

Forest Ownership & Forest Management in the Northern Forest

A Selectively Annotated Bibliography
Summer 2003

Prepared by the National Community Forestry Center,
Northern Forest Region

Introduction

This bibliography contains materials collected between March, 2000 and November, 2001 while reviewing the literature connecting forest ownership and forest management in the Northern Forest region. We have organized the materials in categories, and annotated a number of articles that are particularly significant.

The articles within each category are arranged by date, from the earliest to the most recent, rather than in alphabetical order as is more typical. Arrangement by date illustrates the way that interest and concern about forest ownership and management have changed over time. The questions that are pursued by researchers reflect changing societal priorities. For example, one can easily see that concern over access to timber on non-industrial forest land gradually evolved into concern over a wider range of values, including forest stewardship and recreation access.

Sections 1 and 2, “Northern Forest Statistics” and “Northern Forest Ownership” present information and analysis, mostly based upon inventories and surveys regularly conducted by the U.S. Forest Service. These articles respond to broad brush questions about ownership and management by state: *How much forest is there? What are its characteristics? How is the forest changing over time? Who owns the forests of Maine, Vermont, New York, and New Hampshire? How is this changing over time? How does this ownership pattern affect land management?*

Sections 3 through 5, “Industrial Forest Ownership & Management,” “Public Forest Ownership & Management,” and “Private Non-Industrial Forest Ownership & Management,” describe the ownership regimes that have traditionally co-existed throughout the region. The literature chronicles changes in management philosophy, particularly among public and private non-industrial landowners in response to changing social values.

In recent years, two new landowner groups have become important to the Northern Forest. Articles in Sections 6 and 7, “Forest Ownership & Management by Nonprofit, Nongovernmental Organizations,” and “Institutional Investors,” characterize and describe the motives and actions of nonprofit, nongovernmental



organizations and institutional investors emerging as owners and managers of forest land.

Section 8, "Public Policy & Programs to Influence Forest Ownership & Management," provides perspectives on how motives and methods influencing landowner behavior have changed over time. A few of the articles in this section offer ideas for community volunteers who wish to survey the attitudes and motives of forest landowners.

Finally, the articles in Section 9, "Land Use: Causes and Effects," provide insight into why we should care who owns the forest and how it is managed. The material in this section is very diverse, and includes many articles about forest fragmentation, conversion, and parcelization, as well as more general articles about how land use change affects what lives and grows in the forest over time.

1: Forest Statistics

New York State Department of Environmental Conservation, Division of Lands and Forests. 1982. *New York State Forest Resources Assessment 1980*. NYS DEC, 50 Wolf Road, Albany, NY 12233.

Hansen, Mark H., Thomas Frieswyk, Joseph F. Glover, and John F. Kelly. 1992. *Eastwide Forest Inventory Data Base: Users Manual*. Gen. Tech. Rep. NC-151. MN: USDA Forest Service, North Central Forest Experiment Station.

Heidelmark, William J. 1994. *Distribution of Farm and Forest Parcels by Property Class, 1993 Assessment Rolls*. New York State Board of Equalization and Assessment, Office of Policy Analysis and Development, 16 Sheridan Avenue, Albany, NY 12210-2714, 518-473-4532.

Alerich, Carol L. and David Drake. 1995. *Forest Statistics for New York: 1980 and 1993*. Resource Bulletin NE-132. Newton Square, PA: USDA Forest Service, Northeastern Research Station.

Irland, Lloyd C. 1998. *Maine's Forest Area, 1600-1995: Review of Available Estimates*. Miscellaneous Publication 736. University of Maine, Maine Agricultural and Forest Experiment Station.

Gillespie, Andrew J.R. 1999. Rationale for a national annual forest inventory program. *Journal of Forestry* (December): 16-19.



The National Community Forestry Center, Northern Forest Region will be offering workshops on participatory research at locations throughout the region beginning in the summer or fall of 2001. If you would like to know more about sponsoring or attending these workshops, please contact us at 1-800-727-5405.

Van Deusen, Paul C., Stephen P. Prisley, and Alan A. Lucier. 1999. Adopting an annual inventory system: User perspectives. *Journal of Forestry* (December): 11-14.

Frieswyk, Thomas and Richard Widmann. 2000. *Forest Statistics for New Hampshire: 1983 and 1997*. Resource Bulletin NE-146. Newton Square, PA: USDA Forest Service, Northeastern Research Station.

———. 2000. *Forest Statistics for Vermont: 1983 and 1997*. Resource Bulletin NE-145. Newton Square, PA: USDA Forest Service, Northeastern Research Station.

Griffith, Douglas M. and Carol L. Alerich. 2000. *Forest Statistics for Maine, 1995*. Resource Bulletin NE-135. Newton Square, PA: USDA Forest Service, Northeastern Research Station.

R.J. Turner Company and L.E. Caldwell Company. 2001. *A Forest Resource Model of the States of New York, Vermont, New Hampshire, and Maine*. Concord, NH: Northeast State Foresters Association.

2: Forest Ownership

Kingsley, Neal P. and Thomas W. Birch. 1977. *The Forest-land Owners of New Hampshire and Vermont*. Resource Bulletin NE-51. USDA Forest Service, Northeastern Forest Experiment Station.

Birch, Thomas W. and C. Stelter. 1993. "Trends in Owner Attitudes." In *Penns Woods: Change and Challenge*. State College, PA: Penn State University Press.

