

RTI News

Winter 2004

Newsletter of the Rural Technology Initiative

Volume 4, No. 2



Streaming Video Hits the RTI Website

Big things are happening on the RTI Website. Technology is increasing the ability of websites to communicate ideas. Information is now being carried across the internet through a new medium: streaming video.

Streaming video is a technology used on the World Wide Web to expedite the video viewing process. It allows the end user to start viewing a video file as soon as a connection is made to the media server. Before streaming video was possible, the entire video file had to be downloaded before it could be watched.

Downloading potentially takes hours, whereas streaming video is virtually instantaneous.

The actual process of streaming video over the internet requires a complex system of events, but the underlying concept is fairly simple. Instead of waiting for the entire video file to download before watching it, the user is able to watch smaller sections of the video right away while downloading the rest. This is accomplished by "streaming" the video file over the internet in small pieces. A media player on a user's computer deciphers those streaming pieces as they are



The video plays in the upper left with the corresponding slides to the right. Under the video on the left are the video controls and the table of content.

downloaded and presents them seamlessly to the viewer. The end result is close to real-time viewing.

The Rural Technology Initiative first experimented with streaming video at the RTI Annual Review in January of 2003. Digital video footage was taken of each presentation, synchronized with the corresponding PowerPoint® slides, and streamed from the RTI website. This triggered the realization that streaming video technology is a powerful tool for sharing information and ideas. It incorporates a speaker's oration with informative slides, and it makes them available to internet users with either a high-speed or dial-up internet connection, as well as on CD-ROM.

Since last year, RTI has gone from experimenting with streaming video technology to making it a major mode of outreach with skilled film crews at both WSU and

UW. This video technology dramatically increases the accessibility of information presented at seminars, conferences, and workshops, making it available to a worldwide audience. Streaming video fits perfectly with RTI's goal to increase access to forestry technology and information. WSU Extension is using this new technology to reach and educate family forest landowners throughout the state. In 2003, RTI's interactive streaming video technology was used to expand the reach of a Sudden Oak Death Conference. Plans are underway to use it extensively in 2004 and beyond for technology workshops and forestry-related lectures and classes.

Visit <http://www.ruraltech.org/video/> to access the RTI streaming video library. Included are video presentations related to forest fire management, forestry innovation, and comparisons of alternate riparian management plans for Eastern and Western Washington.

Streaming video enables RTI to spread ideas and information through an easy to use on-line medium and it adds a visual element to the website that was not offered just one year ago.

"[Streaming] video technology dramatically increases the accessibility of information presented at seminars, conferences, and workshops, making it available to a worldwide audience."

- Matthew McLaughlin, RTI Staff -

RTI Director's Notes

Effective technology transfer is one of the biggest challenges that RTI faces. We continue to develop new technology tools at a rapid pace, but development is only the first step. The next and perhaps more critical step is making those tools both applicable and accessible to a wide range of users, giving those users the tools they need to address today's forest management issues. This newsletter highlights some of the ways we are working to better facilitate the use of new technology.

A good example of better facilitating the use of technology is the Inventory Wizard. This is a tool that is designed to greatly ease the process of getting started with our forest planning software program, the Landscape Management System (LMS), especially for small landowners. Kevin Zobrist reports on version 2.0 of this tool, which adds new features and simplifies the interface. Kevin also reports on a new economic analysis tool called Economatic. Economics is a key component of sustainable forest management planning, and this new tool delivers access to a robust suite of financial evaluation capabilities that are easy to use within LMS.

Another example of making technology easier to use is the Fire Risk Mapper. Kevin Ceder reports on this new tool, which allows forest managers to take complex forest fire modeling information and create visual maps that are easy to interpret. These maps highlight where the risk of a forest fire is greatest, helping forest managers to develop more effective fire prevention strategies.

In addition to improving accessibility to new forestry technology, we are making very exciting advances in our ability to communicate with more users at low cost. Matt McLaughlin reports on our pioneering use of interactive streaming video. Any presentation can now be videotaped, synchronized with quality PowerPoint slides, and made available on the web to a worldwide audience. We have a growing library of streaming video presentations on our website, including field demonstrations at Pack Forest near Eatonville and Sherwood Creek Forest near Colville that make you feel like you are right there in the field with the speaker without having to drive across the state! WSU Extension is using this new technology to augment its traditional approach of educating family forest landowners. It was also used last summer to extend the reach of the WSU Sudden Oak Death Conference well beyond the capacity of the auditorium. One industry owner received a CD of this program and immediately sent it to all his field foresters across the country. Now that is fast tech-transfer! This technology became practical by access to readily available software that was previously very expensive. We are just beginning to use this technology, and it promises to revolutionize the way we think about distance learning and getting information out to large audiences in the field.

