and Overdevest 2006

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**Certification Impact Surveys**

**SFI – USA and Canada – 2007**

**FSC – USA – 2007**

**ATFS – 2008**

**FSC – Argentina - 2006**

**CertFor and FSC – Chile – 2007**

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**NCSU Certification Impact Study**

- Survey of certification impacts in the Americas
- Extensive survey of
  - Personnel changes and job descriptions
  - Changes in forest management, social and legal aspects, economics and program administration
  - Summary of non-conformances or conditions
  - Benefits and problems with certification
  - Satisfaction and recommendations
- Questionnaire reviewed by SFI, AF&PA, FSC, ATFS, USDA FS, University sectors
- Used for all sectors
- Implemented sequentially across Americas

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### Responses Rate and Summary Statistics

	SFI Forest Management	SFI Wood Procurement	FSC Forest Management
Responses – Number (%)*	41 / 66( 62%)	14 / 26 (54%)	52 / 98 (53%)
Firms Adding Employees for Certification - Number (%) (-1-2 added)	11 (28%)	4 (27%)	13 (25%)
Firms Reassigning Employees for Certification - Number (%) (1-8 reassigned)	28 (70%)	10 (67%)	18 (35%)
Share of Employee Efforts Devoted to Certification (%)	9.8%	8.1	9.5%
Average Hours Required for Certification Remedy / CARs (Number)	164	0	956

\*ATFS: 471 of 1240 returned; Argentina FSC: 7 of 13; Chile: 3 of 18

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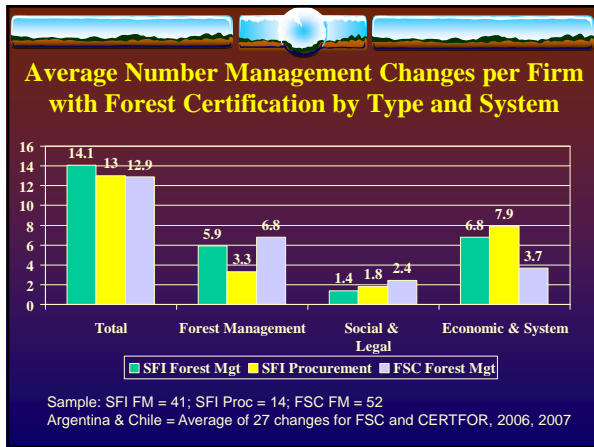
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### American Tree Farm Certification Impacts

Broad Activity	Major Types of Changes in Actions: Number of Yes Responses	Average No. per Landowner
Forest Management & Planning	Management plans (133), reforestation (72); site protection (63), implementation monitoring (58), forest inventories (55); growth & yield (44)	1.20
Forest Practices	BMPs (78), prevent exotic invasives (56), protect T&E species (38), clearcut size (32), old growth (31), biological diversity (28)	0.76
Social and Legal	Protection from illegal trespass, consulting with neighbors, legal planning & record keeping (5)	0.04
Economic & System	Continuous improvement (85), utilization practices (60), minimizing wood waste (54), forest research (35), extension (34), reporting (30)	0.77

Surveys: 1240 valid forms sent; 471 returned; ~38%

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### ATFS Results

- Fewer changes than SFI and FSC; equal satisfaction
- Average of 2.77 changes per landowner
- Forest management: plans, reforestation, site protection, monitoring, inventories, G & Y
- Forest Practices: BMPs, invasives control, T&E species, clearcut, old growth, biological diversity
- Social legal: No major changes
- Economic & system: continuous improvement, utilization, research and extension, reporting
- Better B:C ratios, about same in achieving objectives and maintaining cert as SFI and FSC

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### Argentina and Chile Major Changes with Certification

Practices with "Yes" Reply, Changes Made	Argentina FSC (n=6)	Chile – FSC & CertFor (n=3)
Forest management plan	6	2
Legal planning and record keeping	6	2
Logger / supplier training	6	3
Chemical safety, use, storage	5	3
Prevention of exotic invasives	5	2
Consulting with communities	5	3
Social impact analyses	5	2
Outreach and extension	5	3
Public relations / education	5	3
Internal program monitoring / auditing	5	2
Natural heritage planning reserves	5	3