Market Decisions. 1994. "Analysis of the Transfer and Conversion of Forest Land of Less than 500 Acres Northern Forest Lands Study Area, August 1993." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

———. 1994. "Summary of Proceedings: Forum on National and International Influences on Land Ownership in the Northern Forest, September 1992." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Birch, Thomas W. and Brett J. Butler. Pre-publication copy. *Private Forest Land Owners of New York: 1980 and 1994*. USDA Forest Service, Northeastern Forest Research Station.

Birch, Thomas W. 1996. *Private Forest-land Owners of the United States, 1994*. Resource Bulletin NE-134. USDA Forest Service, Northeastern Forest Experiment Station.



Irland, Lloyd C. 1999. "Forest Landownership." In *The Northeast's Changing Forest*. Petersham, MA: The Harvard University Press.

Klyza, Christopher McGrory and Stephen C. Trombulak, eds. 2000. *The Future of the Northern Forest*. Hanover, NH: University Press of New England.

Brighton, Deb. 2001. Holding the forest: Redistributing rights in land to further both conservation and equity. *Adirondack Journal of Environmental Studies* (Fall): 15-18.

See annotation in section 8.

Land Trust Alliance. 2002. Areas protected by land trusts and easements 1998 and 2000. *2000 National Land Trust Census*. Washington, D.C.

New Hampshire Department of Resources and Economic Development. *State Land Under DRED Jurisdiction*. www.dred.state.nh.us/forlands/dred_reservations.htm.

USDA Forest Service. *National Woodland Owner Survey*. www.fs.fed.us/woodlandowners.

Vermont Department of Forests, Parks, & Recreation. *Vermont State Lands. State Forests and Parks*. www.state.vt.us/anr/fpr/lands/landinfo/forpark.htm.

3: Industrial Forest Ownership and Management

Burch, John R. 1993. "Changing Patterns of Forest Land Management in Response to the Interaction Between Increasing Non-timber Values and Traditional Timber Production Goals." In *Proceedings of the 1993 Society of American Foresters National Convention*.

Brown, Tommy. 1994. "Forest Conservation, Forest Recreation and Tourism, and the Forest Industry: Interrelationships and Compatibility." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Haufler, Jonathan B. 1995. "Collaborative Planning by Boise Cascade for Ecosystem Management." In *Proceedings of the 1995 Society of American Foresters National Convention*.



Hagenstein, Perry. 1999. Changing course . . . A wide, slow turn. The Committee of Scientists' recommendations for national forest planning. *Journal of Forestry* (May): 5.

Irland, Lloyd C. 1999. "The Public Forest Estate." In *The Northeast's Changing Forest*. Petersham, MA: The Harvard University Press. pps. 218-224.

Johnson, K. Norman, James Agee, Robert Beschta, Virginia Dale, Linda Hardesty, James Long, Larry Nielsen, Barry Noon, Roger Sedjo, Margaret Shannon, Ronald Trosper, Charles Wilkinson, Julia Wondolleck. 1999. Sustaining the people's lands. Recommendations for stewardship of the national forests and grasslands into the next century. *Journal of Forestry* (May): 6-12.

Koontz, Tomas. 1999. Administrators and citizens: measuring agency officials' efforts to foster and use public input in forest policy. *Journal of Public Administration Research and Theory* 9(2): 251-80.

Koontz, Tomas. 1999. Citizen participation: Conflicting interests in state and national agency policy-making. *The Social Science Journal* 36(3).

Robertson, Rob. 1999. *Social Issues in Forest Plan Revision for the White Mountain National Forest*. Laconia, NH: White Mountain National Forest.

Shindler, Bruce and Lori A. Cramer. 1999. Shifting public values for forest management: Making sense of wicked problems. *Western Journal of Applied Forestry* 14(1): 28-34.

Cortner, Hanna J. and Margaret Moote. 2000. Ecosystem management: Political challenges for managers and scientists. *Park Science* 20(1).

Zumeta, David C. and Paul V. Ellefson. 2000. Conserving the biological diversity of forests: Program and organizational experiences of state governments in the United States. *Environmental Management* 26(4): 393-402.

Dombeck, Mike. 2001. Taking the long view: conservation investments for future generations. *The Pinchot Letter* 6(1): 8-11.

Steel, Brent S. and Edward Weber. 2001. Ecosystem management, decentralization, and public opinion. *Global Environmental Change* 11:119-131.



Irland, Lloyd C. 1996. *Land, Timber, and Recreation in Maine's Northwoods*. Miscellaneous Publication 730. Maine Agricultural and Forest Experiment Station.

———. 1999. "Industrial Ownership in the Forest." In *The Northeast's Changing Forest*. Petersham, MA: The Harvard University Press. pps. 215-218.

Block, Nadine E. and V. Alaric Sample. 2001. *Industrial Timberland Divestitures and Investments: Opportunities and Challenges in Forestland Conservation*. Washington, D.C.: Pinchot Institute for Conservation. See annotation above under "Institutional Investors."

4: Public Forest Ownership and Management

Koontz, Tomas M. 1997. Differences between state and federal public forest management: The importance of rules. *Journal of Federalism* 27(1) Winter: 15-37.