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Upcoming Events

The Human Dimensions of Family and Farm Forestry Symposium

*March 29 - April 1, 2004
Washington State University
Pullman, WA*

This symposium will be jointly hosted by Washington State University and the International Union of Forest Research Organizations (IUFRO).

The objective of this symposium is to bring together scientists and practitioners from all corners of the world to discuss research problems, results, and practical applications related to human dimensions of family, farm, small-scale, nonindustrial private, and community forestry.

For more information and to register, visit the symposium website: <http://www.familyforestrysymposium.wsu.edu/> or call 509-335-2963.

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*March 2-3, 2004
Blue Mountain Conference Center (The Armory)
La Grande, OR*

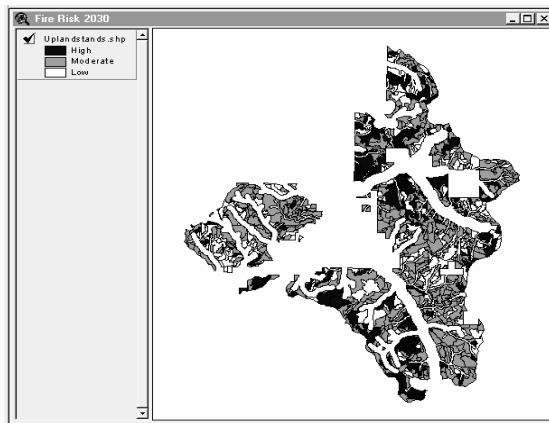
The first greater eastern Oregon regional small diameter wood products fair will convene leading businesses, community leaders, and entrepreneurs to shape the future of the wood products industry. More than 200 people will gather for two days of workshops, panel discussions, exhibits, product design competitions, and networking events that will help eastern Oregon become a leader in ecosystem restoration, wildfire risk reduction and wood products utilization.

For more information or to register, visit the conference website at <http://www.wallowaresources.org/woodfair/index.htm> or call 541-426-2311.

New Technology Enables Fire Risk Mapping from within LMS

The incidence and intensity of large scale forest fires throughout the west have increased dramatically in recent years. As a result, forest fire risk reduction has become an important forest management issue. In dealing with this issue, it is helpful for managers to understand the spatial distribution of stands at risk on the landscape. With this information, managers can prioritize risk-reduction efforts in areas where such efforts are likely to have the greatest benefit at the least cost.

RTI has developed a new tool called the Risk Mapper that works with the Landscape Management System Fire and Fuels Extension (LMS-FFE) Add-on (see article in the Fall, 2003 RTI Newsletter for more information about this fire risk assessment program). The Risk Mapper links stand level risk assessments from LMS with spatial data, allowing managers to easily create visual maps of fire risk. These maps can be used to evaluate present risk conditions as well as to compare the effectiveness of simulated fire risk reduction treatments across real forested landscapes.



Fire risk distribution maps like this can be easily created from LMS with the Risk Mapper.

The Risk Mapper works as a customized ESRI ArcView project file that maps fire risk based on Forest Vegetation Simulator - Fire and Fuels Extension (FVS-FFE) outputs of crowning index. FFE is a fire effects model developed by the US Forest Service for use with the FVS growth model. Variants of FVS-FFE are available for the majority of the fire-adapted ecosystems of the Western U.S., including the Eastern Cascades, Inland Empire, Rocky Mountains, Sierras, and Siskiyou. All FVS-FFE variants are installed by the LMS-FFE Add-On, which is available for free download from <http://lms.cfr.washington.edu/lmsdownload.php>.

The Risk Mapper is now included with the LMS-FFE Add-on for use in conjunction with ESRI's ArcView 3.x program. Maps of fire risk are created for individual years that are selected by the user. Fire risk is classified based on crowning

index, which is the potential wind speed at 20-feet above the ground needed to initialize and carry a crown fire in a forest. High risk stands have a crowning index value of 25 miles per hour (mph) or less. Moderate stands have a crowning index of 25 – 50 mph. Low risk stands have a crowning index value of 50 mph or more.

Use of the Risk Mapper requires a landscape visualization-enabled portfolio that includes a ESRI shapefile of stand boundaries. ESRI ArcView 3.x must also be installed on the computer. For additional information regarding the Risk Mapper, contact Kevin Ceder at thuja@u.washington.edu. Additional information regarding FVS-FFE can be found at <http://lms.cfr.washington.edu/lms-ffe.html>.