Cubbage, Diaz, Yapura, & Dube 2008

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### Certification Costs, 2007

Statistic / N (unit)	SFI	FSC
Median		
Area / 36 (ha)	133,727	22,258
Cost / 17 (\$/ha)	0.37	0.91
Mean		
Area / 45 (ha)	992,675	251,392
Cost / 14 (\$/ha)	4.92	3.24

**Note: No statistically significant differences by system; only by land size class**

Cubbage et al 2008; FSC for U.S. only; SFI for U.S. and Canada combined

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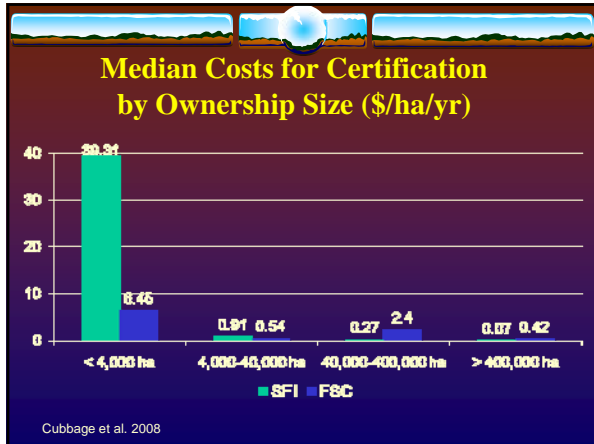
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### Median Certification Costs by Cost Component, 2007 (\$/ha/yr)

Component	SFI (n)	FSC (n)
Total Cert. Expenses	0.37 (18)	0.91 (14)
Internal Prep. Fees	0.11 (11)	0.48 (7)
External Audit Fees	0.19 (15)	0.36 (16)
Ongoing Prep. Costs	0.15 (9)	0.46 (12)
Community Ed.	0.01 (4)	0.04 (4)
Mgt. Changes	0.02 (2)	0.06 (4)
SIC / FSC Comms.	0.02 (10)	.02 (1)

Cubbage et al 2008; FSC for U.S. only; SFI for U.S. and Canada combined

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### Certification Costs vs. Benefits

	SFI (no.)	FSC (no.)
Benefits greatly exceed costs	7	8
Benefits exceed costs	10	10
Benefits = costs	10	7
Costs exceed benefits	8	12
Costs greatly exceed benefits	2	8

Mean score by system: SFI = 3.3; FSC = 3.0; ATFS = 3.8  
5= benefits greatly exceed costs; 1 = vice versa

Cubbage et al 2008; FSC for U.S. only; SFI for U.S. and Canada combined

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### Expected & Realized Benefits of Forest Certification

System / Factor	Expected Benefit		Actual Benefit	
	SFI	FSC	SFI	FSC
Strategic / CSR	3.9	3.6	3.5	3.4
External Signaling	4.2	3.9	3.7	3.8
Market Share / Prices	3.2	3.7	2.0	1.9
Internal Mgt, Records	3.3	3.0	3.7	3.3

Ranking: 1=not important; 2=somewhat important; 3=neutral; 4=important; 5=very important

Cubbage et al 2008; FSC for U.S. only; SFI for U.S. and Canada combined

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### Has Certification Achieved Objectives?

	SFI (no.)	FSC (no.)
Definitely yes	12	17
Probably yes	23	17
Uncertain	5	4
Probably not	2	6
Definitely not	0	7

Mean score by system: SFI = 4.1; FSC = 3.6; ATFS = 3.8  
5= definitely yes; 1 = vice versa

Cubbage et al. 2008, FSC for U.S. only; SFI for U.S. and Canada combined

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### Will Organization Maintain Certification?