This study offers a model for contrasting the constraints and outcomes of state and federal forest policy and management. The author chose four different case studies, each comparing a national forest and a state forest of similar location, tree-growth potential, and species composition. He used a variety of methods including interviews, observation, and document analysis. His findings suggest that state ownership is more able to secure economic benefit from the forest, while federal ownership is better suited to protecting environmental and non-timber forest values. Federal agencies face greater statutory and regulatory constraints than do state forest agencies. These constraints require more public input and higher levels of environmental protection, and they give more leverage to groups opposing active management for timber. National forest plans are created with more input from non-agency participants than are plans for state forest management, and they exhibit more restrictions that limit economic returns. Consequently, federal lands provide less timber, generating lower revenue at higher unit costs, than do state forests, and federal officials transfer less revenue to local governments. Federal officials undertake greater efforts to provide non-timber environmental benefits than do state forest officials.

Sample, V. Alaric. 1997. *Toward Integrated Resource Management on the National Forests: Understanding Forest Service Budget Reform*. Washington, D. C.: Pinchot Institute for Conservation.

Gorte, Ross W. 1999. Multiple use in the national forests. Rise and fall or evolution? *Journal of Forestry* (October): 19-23.



Welch, David, Cynthia Croissant, Tom Evans, and Elinor Ostrom. 2001. *A Social Assessment of Hoosier National Forest*. CIPEC Summary Report No. 3. Bloomington, IN: Center for the Study of Institutions, Population, and Environmental Change, Indiana University.

Congressional Research Service. Undated. Department of Agriculture, Forest Service: Ecosystem Management Activities. Washington D.C.: National Institute for Science and the Environment.

5: Non-Industrial Private Forest Ownership and Management

Bliss, John C. and A. Jeff Martin. 1989. Identifying NIPF management motivations with qualitative methods. *Forest Science* 35(2): 601-622.

Many studies consider the motivations and attitudes of nonindustrial private forest owners. This one attempts to mitigate some limitations of survey research by using qualitative methods. The authors developed sixteen case studies of Wisconsin NIPF managers from unstructured interviews, management records, and field examinations. They compared common motivations, attitudes, and values among the cases. They discovered that forest ownership and management contribute to owner identity, and that management activities are influenced by ethnic, family, and personal identity. They conclude that both survey and qualitative methods can make contributions to our knowledge about NIPF owners. Surveys are an efficient way to quantify population characteristics, while qualitative methods are more useful for discovering the relationships between beliefs, attitudes, and behavior.

Rosen, Barry N., H. Fred Kaiser and Marianne Baldeck. 1989. Nonindustrial private forest landowners as timber marketers: A field study of search for market information and decision quality. *Forest Science* 35(3): 732-744.

Alig, Ralph J., Karen J. Lee, and Robert J. Moulton. 1990. *Likelihood of Timber Management on Nonindustrial Private Forests: Evidence from Research Studies*. General Technical Report SE-60. Asheville, NC: USDA Forest Service, Southeastern Forest Experiment Station.

Egan, Andrew and Stephen Jones. 1993. Do landowner practices reflect beliefs? Implications of an extension-research partnership. *Journal of Forestry* (October): 39-45.



This study uses interviews and field evaluation to determine whether the actions of forest landowners match the attitudes they express about forest stewardship. The authors found that information about NIPF owners gleaned from surveys and interviews alone do not always reliably predict the condition of their forestlands. One interesting finding was that less than half of the owners who responded affirmatively when asked "Have you harvested timber within the last 10 years?" had actually engaged in harvesting.



Newman, David H. and David N. Wear. 1993. Production economics of private forestry: A comparison of industrial and nonindustrial forest owners. *American Journal of Agricultural Economics* 75(3): 674-684.

Broderick, Stephen H., Kenneth P. Hadden, and Brian Heninger. 1994. The next generation's forest: Woodland owners' attitudes toward estate planning and land preservation in Connecticut. *Northern Journal of Applied Forestry* 11(2): 47-52.

Jones, Stephen. B. 1994. "Ecosystem Management on Landscapes Dominated by Private Ownership." In *Proceedings of the 1994 Society of American Foresters National Convention*: 369-373.

Sample, V. Alaric. 1994. Building partnerships for ecosystem management on mixed ownership landscapes. *Journal of Forestry* (August): 41-44.

Breckenridge, Lee P. 1995. Reweaving the landscape: The institutional challenges of ecosystem management for lands in private ownership. *Vermont Law Review* 19:363-422.

Egan, Andrew and Stephen B. Jones. 1995. The reliability of landowner survey responses to questions on forest ownership and harvesting. *Northern Journal of Applied Forestry* 12(4): 184-186.

This article elaborates on the questions raised by the authors' 1993 study and suggests that reliable results in forest landowner studies require resurveying and ground-truthing.

Jones, Stephen B., A.E. Luloff, and J.C. Finley. 1995. Another look at NIPFS. Facing our myths. *Journal of Forestry* (September): 41-44.

Rosen, Barry N. 1995. A longitudinal analysis of attitudes and marketing practices of non-industrial private forest landowners. *Northern Journal of Applied Forestry* 12(4): 174-179.

Brunson, Mark W., Deborah T. Yarrow, Scott D. Roberts, David C. Guynn Jr., and Michael R. Kuhns. 1996. Nonindustrial private

forest owners and ecosystem management. Can they work together? *Journal of Forestry* (June): 14-21.

Campbell, Susan M. and David B. Kittredge. 1996. Ecosystem-based management on multiple NIPF ownerships. *Journal of Forestry* (February): 24-29.

McPhee, Barry E. 1996. Ownership factors associated with the conversion of Vermont non-industrial private forestland (NIPF). Master's thesis. University of Vermont, Burlington.

Egan, Andrew. 1997. From timber to forests and people: A view of nonindustrial private forest research. *Northern Journal of Applied Forestry* 14(4):189-193.