- Kevin Ceder, RTI Staff -

RTI Receives Formal Technical Review

In September, 2003, RTI was visited by six professionals, chosen by the USDA's Cooperative State Research, Education, and Extension Service, to conduct a comprehensive review of the RTI program. This review was requested by RTI for the purpose of gaining external insight and input to the operation of RTI and to address the program's sustainability.

At the end of the review, a report was submitted to RTI by the review team incorporating their conclusions and recommendations, which were generally positive. The following is an excerpt from the concluding remarks of the report:

“Based on the Review Team's exposure to RTI, the Review Team is able to affirm that RTI has made major contributions toward providing usable technology to rural forest managers. Numerous testimonies boasted of the services and knowledge rendered to them by the RTI program. Additionally, many of the stakeholders reported that the material and knowledge provided to them was cutting edge and would not have been available under conventional university and other outreach structures. They also reported that the material was applicable to a regional and possibly national constituency.”



Review Team from left to right: John Gorman, Steven Daniels, James Finley, Mike Barsotti, Robin Morgan, and Larry Biles.

Economic Adds Robust New Economic Analysis Features to LMS

RTI has completed development of "Economic," a new economic analysis tool for use in the Landscape Management System (LMS). There are a number of economic and financial analysis programs that are available to forest managers and landowners. However, Economic is unique in that it is directly integrated with the growth modeling and treatment simulation capabilities of LMS. Unlike other tools that require the user to enter estimates of future cash flows, the Economic automatically calculates those cash flows and their timing based on volume and value outputs from LMS. This can greatly simplify economic analysis for both novice and advanced users doing applications that might range from tree farm estate planning to analysis of species planting alternatives on state forests.

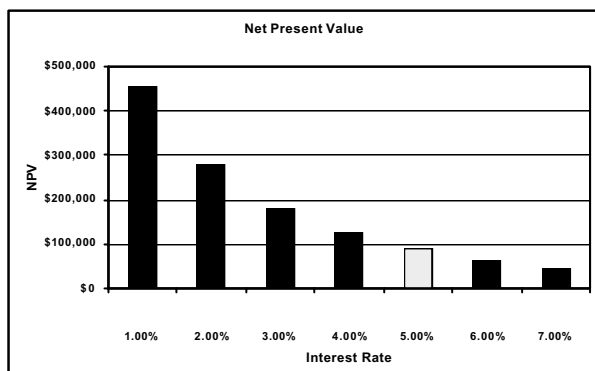
Economic can automatically compute and chart a whole suite of useful values from any LMS management simulation. For basic scenarios, Economic will chart cash flows over time and calculate the net present value (NPV) of those cash flows. For specialized scenarios, Economic can calculate what is known as bare land value or soil expectation value

Total				Per Acre		
Landscape Results for Chosen Interest Rate:						
Interest Rate	NPV	SEV	FV	NPV	SEV	FV
5.00%	\$87,977	\$15,254	\$88,646	\$2,707	\$469	\$2,728
IRR		Total Acres				
6.01%		33				

Example of Economic outputs.

(SEV) as well as a total forest value. It can even compute the internal rate of return (IRR) for certain types of management scenarios.

For advanced users, all of the parameters in Economic can be completely customized, including logging costs, operational costs, annual costs, and tax rates. By adjusting



Economic can plot outputs across multiple interest rates.

these parameters, users can quickly and easily assess the impact of a given variable on final outcomes. All outputs from Economic can be computed at a single discount rate or across multiple discount rates as part of a built-in sensitivity analysis.

Economic is run as a table from within LMS. As with all LMS tables, Economic is based in Microsoft Excel, which eliminates the need for specialized software. Economic and its tutorial are included with the current version of LMS, which is available for free download from <http://lms.cfr.washington.edu/lmsdownload.php> or on CD-ROM upon request.

- Kevin Zobrist, RTI Staff -

Inventory Wizard 2.0 Makes it Even Easier for Users to Get Started with LMS

Our Summer, 2003 newsletter featured a new tool called the Inventory Wizard. This tool was developed in response to numerous feedback we received from people looking for a more user-friendly way to import their own forest data into the Landscape Management System (LMS). The LMS Inventory Wizard has been well-received, but thus far its use has been limited both geographically and by certain system requirements. The release of LMS Inventory Wizard version 2.0 brings significant enhancements that remove these limitations and make the tool easier to use for broader audiences.

Version 2.0 of the Inventory Wizard includes species and location data for all 18 growth models included with LMS, making it applicable for almost all regions of the U.S. A new "Getting Started" section has been included that guides users through the selection of an appropriate growth model, explains what data is necessary to get good results with that growth model, and even includes data collection forms that can be printed out and used in the field. This eliminates previous ambiguities regarding field data requirements and helps landowners to know exactly what they need before going to the woods to take measurements.

