

**Testimony to the Committee on Agriculture and Natural Resources
Oregon House of Representatives
Public Hearing
January 30, 2007
Salem, Oregon**

Hal Salwasser
Director Oregon Forest Research Laboratory
Oregon State University

Chairman Roblan and Committee members, I am Hal Salwasser, Director of the Oregon Forest Research Laboratory and Dean of the College of Forestry at Oregon State University. I will describe for you the programs of the FRL, its value to Oregonians and our need for an increase in the tax rate. We are in conversations with those who now pay the Harvest Tax and there is no agreement yet on if and/or how much the rate should change. But if it were to change, I'd like you to know some of what it would do for Oregonians.

Forests cover 28 million acres of Oregon, 45% of the state's land area. They define much of the identity of the state. The forest cluster – all entities engaged in conserving and managing forests or creating jobs, wealth, products or services from forest resources -- contributes about \$13 billion and over 85,000 direct jobs to our state's annual economy. It is a mainstay of many rural communities. All Oregonians, urban as well as rural, enjoy the clean water, wood products, fish and wildlife, scenic vistas and a myriad of recreation opportunities that flow from management and conservation of our state's abundant and diverse forested lands. That management requires cutting-edge science, highly skilled managers, and targeted know-how. Keeping Oregon's land in forests requires that the private forestland and forest products sectors be competitive in an aggressive global marketplace—that, in turn, requires innovation in management practices, product manufacturing and business systems.

The Oregon Forest Research Laboratory is where most of the new forest resource science and technology are generated for the state. Our researchers work on nearly every aspect of forest resources: tree genetics, forest soils, tree growth, forest watersheds, water quality, forest wildlife, forests and climate, forest management, forest recreation, timber harvesting, wood products manufacturing, wood products engineering, high-tech wood-based composites, forest policy and economics, and the human dimensions of forest issues.

All of these fields and more are at the heart of the mission of the Oregon Forest Research Laboratory and the College of Forestry at Oregon State University. The FRL is the forest resource research agency of the state and is tightly integrated with the College's teaching and extension outreach missions. Those three missions—teaching, research, and extension outreach—are how the College and the FRL meet our Land-Grant responsibilities to serve all Oregonians, both urban and rural.

Oregon's forests and forest sector infrastructure are vital to sustaining quality of life in Oregon and they are a key competitive advantage for the future of the state in turbulent

economic times and increasing globalization. Whether the focus is on quality of life or economic growth the FRL helps Oregon maximize that competitive advantage.

The Harvest Tax, currently at \$0.67 per thousand board feet (MBF) of timber harvested annually in the state since January 2000, yields about \$2.7 million annually to support faculty and staff salaries and support services to the full diversity of the FRL's research program. I and previous FRL Directors have used the revenues from the Harvest Tax, the FRL appropriation from the state's General Fund, and federal formula funds called McIntire-Stennis to cover salaries, benefits and services for all faculty and staff engaged in every aspect of the research work of the FRL. In addition the FRL appropriation for the last biennium was \$2.72 million per year and the federal funds were \$698 thousand. These pooled funds are allocated to faculty and staff regardless of discipline or focus of their research based on the portion of their appointment dedicated to research, except for the \$0.10/MBF in Harvest Tax funds dedicated to the fish and wildlife research, which generates about \$350 thousand per year for an internal competitive grant program for faculty and graduate students.

The Harvest Tax supported about 14% of annual research funding in the FRL in FY 2006 while the FRL appropriation constituted about 13% of annual research funding. The largest budget source for FRL research in FY 2006 was grants and contracts at 63% of total funding. These are predominantly federal competitive grants and cooperative agreements. Revenues from endowments and gifts, federal formula funds and College Forest Revenue made up 9% of FRL funding in FY 2006.

Regarding the College's and FRL total funding in FY 2006, the Harvest Tax was around 10%, the FRL appropriation was around 10%, state funding for education and extension was about 14% (each at about 7%), and grants and contracts comprised 48%. The remaining 18% of College funding came from endowments and gifts, College Forest revenues federal formula funds and outreach education fees. The direction and focus of our forest resource related research at Oregon State University is dominated by what state and federal granting agencies want done and by what our faculty and their graduate students are interested in working on. The proportionate shares of FRL and College funding have been relatively constant over the past 6 years with a slight proportionate increase in research funded by grants and contracts.

Here are some of the values the FRL currently provides for Oregonians.