	SFI (no.)	FSC (no.)
Definitely yes	18	14
Probably yes	20	22
Uncertain	3	12
Probably not	1	3
Definitely not	0	1

Mean score by system: SFI = 4.3; FSC = 3.9; ATFS = 4.1  
5= benefits greatly exceed costs; 1 = vice versa

Cubbage et al. 2008, FSC for U.S. only; SFI for U.S. and Canada combined

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## Discussion and Conclusions

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## Summary - Methods Recap

- Survey of certified forest managers
  - All SFI program participants – Canada & U.S
  - All FSC forest management certificate holders – U.S.
  - Sample of ATFS owners – U.S.
  - Personal interviews – Argentina and Chile
- Assessed changes in forest management
  - Forest management
  - Social and legal
  - Economic and system
- Costs by system
- And personnel, opinions, satisfaction
- ~55% return rates
- Representative sample of firm sizes

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## Conclusions: Impacts

- Certification has changed forest, social, and economic practices
  - For PEFC/SFI and FSC
  - More economic for SFI
  - More environmental and social for FSC
  - Forest management, practices, and economic for ATFS, but not social/legal
- Similar results to prior Latin America surveys
  - Where total changes were about 3 times CARs
- Most organizations feel certification has achieved their objective
- And will maintain certification in the future
- Enhancing sustainable forest management

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### Conclusions - Many Management Changes: Forest Certification Improves Practices

- Substantial number of management, social, and system changes with certification
- Average of about 13-14 changes in all management practices per company, both systems
  - SFI – changes before certification or to maintain cert
  - FSC – prior changes & continuing action requirements
  - Fairly similar sets of changes with both SFI and FSC
  - FSC: more forest management, social changes
  - SFI: more economic / system changes
- SFI Procurement
  - Same proportions as Forest Management owners
  - Fewer total changes, fewer forest mgt changes

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### Comparative Management Changes

- SFI – more changes in:
  - Management: green up standards, BMP use & monitoring, determining clearcut size
  - Social: few
  - Economic/system: SIC participation, logger training, management review
- FSC – more changes in:
  - Management: sustained yield, special sites & reserves, forest management plans, chemicals, soil protection, and eliminating GMOs
  - Social: stakeholder meetings, release of management plan, consulting with communities
  - Economic/system: legal planning and record keeping

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### Costs

- Much higher costs for small owners; less for large
- Except ATFS, of course, which are small
- Median much less than \$1 / ac / yr, but wide range
- SFI average less, but includes large owners in Canada
- No significant differences in costs between systems when ownership size accounted for
- Benefits vs. Costs
  - Opinions distributed widely
  - Somewhat less favorable perceptions for FSC
  - But most owners in both systems will re-certify

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### Anticipated and Realized Satisfaction

- Strategic / Corporate Social Responsibility:
  - Moderate expectations
  - realized ~ anticipated
- External Signaling
  - high expectations
  - realized ~< anticipated
- Market share / prices
  - low to moderate expectations
  - realized << anticipated
- Internal management, records
  - low expectations
  - realized >> anticipated

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### Argentina and Chile

- Forestry sector leaders in practices
- Few new employees
- Small changes in job description or appointment
- Lots of preparation, consultant studies
- But more a change in the way of thinking and doing business than the work performed once adopted
- Significant number of conditions each year, 2-6; 9 total
- Average of 27 total changes made by firms
- Has improved worker conditions, continuous improvement, the environment
- Still needs price benefits, stronger market structure to improve prices, more recognition for certified products in domestic markets

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### Argentina and Chile

- Similar findings to North America
  - More changes – average of 27 vs. 15
  - Evenly distributed among environmental, social, and economic components
  - Larger firms made slightly more changes
- Most would maintain forest certification – 90%
- Believed that benefits exceeded costs
- Were more enthusiastic about certification

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**Conclusions**  
**Certification Impacts Survey in the Americas**

- Substantial number of management, social, and system changes with certification
  - Monitoring, BMPs, green-up, allowable cut, etc
  - Public meetings, management plans, communities
  - Logger training, program promotion, reporting
- Fairly similar sets of changes with both SFI and FSC
- Moderate costs
  - Median much less than \$1 / ac / yr, but wide range
  - SFI average less, but includes large owners in Canada
  - Benefit:cost opinions vary widely
- Most companies feel certification has achieved objective
- And will maintain certification in the future

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