Egan examines the literature since World War II, and describes the gradually evolving focus of NIPF research. Until the 70s, researchers were primarily concerned with evaluating the potential timber supply likely to come from non-industrial private lands. Among these earlier researchers and writers, forestry and forest management were synonymous with timber management. During the 1970s, while timber supply from NIPFs was still considered a problem, researchers became interested in the diverse motives and objectives of owners, and used questionnaires to explore their attitudes and intentions. During the 80s and 90s, sociological studies became prevalent, and a wide variety of qualitative methods were used. Egan notes that the objectives of government programs for forest landowners have likewise evolved from a preoccupation with timber supply to enhancing stewardship of a broad array of forest resources. He suggests that the education of foresters must change, as well, to facilitate a better understanding of landowners and society in general.

Leak, William B., Mariko Yamasaki, David B. Kittredge, Jr., Neil I Lamson, Marie-Louise Smith. 1997. *Applied Ecosystem Management on Nonindustrial Forest Land*. General Technical Report NE-239. Radner, PA: USDA Forest Service, Northeastern Forest Experiment Station.

Lee, Karen Jean. 1997. Hedonic estimation of forest amenity values of nonindustrial private landowners. Ph.D. dissertation. Forestry and Economics, North Carolina State University, Raleigh.

Vermont Forest Resource Advisory Council. 1997. *Forest Landowner Survey*. Vermont Department of Forests, Parks, and Recreation, Agency of Natural Resources.

Dedrick, Jason P., James E. Johnson, Troy E. Hall, and R. Bruce Hull. 1998. Attitudes of Nonindustrial Private Forest Landowners to Ecosystem Management in the United States: A Review. Pre-



sented at Third IUFRO Extension Working Party Symposium, *Extension Forestry: Bridging the Gap Between Research and Application*, July 19-24, 1998, Blacksburg, Virginia, USA.

Luzadis, Valerie A. and Mary K. Thill. 1998. The Adirondacks: Ecosystem partners of the northwest flow. *Journal of Forestry* (August): 16-19.

Rickenbach, Mark G., David B. Kittredge, Don Dennis, and Tom Stevens. 1998. Ecosystem management: capturing the concept for woodland owners. *Journal of Forestry* (April): 18-24.

Irland, Lloyd C. 1999. "Nonindustrial Private Owners." In *The Northeast's Changing Forest*. Petersham, MA: The Harvard University Press. Pps. 224-226.

Kittredge, David B., Jr., Thomas H. Stevens, Donald Dennis. 1999. "Cooperation Among Private Forest Landowners: How Much and In What Ways?" *Proceedings, IUFRO working party S6.06-03*. Bled, Slovenia, October 4-8, 1999.

Barten, Paul K., David Damery, Paul Catanzaro, Jennifer Fish, Susan Campbell, Adrian Fabos, and Lincoln Fish. 2001. Massachusetts Family Forests. Birth of a landowner cooperative. *Journal of Forestry* (March): 23-30.

Koontz, Tomas M. 2001. Money talks—but to whom? Financial versus nonmonetary motivations in land use decisions. *Society and Natural Resources* 14:51-65.

These authors try to understand how different types of owners make land use decisions. Their results suggest that there are discernable patterns distinguishing activities motivated primarily by financial returns from those motivated primarily by nonmonetary benefits, and that these patterns vary according to landowner characteristics such as age, income, education, and reliance on the parcel for economic livelihood. Data for the study was collected through in-person interviews, public records, and spacial analysis. To ensure consistency, each semi-structured interview involved two researchers, who compared notes to gather complete and accurate information. Interviewers participated in over eighty hours of training before collecting data and attended weekly team meetings throughout the data collection period.

Birch, Thomas W. *Private Ownership Trends in New York*. Undated. Radnor, PA: USDA Forest Service, Northeastern Forest Experiment Station.



Washburn, Michael P., Stephen B. Jones, and Larry A. Nielsen. Undated. *Nonindustrial Private Forest Landowners: Building the Business Case for Sustainable Forestry*. Sustainable Forestry Partnership. <http://sfp.cas.psu.edu/nipf.htm>.

6: Forest Ownership & Management by Nonprofit, Nongovernmental Organizations

Irland, Lloyd C. 1999. "Nongovernmental, Nonprofit Organizations." In *The Northeast's Changing Forest*. Petersham, MA: The Harvard University Press. pps. 227-229.

7: Institutional Investors

Ballou, Jec A. 2001. "Try Banking On Trees." *Business Monday*, 26 November. Burlington, VT: *Burlington Free Press*.

Block, Nadine E. and V. Alaric Sample. 2001. *Industrial Timberland Divestitures and Investments: Opportunities and Challenges in Forestland Conservation*. Washington, D.C.: Pinchot Institute for Conservation.

Institutional investors are playing a major role in acquiring industrial timberlands divested by forest products companies. Timber Investment Management Organizations (TIMOs) are a relatively new and rapidly growing class of timberland owner. The amount of U.S. forestland under TIMO management is increasing more rapidly than under any other type of owner. This report synthesizes presentations and discussion from a symposium that engaged over sixty professionals in private forestland conservation and forest management, nonprofit land conservation, foundations, forest products companies, investment organizations, universities, and federal and state natural resource agencies. It provides analysis of the motives driving ownership and management decisions of both the institutional and industrial forest landowners, and offers recommendations for those concerned about forestland conversion to benefit from current market conditions and partnership opportunities.