Helping to Grow a Sustainable Economy

Oregon grows very high quality, but costly, wood. The state is one of the leading centers in the world for wood product manufacturing. However, to compete in the global wood market, the forest industry must grow high-quality wood more efficiently, reduce costs and become more innovative in developing new products, processes and business systems.

- The FRL, in partnership with the OSU Extension Service, launched the OREGON WOOD INNOVATION CENTER to foster that innovation. This Center was described by *Oregon Business* magazine as one of the top five ideas to fire up the

Oregon economy. The Center has begun operations and is now actively helping entrepreneurs and established firms develop new opportunities for the future.

- **An Innovation Success** ---An Oregon company adopted a new idea developed by an OSU scientist for a wood adhesive that is made from soybeans rather than the customary alternatives derived from oil. The adhesive, which is marketed as a “green” product to home owners, is now utilized by the largest producer of interior plywood in North American who used over 30 million pounds of soy flour to make the adhesive in 2006. Even greater production will be seen in 2007. As a result of this innovation, the company sees new market opportunities.
- **Success**—FRL research on emissions from lumber dry kilns saved small-to medium-sized Oregon lumber producers over \$10 million. Other new product and process innovations are on the horizon!
- The FRL is proposing to establish a Center for Intensive Planted-forest Silviculture to increase forest productivity and economic value through innovation in the woods and forest operations. This new initiative, if funded, will target helping forest landowners be more competitive and enable them to maintain their lands in forests.

Enhancing Oregon’s Quality of Life

Oregon forests play a major role in the quality of life for all Oregonians. Whether a source of clean water and air, diverse plant and animal species, recreation or jobs, our forests are essential to all Oregonians. Keeping our forests healthy and productive, so they can serve our present needs, and also serve the needs of our children and their children is at the heart of sustainable forestry and the mission of the College and FRL.

Healthy and Sustainable Forests

- A new innovative Watersheds Research Cooperative is evaluating the impacts of contemporary forest management on water quality and fish abundance to ensure that forest practices are compatible with clean water essential to public health and to sustaining fish populations in Oregon’s streams.
- Swiss Needle Cast disease is costing Oregonians over \$200 million per year in western Oregon and is threatening the viability of Douglas-fir forests in the Oregon Coast Range. OSU scientists funded by the FRL and landowners are developing solutions to manage this disease and reduce its negative impacts.
- FRL investments of over \$350,000 each year in a Fish and Wildlife Habitat in Managed Forests Research Program provides science to forest managers and policy regulators that guides responsible stewardship of fish and wildlife habitat resources.

Recreation and Tourism

- The College of Forestry is educating the next generation of natural resource managers to run our parks and manage our recreation resources. Over 130 students are enrolled in Recreation Resource Management and Outdoor Recreation Leadership and Tourism Programs in Corvallis and at the OSU – Bend campus.
- FRL researchers are cooperating with state and federal agency partners to help reduce violence and criminal activities on public recreation lands throughout the western U.S. and measure the human health benefits of outdoor recreation. New projects will help Oregon hunters and policy managers cope with a potential outbreak of chronic wasting disease in deer.

Public Safety in Oregon

The environment that we live and work in is an essential ingredient for Oregonians' quality of life. Citizens and businesses alike value safe and healthy housing; clean air for healthy living and good vistas; abundant clean water supplies for drinking, habitat, and recreating; a safe and efficient transportation infrastructure that supports business and public use; and safe workplace environments.

Safe, Green and Sustainable Housing

- FRL scientists have developed formaldehyde-free adhesives for “greener” building products such as kitchen cabinets, furniture, flooring and other products; and, they are providing science-based evaluations of safe wood preservatives.
- Building codes and construction practices to ensure that wood homes are stronger during earthquakes, tornadoes, and other wind events have been improved based on research from the College of Forestry Structural Engineering Laboratory;
- FRL scientists are national leaders in developing tools for architects and designers to evaluate the environmental costs of materials and products through life cycle analysis.

Abundant Clean Water

- FRL scientists are exploring how forested watershed ecosystems work and if there are effects of forest operations on water quality and aquatic habitat. This work will help policy makers balance protection of the environment against excessive regulations that cost jobs and hurt the economy. For example, if unnecessary regulations reduced timber harvest in Oregon by 10%, the impact on the Oregon economy could be a loss of \$ 1.3 billion and 8,500 jobs.

Clean Air

- FRL scientists are helping communities maintain healthy air and visibility of beautiful vistas through research. One study led to effective low cost monitoring systems for dry kiln emissions, a common air quality concern in forest products manufacturing.

