

Forest Resources



Graduate Studies
2007~2008

College of Forestry – Oregon State University – Corvallis, Oregon

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DEPARTMENT OF FOREST RESOURCES

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Corvallis, Oregon
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Email: Forest.Resources@oregonstate.edu

Dear Current or Prospective Graduate Student:

We are delighted that you're interested in Oregon State University's graduate programs in Forest Resources. Forestry is one of the most complex and challenging natural resource professions in the world. Our programs provide graduate students with a solid background in forest resources and competence in a specialized field. This graduate advising guide and our website (<http://www.cof.orst.edu/cof/fr/>) contain information which will help you make the appropriate decision regarding your graduate education.

Now more than ever, skilled forest managers, researchers, and other natural resource professionals are needed. The issues surrounding natural resources are manifold and complex, and they cross state, national, and international boundaries. Future progress solving such problems will require in-depth knowledge and integrative approaches.

To provide needed breadth, as well as depth, our programs are closely tied to other departments within the University. Besides the Departments of Forest Science, Forest Engineering, and Wood Science and Engineering within our College, our students draw heavily on the expertise of faculty in the Departments of Agricultural and Resource Economics, Botany and Plant Pathology, Business, Economics, Fisheries and Wildlife, Geosciences, Political Science, Rangeland Resources, Sociology, and Statistics -- to mention but a few.

Our students consistently find forestry-related employment upon graduation. Many graduates are employed in governmental agencies such as the U.S.D.A. Forest Service, U.S.D.I. National Park Service, Bureau of Land Management, Peace Corps, and state and county forests and parks. Other graduates work as researchers and teaching faculty in colleges and universities, for environmental organizations, and in the forest products industry, while some are self-employed or work for consulting firms.

As a prospective student, we look forward to receiving your application for admission. If a current student, we pledge our support to your continued progress in our academic programs. In either case, if you have questions, please contact us. We will be pleased to help you.

Sincerely,

A handwritten signature in black ink, appearing to read "Darius M. Adams".

Darius M. Adams
Professor and Interim Department Head

A handwritten signature in black ink, appearing to read "John C. Bliss".

John C. Bliss
Professor and Associate Department Head

Table of Contents

This booklet describes the Graduate Programs in the Department of Forest Resources. It is intended as a reference for prospective students and currently enrolled students in the Master of Forestry, Master of Science, and Doctor of Philosophy programs. Further details are available from faculty members, your major professor, Department office staff, or the Department Head.

Students should also become familiar with policies stated in the current Oregon State University Bulletin (Graduate Catalog).

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College of Forestry

Forestry is important to the people of Oregon. Forty-nine percent of the state's 61.4 million acres is forest land, which supports Oregon's most important industry, forest resources. The forests provide wood, water, fish habitat, scenery, recreation, cultural sites, wildlife, rangeland, and other resources which contribute to the state's and region's economy and quality of life.

Mission and Vision

The mission of the College of Forestry, as part of Oregon's Land, Sea, Sun, and Space Grant University, is to educate and engage the next generation of scholars, practitioners, and users of the world's forest resources, to conduct distinctive problem-solving and fundamental research on the nature and use of forests and related resources, and to share our discoveries and knowledge with others.

The Oregon State University College of Forestry combines the warmth of a small school with the rich resources of a comprehensive university. Our students experience a rigorous, demanding, hands-on, professional education. The educational environment is warm and supportive.

College of Forestry students are a friendly, close-knit group. Professors teach their own classes and interact with students daily. They are caring and accessible—students and professors are on a first-name basis.

Oregon State University's College of Forestry has been educating professionals for a century. We've earned a reputation as a world-class center of teaching and learning about forests and related resources. We offer undergraduate and graduate degrees in four departments, Forest Engineering, Forest Resources, Forest Science, and Wood Science and Engineering. We also jointly offer an interdisciplinary undergraduate degree in Natural Resources and several interdisciplinary graduate programs. We operate about 14,000 acres of College Forests, most of it within minutes of campus. Oregon State University is a Land Grant, Sea Grant, Sun Grant, and Space Grant university, an NCAA Division I university, and a member of the Pac-10 athletic conference. It carries the prestigious ranking of a Carnegie Doctoral/Research-Extensive University.