Another enhancement included in Inventory Wizard 2.0 is the ability to store and manage data for multiple portfolios instead of just one at a time. There is also better data validation code and "plain English" error messages that help users avoid common mistakes. In addition, a new LMS file creation process allows users to create an LMS portfolio in one step from inside the Inventory Wizard, eliminating the sometimes complicated process of importing data from the Inventory Wizard into LMS.

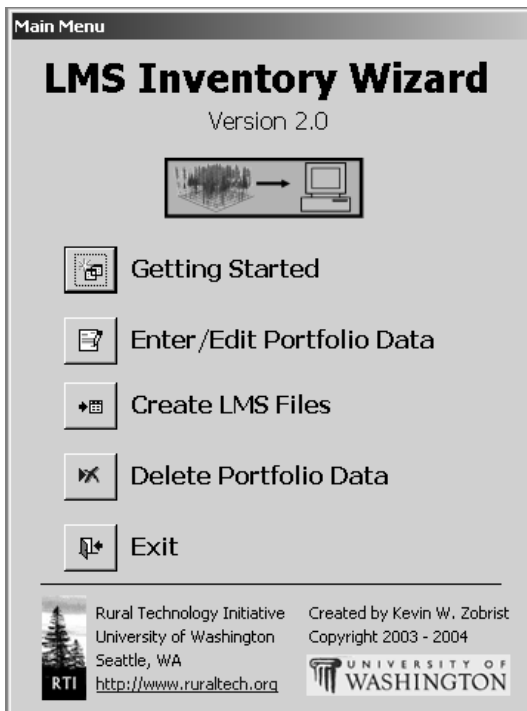
Many users will be pleased to know that Microsoft Access Runtime components can now be installed along with the Inventory Wizard. Previously, Access 2000 or later was

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required for the Inventory Wizard to work, which was a significant system limitation for many users. While the runtime components may not work for all computer configurations, it will allow significantly more users to take advantage of this tool.

The LMS Inventory Wizard 2.0 and the Access Runtime components are available for free download from <http://lms.cfr.washington.edu/lmsinvwizard.html>. They are also included with the current version of LMS. If you are interested in receiving LMS or the Inventory Wizard on CD-ROM, please contact RTI.



A number of enhancements are included in LMS Inventory Wizard 2.0, including a Getting Started section that guides users through the field data requirements before they begin.

- Kevin Zobrist, RTI Staff -

Streaming Video Presentations Now Available Online for:

Innovation for Survival of the Northwest Forest Sector: An Integrated Approach

This one-day workshop was held in November at the WSU-Puyallup campus focusing on innovations in products, management, log marketing and policy. To access, visit www.ruraltech.org/video/innovation/index.asp

Spring Training Opportunities

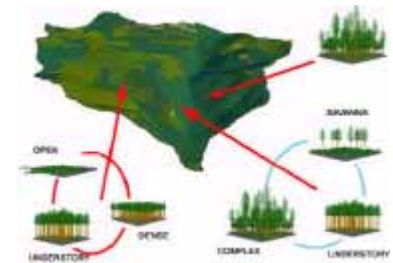
RTI offers affordable training opportunities throughout the year to non-industrial forest landowners, tribal foresters, consultants, rural educators, and other interested parties in the use of geographical positioning systems (GPS), geographical information systems (GIS), and the Landscape Management System (LMS). All training workshops are certified for Continuing Forestry Education credits by the Society of American Foresters.

Fundamental Training and Applications of the LMS Workshop

March 14 - 17, 2004

Pack Forest

Eatonville, WA



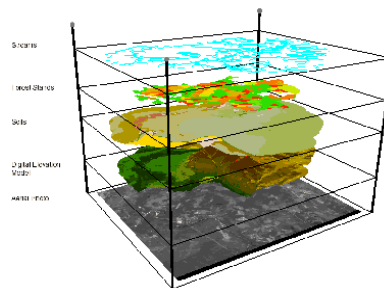
Participants will receive 20 Category 1 Society of American Foresters CFE credits.

Introduction to ArcView and the Use of GIS Workshop

April 11 - 13, 2004

Pack Forest

Eatonville, WA



Upon completion of the course, students are eligible to receive 15.5 Category 1 Society of American Foresters CFE credits and the ESRI "Introduction to ArcView GIS" certificate of course completion.

For more information on these workshops and to register, visit the RTI website:

<http://www.ruraltech.org/training/> or

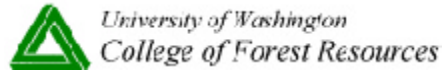
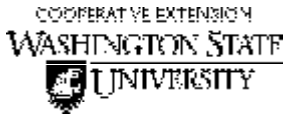
call (206) 543-8684.

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