Interforest, LLC. Undated. *Timber Investment: Economics of Forest Management in the Northeastern United States*. www.iforest.com/finance2.htm.

8: Public Policy & Programs Affecting Forest Ownership & Management



Rosen, Barry Nathan and H. Fred Kaiser. 1988. Marketing forest management to nonindustrial private forest landowners: A field experiment. *National Journal of Applied Forestry* 5(1988): 240-245.

Governors Task Force on Northern Forest Lands. 1990. The Northern Forests. A Strategy for their Future. States of Maine, New York, New Hampshire, and Vermont and the New England Natural Resources Center.

Harper, Stephen C., Laura L. Falk, and Edward W. Rankin. 1990. The Northern Forest Lands Study of New England and New York. A Report to the Congress of the United States on the Recent Changes in Landownership and Land Use in the Northern Forest of Maine, New Hampshire, New York and Vermont. Rutland, Vermont: Forest Service, U.S. Department of Agriculture.

Sampson, Neil. 1992. Achieving public values on private land. *Journal of Soil and Water Conservation* (September-October): 360-364.

Sax, Joseph L. 1993. Property rights and the economy of nature: Understanding *Lucas v. South Carolina Coastal Council*. *Stanford Law Review* 45(1411): 1433-1455.

Sax defines two fundamentally different views of property rights. From the conventional perspective, property is a discrete entity that is made one's own by working it and transforming it according to human values and functions. From an ecological perspective, land is not passively waiting for a landowner to transform it, nor is each tract of land separate and independent from the others. The ecological perspective views land as a system defined by function, not by human-made boundaries. Land is already at work performing services before being altered by humans. The significance of the latter perspective is recognized in the *Lucas* case, and Sax explores the implications for future property rights determinations.

Canham, Hugh O. 1994. "Property Taxes and the Economics of Timberland Management in the Northern Forest Lands Region, February 1992." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

DeCoster Group. 1994. "Environmental and Societal Benefits of Certain Federal Taxation Policies Affecting Private Timberland Owners, October 1993." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Dubroff, Harold and Al Geske. 1994. "A Report to the Northern Forest Lands Council on Federal Taxation Issues Affecting Private Timberland Owners, November 1993." In *Northern Forest Lands*



Council Technical Appendix. Concord, NH: Northern Forest Lands Council.

Howard, Theodore. 1994. "Federal Taxation and the Northern Forest Lands: A Discussion Paper Prepared for the Northern Forest Lands Council, May 1992." In Northern Forest Lands Council Technical Appendix. Concord, NH: Northern Forest Lands Council.

Flatebo, Gro. 1994. "Maintaining Biological Diversity on Private Forest Lands: Voluntary Techniques, August 1993." In Northern Forest Lands Council Technical Appendix. Concord, NH: Northern Forest Lands Council.

Northern Forest Lands Council. 1994. Finding Common Ground: Conserving the Northern Forest. All Council documents and archival materials are available through the Maine State Library, Station 64, Augusta, ME 04333, 207-287-5600.

Resource Systems Group, Inc., Ad Hoc Associates, and Doug Morris. 1994. "Forest Property Taxation Programs: Report to the Northern Forest Lands Council, November 1993." In Northern Forest Lands Council Technical Appendix. Concord, NH: Northern Forest Lands Council.

Trombulak, Stephen C. 1994. The Northern Forest: Conservation biology, public policy, and a failure of regional planning. *Endangered Species UPDATE* 11(12): 7-16.

Trombulak, Stephen C. 1994. The Northern Forest: Ecological health and social well-being are intimately linked. *Vermont Environmental Report* (Fall): 23-26.

Blackmer, Stephen D. 1995. Of wildness and commerce: a historical overview of the Northern Forest. *Vermont Law Review* 19(263): 264-281.

Floyd, Donald W., Janyl E. Kaeser, Craig J. Davis, Valerie A. Luzadis, and Lianjun Zhang. 1995. Local Governments and Private Forests: Why New York Towns Adopt Forest Management Ordinances. Syracuse: Faculty of Forestry, SUNY College of Environmental Science and Forestry.

Halper, Louise A. 1995. The Adirondack Park and the Northern Forest: An essay on preservation and conservation. *Vermont Law Review* 19(335): 335-362.



Levesque, Charles A. 1995. Northern Forest Lands Council. A planning model for use of regional natural resource land. *Journal of Forestry* (June): 36-38.

Sample, V. Alaric. 1995. Principles of Sustainable Forest Management: Examples from Recent U.S. and International Efforts. Discussion Paper 98-01. Washington, D.C.: Pinchot Institute for Conservation.

Bick, Steven, Harry L. Haney Jr. and Cynthia D. West. 1997. "A National Overview of Conservation Easements on Forestland." In *Proceedings of the Society of American Foresters 1997 National Convention*.

Cubbage, Frederick W. 1997. "The Public Interest in Private Forests: Developing Regulations and Incentives." In Kathryn A. Kohm and Jerry F. Franklin, eds. *Creating A Forestry for the 21st Century: The Science of Ecosystem Management*. Covelo, CA: Island Press.

Ellefson, Paul V., Antony S. Cheng and Robert J. Moulton. 1997. State forest practice regulatory programs: An approach to implementing ecosystem management on private forest lands in the United States. *Environmental Management* 21(3): 421-432.

Cushing, Tamara, Steve Bullard, John Greene, and Ted Beauvais. 1998. "The Effects of the Federal Estate Tax on Nonindustrial Private Landowners." In *Proceedings of the Society of American Foresters 1998 National Convention*.