Facilities and Programs

Oregonians have recognized the importance of their forests and have provided outstanding facilities for our College of Forestry. Peavy Hall and Richardson Hall, home of the College, contain modern classrooms, laboratories, self-learning, and media centers. Office space is provided for research and teaching assistants, and most graduate students. Computer facilities include several microcomputer and GIS laboratories, and other facilities dedicated to graduate student research. Editorial services are available for papers co-authored by faculty members.

Research conducted through our Forest Research Laboratory keeps the College in the forefront of new developments in Forestry. Peavy Hall and Richardson Hall are adjacent to the Forestry Sciences Laboratory of the USDA Forest Service Pacific Northwest Research Station. The USDI Forest and Range Ecosystem Science Center of the U.S. Geological Survey also has a campus-based research program that complements and interacts with ours. Nearby is the Environmental Research Laboratory of the U.S. Environmental Protection Agency. Collectively, these facilities and organizations comprise one of the largest concentrations of forestry and natural resources expertise in the world.

The Forestry Extension and Outreach Education programs at OSU are among the finest in the nation. Numerous Extension forestry specialists, county forestry agents, and other faculty provide educational opportunities, forestry information, and advice for practicing foresters, the forest industries, forest landowners, and other audiences.

The College of Forestry has a long tradition of graduate education and research. Our programs provide a solid forestry background and competence in specialized fields. Employers in the forest industries, universities and government agencies recognize this strength.

Research Forests

The College of Forestry has access to two major forest properties dedicated to research and education. The 15,000-acre H.J. Andrews Experimental Forest is in the Willamette National Forest. It is owned by the USDA Forest Service but jointly managed by OSU and the Pacific Northwest Research Station under a National Science Foundation-sponsored long-term agreement. The McDonald-Dunn, Spaulding, Marchel, and Blodgett forest properties, totaling over 13,000 acres, are owned by the College of Forestry as the results of gifts and are managed solely by the College for enhancement of education and research. A growing number of Discovery Forests are managed to demonstrate innovative forestry practices for family forest owners and others.

Departments

Few forestry programs have the breadth represented by the four departments in the College of Forestry at OSU. **Forest Engineering** (timber harvesting and watershed management) and **Wood Science and Engineering** (wood industry management and wood science and technology) offer undergraduate, graduate, extended education, and research programs. **Forest Science** and **Forest Resources** include graduate programs in forest biology, extended education programs, and research programs in the biological sciences. For information about these or other programs, write directly to the department of interest, consult OSU's Bulletins (Graduate Catalog and General Catalog), or visit the College website at <http://www.cof.orst.edu>.

Department of Forest Resources

Programs

Programs of the Department of Forest Resources include three undergraduate curricula, three graduate degrees, extension, continuing education, and research.

Graduate and research programs in Forest Resources focus on Forest Management, Forest Economics, Forest Measurements, Natural Resource Policy and Law, Remote Sensing, GIS, Silviculture, Forest Social Science and Recreation, Forestry/Wildlife, and Natural Resource Education and Extension. Degree programs lead to the Master of Forestry (M.F.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) degrees. Subsequent sections detail the requirements for each degree. The educational programs in Forest Management, Recreation Resource Management, and Master of Forestry leading to the first professional degrees in forestry of the B.S., M.F. and PhD. are accredited by the Society of American Foresters (SAF). SAF is the specialized accrediting agency recognized by the Council of Higher Education Accreditation as the accrediting agency for forestry in the United States.

The Department also participates in the Master of Arts in Interdisciplinary Studies (MAIS) program. See the Graduate Catalog for more details.

Requirements

Applicants without forestry backgrounds are required to achieve competence in forestry and appropriate subjects by taking undergraduate courses, through independent study, or by other means decided by each student's graduate advisory committee.