- Another study showed that improved utilization of small trees harvested for wood products or bioenergy production could generate significant amounts of renewable energy, reduce smoke and greenhouse gas emissions, add jobs, and reduce costs of fighting wildfires by over \$100 million annually.

Transportation Infrastructure and Safety

- Highway and forest road systems play a key role in the Oregon economy, as well as access to rural homes and recreation. FRL scientists have developed tools to identify high risk areas and improved forest road system design and construction practices that reduce road-related landslides. These have the potential to save Oregonians over \$100 million annually.

Workforce Safety

- A productive work force is key to a globally competitive forest industry. FRL scientists and Extension faculty have partnered with OR-OSHA, state agencies, trade associations, and private employers to refine forestry safety regulations and train new employees, many of whom will come from diverse backgrounds and language skills.
- Technology innovations will aid in worker safety. For example, new synthetic rope technology has been refined for logging and trucking operations as a 90% lighter-weight substitute for steel cable, with promise for reduced injuries and substantial reductions in medical claims.

Global Warming

- Increasing global temperatures are forecast to impact the quality of life in Oregon in many ways. Forests and especially watersheds could be significantly affected with severe implications for urban and rural Oregon. FRL scientists are assessing potential impacts and are developing alternatives for actions to minimize negative impacts of climate change to forest and water ecosystems and to gain significant climate benefits from forests, forest management and forest products. Projections are key to developing contingency plans for manufacturing, agricultural, and tourism industries that are now established based on the current rather than the likely future environment.

FRL/CoF/Extension Proposed Program Enhancements

If the College of Forestry and FRL receive increases in appropriated and/or Harvest Tax funds would we continue delivering current programs in the same way we do today? No. Beginning in 2004, FRL leaders and faculty, in coordination with firms and agencies that depend on the FRL for research and technology development, developed focused initiatives that would eventually need FRL, Harvest Tax, or something like Research Cooperative funding that exceeds what is needed to restore 2000 FRL base capacity. FRL leaders believe these are strategic initiatives that will help forest landowners, forest products industry, and public agencies maintain efficient and competitive operations for

both the short and long term. If these forest sector entities are competitive, Oregon's private forestlands will be more likely to remain in forest uses attracting capital investments in their productivity and health, thus benefiting the public at large through the valuable suite of forest uses and services not currently traded in markets, e.g., quality water, fish and wildlife, recreation, and climate moderation. Additional revenues to the College from any increases in the Harvest Tax rate would be invested as follows:

- A. Future workforce education – 20%.** The FRL and the College of Forestry operate in conjunction to produce some of the most professional and qualified forest resources graduates in the world. (FRL faculty also have teaching in their position descriptions.) Our graduates are the most valuable product we create. New degrees and options have or are now being established in our Forest Engineering and Forest Resources departments. New funds would help keep faculty employed at OSU and help keep them focused on core degree programs rather than being diverted to seek external grants and contracts, i.e., it let's them put additional effort toward classroom activities and student development.
- B. Extension staffing – 20%.** Extension specialists within the FRL are key to transferring research-based knowledge to all facets of the forestry and forest products related industries. Budget reductions in Extension state and federal appropriations have resulted in 3 FTE forestry extension staff vacancies. Additional Harvest Tax funds, if sufficient, would be utilized to fill positions in logging harvest and transport; forestland tax and business management; and help support outreach efforts for the Oregon Wood Innovation Center.
- C. Applied Research – 60%.** The FRL utilized a combination of appropriated, Harvest Tax and gift funds, and collaborated with partners to focus our intellectual talent on areas that were identified as having high economic and/or environmental value to forestland owners, public forest agencies, and wood products manufacturers. These programs now have a foundation and are ready to dedicate scientists to full implementation.
- **Planted forest productivity and value enhancement.** Support faculty salaries and fill director position to provide full-time effort toward a program of maximizing growth through site/condition specific management practices.
 - **Watershed Research Cooperative.** Support faculty salaries and fill director position to ramp up and coordinate the Hinkle Creek, Alsea and Trask studies to the next level, so they are fully integrated.
 - **Fire management and post fire restoration.** Support faculty salaries and efforts in policy and practices needed better understand the economic and environmental risks associated with wildland fires, and establish optimal activities for prevention and restoration.
 - **Biomass energy/bioproducts development.** There is a growing interest in energy alternatives to oil, and an unexplored potential for using forest thinnings as a source of energy and bioproducts. Research is needed to establish economic, engineering and silvicultural links between forest management and alternative energy production and bioproducts.
 - **Oregon Wood Innovation Center.** OWIC is focused on expanding markets for timber producers, and developing new products for manufacturers –

improving competitiveness and providing additional financial returns for both sectors. Funding will increase both the research and outreach efforts of this center.