Finley, James C. 1998. "Extension's Role: Ensuring Sustainable Forestry on Private Forests in the Northeastern United States." Presented at the Third IUFRO Extension Working Party Symposium, Blacksburg, Virginia, USA.

Gibson, Clark C. and Tomas Koontz. 1998. When "community" is not enough: Institutions and values in community-based forest management in southern Indiana. *Human Ecology* 26(4): 621-47.

Gibson and Koontz compare community-based forest management in two southern Indiana communities and discover that "values alone within a community are insufficient to protect natural resources . . ." In the two communities studied, residents shared strong values favoring non-consumptive forest use. The authors argue that differences in outcomes achieved by each community reflect differences in the institutions they constructed to govern themselves.



Greene, John L. and Terry K. Haines. 1998. "Tapping into Forest Management Assistance Programs." In Proceedings of the Society of American Foresters 1998 National Convention.

Schweik, Charles M. 1998. The spatial and temporal analysis of forest resources and institutions. Ph.D. dissertation. School of Public and Environmental Affairs and the Department of Political Science, Indiana University, Bloomington.

Schweik contends that in order to understand change in a natural resource, we must not only consider the pattern of change in response to direct human and natural actions. We must also systematically examine indirect forces such as institutional, physical, and community influences, that govern human choices. He identifies a number of information gaps that have slowed our progress so far, and uses case studies to examine how institutional arrangements alter the incentive structure for human decisions that affect the forest.

Tyson, C. Benjamin, Stephen H. Broderick, and Leslie B. Snyder. 1998. A social marketing approach to landowner education. *Journal of Forestry* (February): 34-40.

Tyson, C. Benjamin, Susan M. Campbell, and Ellen Schmidt Grady. 1998. Woodscaping for small landowners in southern New England. *Journal of Forestry* (December): 4-9.

Boyd, James, Kathryn Caballero and R. David Simpson. 1999. The Law and Economics of Habitat Conservation: Lessons from an Analysis of Easement Acquisitions. Discussion Paper 99-32. Washington, D.C.: Resources for the Future.

Brockett, Charles D. and Luke Gebhard. 1999. NIPF tax incentives: Do they work? *Journal of Forestry* (April): 16-21.

Coughlin, Christine W., Merrick L. Hoben, Dirk W. Manskopf, and Shannon W. Quesada. 1999. A systematic assessment of collaborative resource management partnerships. Master's **thesis**. School of Natural Resources and Environment, University of Michigan, Ann Arbor.

Esseks, J. Dixon and Robert J. Moulton. 1999. "Evaluating the Forest Stewardship Program Through a National Survey of Participants." In Proceedings of the Southern Forest Economists Annual Meeting, April 18-21, 1999.

Sample, V. Alaric. 1999. The Evolution of American Forest Policy: An Appraisal of the Past Century and a View to the Next. Discus-



sion Paper 99-02. Washington, D.C.: Pinchot Institute for Conservation.

Sample establishes forest fragmentation as an official government policy dating back to the late 18th century when land was rapidly distributed in small parcels to private owners as an incentive for settlement and clearing to establish farms.

Malmsheimer, Robert W., William R. Bentley and Donald W. Floyd. 2000. *The Implementation of the Northern Forest Lands Council's Recommendations: Analysis Six Years Later*. Concord, NH: North East State Foresters Association.

Moulton, Robert J. and J. Dexon Esseks. 2000. "Highlights of the National Evaluation of the Forest Stewardship Planning Program." In *Proceedings of the Southern Forest Economists Annual Meeting*, March 27-28, 2000.

North East State Foresters Association. 2000. *Forest Land & Public Finance: The Right Balance. Tax Implications of Forest Land Versus Development*. Concord, NH: the State Foresters cooperating with the U.S. Forest Service State and Private Forestry.

Nova Scotia Nature Trust. 2000. *A Report on Working Forest Conservation Easements*. Halifax: The Nova Scotia Forest Alliance.

Schneider, Rebecca L. and Peter J. Smallidge. 2000. Assessing Extension educator needs in New York to address natural resource issues for the new millennium. *Journal of Extension* 38(3): <http://joe.org/joe/2000june/a4.html>.

Brighton, Deb. 2001. Holding the forest: Redistributing rights in land to further both conservation and equity. *Adirondack Journal of Environmental Studies* (Fall): 15-18.

Brighton summarizes the way the Northern Forest has been perceived over time%from forest, to land, to private property disproportionately in the hands of the wealthy. She points out that the current inequitable ownership pattern is out of line with the vision of our founding fathers and poses difficulty in protecting certain forest values and functions. While our present strategy of using public and private dollars to buy specific rights to the forest may prove effective in protecting certain values, Brighton notes that it is not particularly democratic or equitable. She suggests an alternative approach more in keeping with Jeffersonian democracy: widespread landownership as the foundation for conservation, democracy, and community. This four-page article is one of the most original and thought-provoking in the collection.



Daniels, Thomas L. 2001. State and Local Efforts in Conserving Privately-Owned Working Landscapes. Washington, D.C.: National Governors Association.

Ellefson, Paul V., Michael A. Kilgore and Michael J. Phillips. 2001. Monitoring compliance with BMPs. The experience of state forestry agencies. *Journal of Forestry* 99(1): 11-17.

Foster, Charles H.W. 2001. Nonprofits in forestry. Lessons from three New England states. *Journal of Forestry* (January): 27-31.