If employment with a public agency or private forest-related firm is the prime goal, a post-baccalaureate program may be preferred to a graduate degree program. Briefly, the Post-baccalaureate program leads to a B.S. degree in Forest Management or Recreation Resource Management through the completion of all requirements of the undergraduate major not satisfied by work toward a previous degree. Completion of the B.S. degree in Forest Management meets all the requirements for Forester positions at a GS-5 entry level in the federal government, and also qualifies an individual for membership in the Society of American Foresters, the national professional organization. Further details are available from the Department of Forest Resources and the Office of Admissions.

Beyond core requirements, each student has flexibility in designing a curriculum to achieve a desired blend of theory and practice in one or more specialties. All degree programs include coursework in other departments of the University. Thesis research typically draws from these related departments, with their faculty serving on the graduate advisory committees of Forest Resources students. Departments outside the College of Forestry that have especially strong ties with Forest Resources include Agricultural and Resource Economics, Botany and Plant Pathology, Business Administration, Economics, Fisheries and Wildlife, History, Political Science, Rangeland Ecology and Management, Sociology, and Statistics.

The Department of Forest Resources is dedicated to graduating perceptive, socially responsible individuals capable of wisely managing the use, production, protection, and conservation of forest resources and of communicating effectively about such resources. Our graduates become scholars, researchers, and teachers advancing natural resource science, management, and utilization.

For More Information Graduate Program Coordinator
Forest Resources Department
Oregon State University
280 Peavy Hall
Corvallis, OR 97331-5703
Voice: (541) 737-4951

General Information

You can visit Oregon State University and the College of Forestry through the World Wide Web at the following addresses:

Oregon State University	http://oregonstate.edu/
College of Forestry	http://www.cof.orst.edu/
Department of Forest Resources	http://www.cof.orst.edu/cof/fr/
OSU Graduate School	http://oregonstate.edu/Dept/grad_school/
Office of Financial Aid	http://oregonstate.edu/admin/finaid/
Office of Admissions	http://oregonstate.edu/admissions/
University Housing & Dining Services	http://oregonstate.edu/uahds/
Graduate School Guide to Success	http://oregonstate.edu/dept/grad_school/current/success.html

FR Harris Graduate Computer Lab

The Lee Harris Graduate Computer Lab was dedicated in 1992 in memory of Lee Harris, a former student in the College of Forestry at OSU. The purpose of the lab is to provide computer facilities for graduate students in the Department of Forest Resources. Funding for the lab comes from an endowment made by the Gibbet Hill Foundation in memory of Lee Harris. The Harris Lab funds are used to purchase computers and software in the Lab, renew journal subscriptions, partially fund conference expenses for Forest Resources graduate students, and fund a graduate student orientation trip for new and returning students. The administration of the Harris Lab is carried out by a committee which is made up of several Forest Resources graduate students, the Graduate Program Coordinator, and one faculty advisor.

Graduate School Catalog and Success Booklet

The Oregon State University Graduate Student Catalog, published on the Web at <http://catalog.oregonstate.edu>, provides detailed information on University regulations and procedures. The catalog also contains a complete list of graduate level courses offered by all departments at OSU. The Graduate School Student Success Booklet is a compilation of regulations about graduate programs, examinations, and graduation requirements. The Success Booklet is available online from the Graduate School at http://oregonstate.edu/dept/grad_school/curren/successl.htm.

The University and Community

OSU is one of only ten American universities to hold the Land Grant, Sea Grant, Sun Grant, and Space Grant designation and is a Carnegie Doctoral/Research-Extensive university. Approximately 15,800 undergraduate and 3,500 graduate students are enrolled at OSU, including 2,800 U.S. students of color and 900 international students. The university has an institution-wide commitment to diversity and multiculturalism, and provides a welcoming atmosphere with unique professional opportunities. OSU is located in Corvallis, a community of 54,000 people situated in the Willamette Valley between Portland and Eugene. Ocean beaches, lakes, rivers, forests, high desert, and the rugged Cascade and Coast Ranges are all within a 100-mile drive of Corvallis. The surrounding farmland is dedicated to growing a wide variety of crops, and there are extensive recreation areas in local, state and federal parks, including forested lands and rivers. The entire valley corridor enjoys a mild, temperate climate.