In addition to the programs ready for full implementation, I propose to increase investment in the research area of **Forests and Climate**. Climate change impacts growing conditions within forest regions, as well as adds stresses to currently healthy forests. Forestland owners, public agencies, and forest products industry need to understand the potential risks from climate change, how to use forests and forest products to ameliorate change caused by other human activities, and have scientists gain knowledge on ways to augment wood products markets to sustain the economic value of forestlands in forest uses.

The College of Forestry at OSU is now celebrating 100 years of service to Oregon. The FRL has been a part of the College for two-thirds of that century. We are at a crossroads for the future of forestry and wood science at OSU. Oregon timberland owners will consider a very significant increase in a unique self-imposed harvest tax as their contribution to a funding partnership with the State Legislature. The 2007-2009 Legislative Session will consider the opportunity to match that increase. Both actions are necessary to maintain Oregon's capacity to respond to future needs.

What is Needed?

An increase in the Harvest Tax of \$0.38 MBF, or total Harvest Tax rate of \$1.05/MBF combined with other revenue increases and other changes we must make to reduce expenditures would allow the College and FRL to retain base delivery capacity and support initial implementation of the above initiatives. Fully funding the initiatives would require additional investments depending on the magnitude of implementation desired by program beneficiaries.

Appendix 1.

Impacts of FRL Cost Increases Since 2000

Harvest Tax Rate and Inflation

If the Harvest Tax rate was indexed to the consumer price index it would be \$0.83/MBF today (based on U.S. Bureau of Labor Statistics Consumer Price Index for Portland-Salem metropolitan area.) We have thus lost \$0.16 or 20% in purchasing power for the tax alone.

State Legislated Salary Increases

Legislated salary increases apply to all FRL scientists regardless of primary funding sources for payroll. The State appropriated additional dollars to the FRL general fund appropriation for mandated salary increases, but corresponding salary increases for Harvest Tax supported scientists were absorbed within the base tax rate of \$0.67/MBF. McIntire-Stennis funds have declined 4%/year due to reduced harvest from federal forests in Oregon and they will continue to decline 4%/year through the end of the decade.

Not considering the above CPI impacts, salary increases of 11% since 2001 represent a needed Harvest Tax increase of \$0.10/MBF (to \$0.77/MBF). To maintain competitiveness for quality faculty, the university also granted retention salary increases beyond those funded by state appropriations of an additional 8% between 2000 and 2007; these too had to come from base funds, i.e., they were not covered by either FRL appropriation or change in Harvest Tax. Combined effects of CPI and salary increases reduced FRL base support by the equivalent of 6.5 faculty FTE and 2.5 in staff assistants.

Harvest Tax Rate and Employee Benefits

Average health package costs per employee have and are projected to increase by 100% between 2001 and 2009. Based on average Harvest Tax revenue over the past six years (\$2.6M/yr) this extra expense to our budgets equates to roughly 1 lost FTE for a full professor, or 1.5 FTE for an assistant professor who would have otherwise been supported through Harvest Tax revenues.

State imposed increases for retirement, unemployment insurance, and accident insurance have also increased payroll expenses by an estimated 5% for the period FY 2001–FY 2009. Absorbing this expense within the Harvest Tax revenue equates to additional lost FTE of 1 – 1.5.

Combined Impacts of CPI and Compensation Changes to Funding for FRL

Adding the combined impacts of CPI and employee salary and benefit package increases not funded by appropriations or increased Harvest Tax the FRL has lost and will lose by 2009 the equivalent of 9.5 FTE in mission oriented faculty research capacity plus 2.5 FTE in program assistants. These are positions that were occupied by researchers in

2000 but will no longer be filled by 2009. Approximately half of them are not filled as of this date already. Not filling vacancies created by retirements, promotions or moves has been the strategy to date. FRL needs an additional \$2.5 million/year in combined FRL appropriation and Harvest Tax to retain current mission-oriented research delivery capacity and restore to 2000 levels. This would not address increases of an additional \$1 million needed to restore classroom teaching capacity, an Education and General budget line item handled through OUS.