Joint Standing Committees on Natural Resources, Taxation, and Agriculture, Conservation and Forestry of the 120th Maine Legislature. 2001. Report on the Use of Incentives to Keep Land in Productive Farming, Fishing and Forestry Use. Prepared by Land and Water Resources Council. Augusta: Maine State Planning Office.

Jones, Stephen B., Glenn R. Glover, James C. Finley, Michael G. Jacobson, and A. Scott Reed. 2001. Empowering private forest landowners. Lessons from Pennsylvania, Alabama, and Oregon. *Journal of Forestry* 99(3): 4-21.

Land Trust Alliance. 2001. National Land Trust Census.

Lewis, David and Andrew J. Plantinga. 2001. Public Conservation Land and Economic Growth in the Northern Forest. Miscellaneous Publication 748. Orono: Department of Resource Economics & Policy, University of Maine.

Salkin, Patricia E., Justina R. Cintron and Jacalyn Fleming. 2001. Conservation of Private Lands: Opportunities and Challenges for the States. Washington, D.C.: National Governors Association.

Sample, V. Alaric. 2001. Shaping consensus on a more effective national policy framework for forests. *The Pinchot Letter* 6(1): 12-14.

Duncan, Sally. 2002. Changing the scale of our thinking: Landscape-level learning. *Science Findings* 45(July).

Sampson, Neil. 2002. Farm and Forest: Which Way to Sustainability? Working Paper Series. Center for Agriculture in the Environment. www.farmlandinfo.org/cae/wp/wp98-7.html.

Sampson compares the evolution of conservation policies for farm and forestland respectively.



Sample, V. Alaric. Undated. "Fundamental Changes in Values, Perspectives, and Cultures." In Conference Proceedings: Perspectives on Sustainable Forestry for the South. www.ces.ncsu.edu/nreos/forest/feop/sample.html.

Yaffee, Steven L. and Julia M. Wondolleck. Undated. Making collaboration work. Lessons from a comprehensive assessment of over 200 wide-ranging cases of collaboration in environmental management. *Conservation Biology in Practice*: 17-25.

9: Land Use Change: Causes & Effects

DeGraff, Richard M. and William M. Healy, eds. 1988. *Is Forest Fragmentation a Management Issue in the Northeast?* General Technical Report NE-140. USDA Forest Service, Northeastern Forest Experiment Station.

Birch, Thomas W. 1994. *Forest Land Parcelization and Fragmentation*. Radnor, PA: USDA Forest Service, Northeastern Forest Experiment Station.

Market Decisions. 1994. "Analysis of the Transfer and Conversion of Forest Land of Less than 500 Acres Northern Forest Lands Study Area, August 1993." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Market Decisions. 1994. "Summary of Proceedings: Forum on National and International Influences on Land Ownership in the Northern Forest, September 1992." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Northern Forest Lands Council. 1994. "Summary of Proceedings: Forum on Lands Sales of Coburn Lands Trust and Former Diamond International Corporation, March 1992." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Sewall, James W. Company and Market Decisions. 1994. "Land Conversion Study Report, April 1993." In *Northern Forest Lands Council Technical Appendix*. Concord, NH: Northern Forest Lands Council.

Mayer, W.B. 1995. Past and present land use and cover in the U.S. *Consequences* (Spring): 25-33.



Lynn-Sherow, Bonnie. 1996. *Mechanization, Land Use, and Ownership: Oklahoma in the Early Twentieth Century*. LTC Paper 155. Madison, WI: University of Wisconsin, Land Tenure Center.

Waggoner, Paul E., Jesse H. Ausubel, and Iddo K. Wernick. 1996. Lightening the tread of population on the land: American examples. *Population and Development Review* 22(3): 531-545.

The authors consider land use trends over time and conclude that “. . . while people and wealth multiply, invention and changing habits can come close to holding constant the extent of paving and building, publishing and packaging, tilling and cropping.” In respect to forestry, they predict that recycling, high yield tree farms, and genetic engineering will ensure that we can have both wood and woods.

DeCoster, Lester A. 1998. The boom in forest owners—a bust for forestry? *Journal of Forestry* (May): 25-28.

Leatherberry, Earl C. 1998. “Trends in Forest Ownership Fragmentation in the Lake States, 1980s-1990s.” In *Proceedings of the 1998 Society of American Foresters National Convention*.

Turner, M.G., S.R. Carpenter, E.J. Gustafson, R.J. Naiman, and S.M. Pearson. 1998. “Land Use.” In M.J. Mac, P.A. Opler, P. Doran, and C. Haecker (eds.). *Status and Trends of Our Nation's Biological Resources. Volume 1*. Washington, D.C.: National Biological Service. Pps. 37-61.

This piece is helpful for understanding the context of land ownership and management questions. It defines land use and land cover, presents an historical perspective on land use change by region, discusses effects of these changes on plant and animal communities, and outlines implications of present land use patterns for biodiversity focusing upon habitat fragmentation and land use practices (including various logging methods).

Plantinga, Andrew J., Thomas Mauldin, and Ralph Alig. 1999. *Land Use in Maine: Determinants of Past Trends and Projections of Future Changes*. Research Paper PNW-RP-511. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

Sundquist, Dan and Michael Stevens. 1999. *New Hampshire's Changing Landscape. Population Growth, Land Use Conversion, and Resource Fragmentation in the Granite State*. Concord, NH: Society for the Protection of New Hampshire Forests and The Nature Conservancy.



Council on Environmental Quality. 2000. "Land Conversion Rates by State." Washington, D.C.: The White House. <http://docs.whitehouse.gov/CEQ/land.html>.

