ENVIRONMENTAL AND ECONOMIC RESEARCH AND DEVELOPMENT PROGRAM

Ecosystem Services and Private Family Forests: Expanding Sustainable Forestry

Executive Summary
January 2013

PREPARED BY:

MARK RICKENBACH, PROFESSOR, EXTENSION SPECIALIST
& PRINCIPAL INVESTIGATOR,
FOREST & WILDLIFE ECOLOGY, UW-MADISON/EXTENSION

TRICIA KNOOT, FORMER RESEARCH ASSOCIATE,
DEPARTMENT OF FOREST & WILDLIFE ECOLOGY, UW-MADISON

KARA SILBERNAGEL, FORMER PROJECT ASSISTANT,
DEPARTMENT OF FOREST & WILDLIFE ECOLOGY, UW-MADISON

CAROL NIELSEN, PRIVATE FORESTRY SPECIALIST & CO-INVESTIGATOR,
DIVISION OF FORESTRY, WISCONSIN DNR

ALLISON HELLMAN, POLICY ADVISOR AND ANALYST, & CO-INVESTIGATOR,
DIVISION OF FORESTRY, WISCONSIN DNR

focus on energy℠
Partnering with Wisconsin utilities

This report was funded through the Environmental and Economic Research and Development Program of Wisconsin's Focus on Energy.

Contents

Acknowledgements

We would like to thank Kelly Crosset and Jon Breschak for their assistance in preparing the study sample and questionnaire design. We also appreciate the excellent assistance we received in the survey process from Bob Cradock and everyone else at the UW Survey Center. The final report was greatly enhanced by comments and suggestions from peer-reviewers David Kittredge (UMass-Amherst), Thomas Steele (Kemp Natural Resources Station), and Melinda Vokoun (UW-Stevens Point). In addition, Kathryn Eggers (Focus on Energy) and Barry Brissman and Susan Anderson (UW-Extension, Cooperative Extension Publishing) have provided invaluable assistance in bringing this to print. Lastly, we appreciate the willingness of landowners to respond.

The Environmental and Economic Research and Development Program of Wisconsin's Focus on Energy (EERD #3104-01-09) provided primary support for this study. The Agriculture and Food Research Initiative (Grant # 2006-55618-17022), the McIntire-Stennis Cooperative Forestry Research Program (Grant #WIS01432), and the Renewable Resources Extension Act of USDA National Institute of Food and Agriculture provided additional support.

Executive summary

Nine million acres of private woodlands, controlled by 352,000 individuals and families, account for 26% of Wisconsin's total land area and 56% of its forests. These lands provide important economic, ecological, and sociocultural benefits. For example, they supply the largest share of the wood used by the state's wood and paper product industries. For this and other reasons, helping people actively manage woodlands to keep them sustainable is a state policy goal. This goal has been partially reached through the Managed Forest Law program (MFL), in which 2.4 million acres have been enrolled by roughly 33,000 woodland owners. But over 140,000 eligible landowners are not enrolled, and their reasons for owning woodland, and their willingness to sustainably manage it, are unclear. It is uncertain how these more "typical" landowners will use their woodlands, or how well they will maintain them to assure regional timber supplies, wildlife habitat, and a pleasing rural scene.

"Ecosystem services" are benefits an ecosystem can confer, such as clean water, waste decomposition, and flood prevention. Paying landowners to manage land in ways that enhance such benefits might be one way to expand sustainable forestry in Wisconsin. Some industries, particularly those burning coal and petroleum for electric power generation or home heating, have expressed interest in offsetting their own greenhouse gas emissions by paying for projects that increase carbon storage (sequestration) elsewhere. These industries might pay landowners to manage their woodlands in ways that measurably increase the amount of carbon that is sequestered in forest trees and soils. Landowners would need to satisfy the "additionality" requirement by showing that the increases they claimed to have achieved would not have occurred anyway.

The present study sought to determine whether payments to landowners for enhancing ecosystem services could increase sustainable forestry practices in Wisconsin (see sidebar "Payments…"). Data gathered during the study makes it possible to compare "typical" landowners and MFL participants to see how they differ (see sidebar "Key differences…"). Lastly, implications for forest policy suggested by this study are summarized below in the sidebar "Key Implications."