Housing

A variety of housing and dining accommodations are available to graduate students. Both one-term and academic-year contracts are available.

All graduate students interested in applying for student family housing owned by the University should contact the Department of Student Housing and Residence programs in advance of the projected need. Other listings and pertinent off-campus housing information to help students obtain local housing are available on the second floor of the Kerr Administration Building adjoining the Student Services area. Postings for off-campus housing can also be found at the following website:
<http://oregonstate.edu/students/offcampus.htm>.

Graduate teaching assistantships as Residence Hall and Cooperative House Directors are sometimes available for those with appropriate experience. There also may be opportunities as Resident Advisers in private living groups. Contact the Department of Student Housing or the Office of the Dean of Students for more information.

For more information:

University Housing and Dining Services
102 Buxton Hall
Corvallis, OR. 97331 USA
Voice: (541) 737-4771 or 1-800-291-4192
Fax: (541) 737-0686
<http://uhds.oregonstate.edu/>
uhds@oregonstate.edu

Office Accommodations

To the extent possible, the Department makes office space available to graduate students. Available desk and file space is assigned by the Departmental office. Computer access is provided in several computer labs. Students may provide their own computers if they wish, but will be charged for network connection.

Admission Procedures

The Admissions Office screens candidates to ensure that the minimum standards of the University are met. The University requires a four-year baccalaureate degree from an accredited college or university, and a combined GPA of 3.00 on the last 90 credit hours of graded undergraduate work on the first baccalaureate degree plus all work completed thereafter; or, a four-year baccalaureate degree from an accredited college or university and a 45-quarter credit hour graduate degree from an accredited university.

All application materials sent to the Office of Admissions will be passed on to the Department. The Graduate Admissions Coordinator screens applications for satisfaction of the Departmental minimum standards and asks a panel of faculty members in the area(s) of the applicant's interests for a detailed review of all materials. **Note:** The Department faculty cannot effectively review an application until all materials have been received.

Notice of acceptance by the Department is sent within two months after applications are completed. Applicants occasionally confuse Letters of Acceptance from the Department, or correspondence from faculty, as equivalent to admission. The "Notice of Admission" issued solely by the Office of Admissions, Oregon State University, is the official University notice to the applicant that all application and review procedures have been completed and that the student may enroll in the term for which he or she has applied.

Application Procedures

Persons seeking admission to any of the Graduate programs of the Department should follow these instructions. Applicants must submit the following to:

Office of Admissions and Orientation
Oregon State University
104 Kerr Administration Building
Corvallis, OR 97331-2106

1. Original and two copies of the paper application form or one electronic version of the graduate application (available at: <http://oregonstate.edu/admissions/index.html>). MAIS applicants must submit an original and five copies. **Note:** Forest Resources accepts MAIS applicants as a minor department only. In section 10 of the application (degree sought), the 4-digit academic major code for the Department of Forest Resources is 3880.
2. A \$50 check or money order in U.S. dollars, payable to Oregon State University. This is a non-refundable application fee. Online applications must be paid by credit card. This fee is subject to change without notice.
3. Three photocopies of all unofficial transcripts (grade slips/reports are not acceptable) of previous academic work, undergraduate and graduate or one sealed official transcript from each institution. MAIS applicants must submit 6 copies of all transcripts. Transcripts must show:
 - a. the last 90 quarter credits (60 semester credits), of graded course work in the first baccalaureate degree; and
 - b. all course work completed after the first baccalaureate degree.

We suggest that a copy of unofficial transcripts be sent directly to the department.

International applicants must provide a certified English translation of their academic transcripts.

If admitted, two official transcripts from the above institutions must be received by the Office of Admissions prior to the student's second term of registration.