DeCoster, Lester A., Editor. 2000. *Proceedings of the Forest Fragmentation 2000 Conference*. Alexandria, VA: Sampson Group, Inc.

Harvard Forest. 2000. *The Dynamic New England Landscape: Interactions among Disturbance, Environmental Change, and Ecosystem Pattern and Process*. <http://lternet.lternet.edu/hfr/lter/lter3/section2/section2.html>.

Iowa State University Statistical Laboratory. 2000. *Summary Report 1997 National Resources Inventory (revised)*. USDA, Natural Resources Conservation Service.

Sampson, Neil. 2000. "The Changing Nature of U.S. Private Forests." In *What is Happening to the Land? A Summary Paper Presentation*. Keep America Growing Steering Committee: www.KeepAmericaGrowing.org.

Sampson, Neil and Lester DeCoster. 2000. Forest fragmentation. Implications for sustainable private forests. *Journal of Forestry* 98(3): 4-8.

Seville, Don, Andrew Jones, and Donella Meadows. 2000. *The Forest System Project: Exploring the Future of the Northern Forest*. Hartland Four Corners, VT: Sustainability Institute.

Thorne, Sarah. 2000. *New Hampshire Forest Land Base Survey Report of Results*. Concord, NH: Society for the Protection of New Hampshire Forests.

Tyrrell, Mary and Gary Dunning, eds. 2000. *Forestland Conversion, Fragmentation, and Parcelization. A Summary of a Forum Exploring the Loss of Forestland and the Future of Working Family Forests*. Yale Forest Forum Series, Volume 3, Number 6. New Haven, CT: School of Forestry and Environmental Studies, Yale University.

USDA Forest Service, State and Private Forestry; New Hampshire Division of Forests and Land; University of New Hampshire Cooperative Extension; and state forestry agencies of New England and New York. 2000. *Executive Summary of a Forest Fragmentation and Urban Sprawl Workshop*. Portsmouth, NH: Urban Forestry Center.



Mehmood, Sayeed R. and Daowei Zhang. 2001. Forest parcelization in the United States. A study of contributing factors. *Journal of Forestry* 99(4): 30-34.

Thorne, Sarah and Dan Sundquist. 2001. *New Hampshire's Vanishing Forests: Conversion, Fragmentation and Parcelization of Forests in the Granite State*. Concord, NH: Society for the Protection of New Hampshire Forests.

This report begins with the statement that New Hampshire's forest land base is undergoing radical conversion, fragmentation, and parcelization at a rate that will irrevocably change the state within a single human lifetime. It proceeds to document the dimensions of the change, its causes, how forests in different parts of the state are affected, the impacts upon the economics of forest management, and the effects upon the forestry community. This study integrates information gathered between 1999 and 2001. Five surveys were used to gather information about forest conversion, parcel size, economics, and forest management. The report concludes with recommendations and a resource list that may be valuable to others interested in investigating these issues.

Agarwal, Chetan, Glen M. Green, J. Morgan Grove, Tom P. Evans, and Charles M. Schweik. Undated. *A Review and Assessment of Land-Use Change Models. Dynamics of Space, Time, and Human Choice*. Bloomington, IN: Indiana Univer-

Change and Burlington, VT: USDA Forest Service, Northeastern Research Station.

Case, Kevin, Barry E. McPhee, and John J. Lindsay. Undated. *The Transfer, Conversion and Development of Private Forest Land in Vermont*. Burlington: University of Vermont, School of Natural Resources.



About the National Community Forestry

The National Community Forestry Center (NCFC) is a decentralized network with four regional centers and a national coordinator. The four regional centers are located in the Southwest, the Appalachians, the Pacific Northwest, and the Northeast. The Northern Forest Regional Center of the NCFC is administered by Yellow Wood Associates, Inc. of St. Albans, Vermont. The northern forest region, our primary area of service, comprises the states of Maine, New Hampshire, New York, and Vermont.

The core purpose of the Northern Forest Regional Center is to help rural people conduct and use research to inform decision-making about forest resources. Our goal is to add value to the work of communities, organizations, and institutions in our region who share a vision of healthy communities and healthy forests, now and for future generations.

The work of the Center includes:

- developing partnerships with existing organizations who share our vision
- assisting rural communities in defining research agendas and engaging scientists in participatory research
- conducting targeted research to address region-wide issues and opportunities
- responding to requests by rural people for information and technical assistance related to community forestry
- establishing mechanisms such as listservs, web page, newsletter, and conferences to facilitate information sharing and networking
- publishing fact sheets, reports, and other materials on forest-related topics
- working intensively with up to three communities per year based on priorities established by the Bioregional Advisory Council.

We look forward to engaging you in this unique opportunity to support rural people in creating healthy communities and healthy forests. We would be happy to respond to your inquiries about the Center's services, or about specific forest topics, and are prepared to assist you in locating forest-related information and resources.

The National Community Forestry Center is a program of the National Network of Forest Practitioners. Network members share an interest in rural community development based upon sustainable forestry, and, even more importantly, a conviction that healthy communities and healthy ecosystems are interdependent.





NNFP National Community Forestry Center
Northern Forest Region
c/o Yellow Wood Associates, Inc..
228 North Main Street
St. Albans, VT 05478
yellowwood@yellowwood.org
From NY, NH, ME, VT:
800-727-5404
From outside the Region:
802-524-6141 Fax: 802-524-6643
www.ncfnr.net

This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Agreement No. 9936200-8704. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