Key implications

- **Preventing woodlands from being converted to other land uses is a continuing policy challenge. MFL participants face significant barriers that deter them from converting woodlands to other use. Typical landowners do not face these restraints and, in addition, tend to see real estate value as more important than timber income.**
- **While additional research should further define respondents' unwritten plans, these mental plans would seem to present an opportunity to expand sustainable forestry by targeting nascent planners. This may not lead in every case to a written plan, but it might connect nascent planners to resources that encourage sustainable practices.**
- **Programs that pay landowners for practices that enhance ecosystem services should offer flexible management options that allow landowners the possibility of obtaining, in addition to the ecosystem services, other benefits that are usually more important to them, such as better hunting.**
- **As landowners decide whether to participate in a payment scheme, constraints such as being required to make plans and to monitor progress appear to weigh more heavily than possible benefits. To attract participants, programs will need to be carefully and thoughtfully designed.**

Payments for ecosystem services: preferences and constraints

- **Roughly one-third of typical landowners are interested in being paid to enhance ecosystem services.**
- **They indicate no clear preference as to which of three possible ecosystem services they prefer to enhance—carbon storage, bird habitat, or water quality.**
- **They indicate no clear preference as to whether the scheme should operate through a government program or a market mechanism.**
- **Their interest is substantially reduced by a payment scheme's administrative requirements, except when those requirements directly relate to on-the-ground forest management. They view as particularly burdensome the reporting requirements that assure the services were actually provided.**

Key differences between typical landowners and MFL participants

- **The average MFL participant owns more woodland than the average "typical" landowner. Large parcels are associated with more active forest management.**
- **Typical landowners are likely to see real estate value as more important than timber income. Both groups highly value land ownership for the privacy, hunting, and other natural and recreational benefits it provides.**
- **All MFL participants have a written management plan, for the program requires this. Only 4% of typical landowners have a written plan; 23% have at least a mental plan.**
- **MFL participants report relatively high educational attainment, a characteristic typical of incentive program participants in previous studies.**

Methodology

- **Data came from two mail surveys, one of typical landowners in 2010 (n = 831) and one of MFL participants in 2008 (n = 949).**
- **Response rates in both studies exceeded 66%.**
- **Typical landowners were asked to consider one of six different payment scenarios. Each scenario combined one of three ecosystem services (bird habitat, carbon storage, or water quality) with one of two institutional arrangements (government program or market opportunity).**

Authors: Mark Rickenbach, professor, extension specialist, and lead investigator, Department of Forest and Wildlife Ecology, UW-Madison/Extension; Tricia Knoot, research scientist, Wildlife and Forestry Research Section, Bureau of Science Services, Wisconsin Department of Natural Resources; Kara Silbernagel, former project assistant, Department of Forest and Wildlife Ecology, UW-Madison; Carol Nielsen, private forestry specialist and co-investigator, Division of Forestry, Wisconsin Department of Natural Resources; Allison Hellman, policy advisor and analyst, and co-investigator, Division of Forestry, Wisconsin Department of Natural Resources.

Cooperative Extension publications are subject to peer review.

University of Wisconsin-Extension, Cooperative Extension, in cooperation with the U.S. Department of Agriculture and Wisconsin counties, publishes this information to further the purpose of the May 8 and June 30, 1914, Acts of Congress. An EEO/AA employer, the University of Wisconsin-Extension, Cooperative Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements. If you need this information in an alternative format, contact Equal Opportunity and Diversity Programs, University of Wisconsin-Extension, 432 N. Lake St., Rm. 501, Madison, WI 53706, diversity@uwex.edu, phone: (608) 262-0277, fax: (608) 262-8404, TTY: 711 Wisconsin Relay.

This publication is available from your county UW-Extension office (www.uwex.edu/ces/cty) or from Cooperative Extension Publishing. To order, call toll-free 1-877-947-7827 (WIS-PUBS) or visit our website, learningstore.uwex.edu.

Expanding Sustainable Forestry on Wisconsin Woodlands (G3996) I-1-13