4. Three letters of professional reference. References should be from instructors in courses related to your major, employers, or others who can critically evaluate your potential as a graduate student in Forest Resources. An applicant with a Master's degree should include a letter from his/her major professor. **These letters should be submitted directly to the Forest Resources Department, not to Admissions.**
5. Letter or statement of your objectives for graduate study and particular fields of interest in the Department of Forest Resources. Note: Please be as specific as possible. Limit your statement to one or two pages. The Graduate Admissions Committee relies heavily on your letter to determine the appropriate faculty reviewers for your application.
6. Official score slip from the general test of the Graduate Record Examination (GRE). All applicants (except MAIS Degree) must do this. No "advanced test" scores are required. **The OSU institution code is R4586.** All scores are received electronically and transferred into the University BANNER system.
7. International Students Only:
For consideration of your application, collect and mail all application materials in one package. Sending materials by FAX is not acceptable.
 - a. Photocopy of TOEFL score with a minimum score of 550 (paper) or 213 (computer). Note: IELTS may be substituted for TOEFL (see below). TOEFL scores must be no more than 2 years old at the time of registration. (If the applicant is admitted, official TOEFL scores must be received by the Graduate Admissions Office prior to the start of the first term of enrollment.). The TOEFL requirement is waived for students receiving a degree from a U.S. university.
 - b. Financial Certificate with supporting documentation demonstrating sufficient financial resources for the desired academic program. Even if an applicant is acceptable to the Department, a prospective student is required to certify that he/she has adequate funds for proposed studies in this country before a Visa form is prepared and acceptance to the university is definite. This Certificate form is available from the Office of Admissions.

Graduate Record Examination (GRE)

Information regarding the times, locations, and administration of the GRE is available from the World Wide Web at <http://www.gre.org/> or from:

Counseling and Testing 322 Kerr Administration Building Oregon State University Corvallis, OR 97331 Phone: (541) 737-2131	Or	Graduate Record Examinations Educational Testing Service P.O. Box 955 Princeton, New Jersey 08540 Phone: (609) 771-7670
Or		
Phone: (510) 873-8100 (Oakland, California), Fax: (609) 771-7906		

Note: When indicating recipients of scores on your GRE registration form, please specify the Oregon State University institution code (R4586) to ensure that we receive your scores. Take the GRE far enough in advance so your scores will reach the University before application deadlines.

Test of English as a Foreign Language (TOEFL)/International English Language Testing System (IELTS)

International applicants must present proof of proficiency in English by submitting acceptable results (a minimum score of 550 paper or 213 computer test) on the TOEFL or a score of 7.0 or higher on the IELTS. TOEFL or IELTS is required of all applicants whose first language is not English, including those transferring from English-speaking colleges and universities or entering from a U.S. high school. TOEFL/IELTS is not required for applicants who are citizens or permanent residents of the U.S. or who have earned Bachelor's or advanced degrees from a U.S. university. Scores more than 2 years old at the time you plan to enroll will not be accepted.

International students may be required to do a test of spoken English prior to enrollment. If this test indicates that remedial work is needed to successfully complete the requirements of the graduate program, the student may be required to take the needed remedial work at his/her own expense through the English Language Institute.

Application Deadlines

We encourage you to apply early and to follow the application procedures carefully. Forest Resources application deadlines are the same as the Oregon State University deadlines.

Note: Send your application materials as early as possible; the Admissions Office is very busy in January and may not be able to forward necessary documents to the Forest Resources office in a timely manner. You must be admitted to the Department to be considered for fellowships, *so it is highly recommended that you send application materials in early December or before.*

Students within the U.S.: Applications must be received by the Office of Admissions absolutely no later than 45 days prior to the first day of classes. Students are advised to submit all materials as early as possible.

International Students Outside the U.S.: To allow adequate time for students to obtain Visas and make travel arrangements, the following deadlines have been established for International applicants applying from foreign addresses:

April 1 for Fall Term
July 1 for Winter Term
October 1 for Spring Term
January 1 for Summer Term

Delayed Enrollment

Candidates who have been admitted but fail to enroll and who wish to be considered for a subsequent academic year (within one year of the original application), must reactivate their application through the Office of Admissions.