In planning our most conservative future scenario, assuming there will be no increases in revenues beyond those proposed in the Governor's Recommended Budget for the 2007-2009 biennium, we are currently identifying program and personnel reductions of up to \$3.5 million per year, not including the Forestry Extension program, to be in effect by the close of the biennium. This is around 30% of our current capacity to deliver forest resource related education and research. Our most optimistic scenario has us balancing future budgets through a combination of expenditure reductions, administrative reorganization, and revenue increases.

Appendix 2.

Oregon's Forest Research Laboratory and Forest Harvest Tax History

- In 1941, the Oregon Legislature initiated a forestry research program, administered through the Oregon State Board of Forestry, in cooperation with the (then) School of Forestry at (then) Oregon State College (OSC). Research activities were focused at OSC. The enabling legislation called for the creation of two Advisory Committees, one for Forest Products and one for Forestry. These initial committees focused more on the technical review of individual research projects, and not as a research policy advisory body.
- In 1945, Oregon's Forest Products Laboratory was created at OSC and Dean Paul Dunn was named as Director. The Oregon Board of Forestry continued as the research policy-making body.
- In 1947, the Timber Harvest Tax Act was passed by the Oregon Legislature, setting aside revenue generated by a tax on the harvest of timber in the state for research in both forestry and forest products. At this time also, a Forest Lands Research Program was set up in the Oregon Department of Forestry (ODF) with divisions of *forest management, regeneration, and protection*.
- In 1954, the Oregon State College Forest Experiment Station was established by the Board of Higher Education as a sub-unit of the Agricultural Experiment Station (AES) and located on the OSC campus in new facilities at 30th and Western in Corvallis. That building, initially designated as the *Oregon Forest Research Center*, was soon occupied by the existing campus Forest Products staff and also by the Board of Forestry's Forest Lands Research group that moved down from Salem.
- The research programs, finances, and facilities of the Oregon Forest Research Center were transferred to the State Board of Higher Education (from the Forest Protection and Conservation Committee) in 1961 and the Board of Higher Education established two advisory committees, one for forest management and one for forest products. The building at 30th and Western was re-named the **Forest Research Laboratory** and it became part of the Forest Research Division of the Oregon Agricultural Experiment Station (AES). The administrator of that Division was appointed an Associate Director of the AES and reported to the Dean, School of Forestry.
- The FRL was removed fiscally and programmatically from the AES in 1965 through ORS 526.225. The Dean of the School of Forestry was also appointed as Director of the Forest Research Laboratory. At that juncture, the faculty of the School of Forestry and the staff of the FRL were still separate units.
- The School and the FRL merged scientific personnel in 1967. Three existing instructional departments of the School and two existing FRL research departments were consolidated into the current Forest Engineering, Forest

Products, and Forest Resources (then Forest Management) Departments. Each of the three new Departments had and still has both teaching and research missions.

- Our records show that 1970 was the first year that Harvest Taxes came to OSU for the FRL. The rate was \$0.06/MBF during 1970-1973, \$0.07 during 1974-1975, and \$0.0925 during 1975-1977. From 1977-1979, the rate was \$0.1795/MBF, \$0.13 during 1979-1981, and \$0.20 from 1981-1983. From 1984-1985 the rate was \$0.23/MBF.
- The existing two (technical) Research Advisory Committees were merged into a single FRL (policy) Advisory Committee in 1985 by ORS 526.225, which also designated the committee's composition and process for appointment by the State Board of Higher Education: 15 members of which "nine members shall be individuals who are actively and principally engaged in timber management on forest lands, harvesting or the processing of forest products, three members shall be individuals who are the heads of state and federal public forestry agencies and three members shall be individuals from the public at large." In 1991, ORS 526.225 was amended to designate that one of the first group of nine members shall be from a small woodland owner's association.
- In 1989, a subcommittee of the FRL Advisory Committee did a study of FRL accomplishments and provided advice on future directions (1990-2000) in anticipation of the change of Directors. The Committee meets with FRL leaders on an annual or more frequent basis as needed and advises the FRL Director on research topics of high interest to them. It does not review individual projects nor spend time on the technical details of particular projects.
- The Harvest Tax rate remained constant from 1986-1991 at \$0.21/MBF. It was \$0.30/MBF during 1991-1993, \$0.40 during 1994-1995 with the \$0.10 rate increase to support research focused on fish and wildlife habitats in managed forests, and \$0.50 during 1996-1997. During 1998-1999 the rate was \$0.55/MBF. The rate was adjusted to \$0.67/MBF in 2000 and the tax rate for FRL support has remained at \$0.67 since that date.