

Rural Technology Initiative

Increasing complexity as a result of changing environmental regulations, recognition that new research findings are well ahead of implementation, and the substantial and widening gap between urban and timber rural incomes in Washington State suggests the need for more rapid technology transfer to the state's rural timber communities. The Rural Technology Initiative (RTI) was established in January 2000 by a federal grant as a pilot project managed cooperatively by the University of Washington's (UW) College of Forest Resources (CFR) and Washington State University's (WSU) Cooperative Extension. A timber-rural advisory board representing nonindustrial private forestland (NIPF) owners, forestry consultants, industry, labor unions, conservation districts, the U.S. Forest Service, community agencies, and researchers was established; it has set priorities for research and training needs. In addition, RTI funds graduate students working with faculty and WSU Extension personnel; these students receive valuable training and enter the job market with better technological skills.

Priorities and Needs Assessments

Priorities. The RTI board identified four initial priorities:

- Landscape management case studies of (1) Forest and Fish Agreement impacts on NIPF owners under a range of alternative strategies, (2) dry site thinning and critical habitat management alternatives, and (3) carbon credit protocols.
- Training and assistance for NIPF and forestry consultants in response to an RTI-conducted needs assessment.
- Scientifically credible habitat models for landscape management alternatives and for monitoring programs to demonstrate treatment impacts.
- Value-enhancing certified data for managed forests.

Assessments. RTI, in carrying out needs assessments:

- conducted a statewide assessment of consulting foresters' needs, including training topics, level of training, and times and locations for delivery. The 40% response reported that training topics considered important to very important were, in order of importance: regulatory interpretation, riparian protection, tax and estate planning, GIS, GPS, unstable slopes, road layout, Landscape Management System, spreadsheets and data management, and growth and yield. A majority of respondents felt that new technology can more efficiently meet regulatory requirements at lower cost.
- analyzed data from a Lewis County Extension pilot needs survey of NIPF owners preparatory to its development of a habitat conservation planning approach for NIPFs.

First-Year Activities

Short Course Training and Technical Support. RTI:

- modified the Landscape Management System (LMS) software developed at UW to increase user friendliness (beta-testing was provided by WSU Extension); held LMS training sessions for consultants, NIPFs, and tribal foresters and developed a user-friendly LMS tutorial with software made available at no charge on CD or download from <http://lms.cfr.washington.edu/lms2.html>.
- networked with rural clients and provided field support and obtained feedback on needs for research and development teams.

Riparian Management Case Studies. RTI analyzed impacts of management alternatives. RTI:

- prepared case studies on small forest owners, analyzing the economic impact of a base case and four management alternatives allowed under the Forest and Fish Agreement. Total Forest Value losses ranged from 27% to 36% under the "best case" scenario, and from 45% to 83% under the "worst case" scenario.
- integrated findings of recent economic impact assessments into a presentation on the broader impacts of new riparian rules.

Wildlife Habitat and Riparian Function Modeling. To develop credible data on the impacts of forest management on habitat and stream conditions, RTI worked on models directly linking habitat-suitability measures to the evolution of forest stands under management. RTI:

- convened a panel of researchers to plan development of better models from available data and to

identify gaps in needed coverage. The panel circulated a draft plan identifying upland habitat, riparian zone habitat, and instream functionality and modeling needs.

- used the Satsop Management Plan as a pilot test and case study for developing upland habitat models based on the Fish & Wildlife Habitat Evaluation Procedure. Using LMS, a range of management alternatives and resulting Habitat Suitability Indices are being evaluated for use at additional sites.
- evaluated in-stream functionality indicators identified by NCASI (streambank stability, sediment reduction, chemical removal, shade and temperature, large woody debris, particulate matter) in order to develop similar forest-dependent instream functionality measures linked to LMS.
- evaluated gaps in bird habitat data for future monitoring; planned similar analysis for mammals.

Harvest Technologies. A growing emphasis on riparian management and thinning treatments that support both wood quality and environmental values calls for evaluation of new harvest technologies. RTI:

- designed a comparative test for alternative harvest procedures and equipment in an Okanogan National Forest management plan to reduce the risk of catastrophic fire, promote late successional forest restoration, treat noxious weeds, enhance recreational opportunities, and demonstrate integration of wildlife, forest, and range management.

Forest and Log-value Enhancement. Research is needed to provide evidence that forests thinned and pruned at an early age produce higher quality wood. RTI:

- evaluated new technologies for electronically readable tree tags that retain value information for future purchasers.

Road Management. To facilitate road management plans that protect against slope failure and sedimentation, RTI:

- began developing a software program to provide computerized road layout assistance.

- prepared a case study identifying required changes to roads and culverts, considering road density planning for NIPFs, and identifying preferred alternatives to comply with Forest and Fish requirements.
- began preparation of an extension publication on road construction, maintenance, and regulation issues on small acreage tracts.

Publications and Outreach Education. In addition to training programs, RTI made findings available via Web, newsletter, fact sheets, and other publications. RTI:

- prepared quarterly activity reports.
- published a newsletter.
- presented talks and/or posters at several events, including the Washington Farm Forestry and the Society of America Foresters annual meetings.

Plans for 2001 Include:

- Offer Extension classes, including the continuing sequence of LMS courses, as well as courses on GIS, GPS, Internet use, road layout, and forest tax and estate planning.
- Develop user-friendly tutorial on harvesting and road management techniques.
- Provide training sessions and Web information on the use of technology to minimize road planning, construction, and maintenance costs.
- Develop East- and West-side case studies testing management alternatives permitted under the Forest and Fish Agreement for different tree species and regional conditions.
- Evaluate and demonstrate Scandinavian cable-thinning technology that may reduce costs while increasing safety.
- Develop tagging system to certify leave trees in riparian zones to meet easement requirements.
- Prepare Web calculator version of previously published book on conversion factors.

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