Continuous Enrollment

All graduate students are required to register for a minimum of 3 credits each term with the exception of summer unless using university services during that time. An official, limited Leave of Absence can be granted for those with good cause. Those who do not register for the required minimum must file an Application for Graduate Readmission, which must be approved by the student's Major Professor, Department/Program Chair, and Graduate Dean and acceptance is not guaranteed. If approved, for the first term of reinstatement, the student must register for a minimum of 3 graduate credits for each term of unauthorized break.

Financial Assistance

Qualified applicants requesting a "graduate appointment" on the Application Form are automatically considered for financial assistance. No special application or additional materials are required. Notification of the award of financial aid is included with your departmental letter of acceptance.

Graduate Research Assistantships (GRAs)

Graduate Research Assistantships, the most common form of financial aid, are awarded annually depending on degree, experience, and availability of funds. Some graduate assistants may be members of a Bargaining Unit. For these graduate assistants, terms and conditions of employment for service not required as part of their degree requirements are prescribed in a Collective Bargaining Agreement.

Competition for Assistantships is very intense. There can be no assurance that funding will be available.

An assistant on a half-time appointment normally spends one-third of his or her time on research during the academic year and full-time during the summer. Assistantship appointments also provide tuition remission. The policy includes summer term. For the complete Graduate Tuition Remission Policy, see:

http://oregonstate.edu/dept/grad_school/Graduate_Funding/tuitionremissionhome.htm.

Because Research Assistantships are associated with individual faculty research projects, work is supervised by the faculty Principal Investigator, usually the major professor. Normally, this work serves as the basis for the student's Thesis, although the student may also be required to perform other research tasks. The number of assistantships varies from year to year depending on the research programs of the Department and availability of funds.

Graduate Teaching Assistantships (GTAs)

Graduate Teaching Assistants are usually appointed for an academic term and include Tuition Waiver. Teaching Assistantships are often combined with Research Assistantships. All PhD students are expected to assist in teaching at least one term during their residency to gain experience in this important endeavor.

Fellowships

Priority will be given to applications completed and received by the Graduate Coordinator in the Department of Forest Resources by **January 1** for College fellowship consideration. The College of Forestry administers the Mary McDonald, Schutz, Moltke, Hoener, Alexander, and other Fellowships; requirements vary. All recipients must meet academic standards; Fellowships often accompany a GRA/GTA offer. The Associate Department Head nominates applicants, and the College of Forestry Fellowship Committee considers nominees from all departments and awards the fellowships to the most qualified nominees. In addition, the OSU Graduate School administers numerous fellowships for applicants selected from Department nominees.

A number of University fellowships and scholarships are available with complete information through the Graduate School web site at: http://oregonstate.edu/dept/grad_school/future/fellowscholar.html.

Credit-hours

The Department expects that assistants register for the maximum number of credits. The number of credit-hours allowed each term for graduate research and teaching assistants depends on the appointment level. For example, a 15 percent appointment may register for fifteen credit-hours each term, and a 30 to 50 percent appointment may register for twelve credit-hours. **Graduate assistants must register for and complete a minimum of twelve credit-hours each term of the appointment, and nine credit hours Summer term.** All students enrolling for at least 9 credits are advised to register for their maximum allowable credits each term, using thesis credits to increase their loads to the allowable maximum.

Student Hourly Wages

Some professors may hire graduate students to work on an hourly basis for their research projects. These opportunities are limited by available funds. Total compensation may not exceed the equivalent of a 50 percent Graduate Assistantship and does not include a tuition waiver.

OSU Financial Aid

The University Financial Aid Office administers student loans, grants, College work-study, and scholarship programs, including foreign student tuition scholarships. For more information, contact:

OSU Financial Aid Office
218 Kerr Administration Building
Oregon State University
Corvallis, OR 97331
(541) 737-2241
<http://oregonstate.edu/admin/finaid/>

Graduate Programs in Forest Resources

In response to the varied uses of Oregon's 61.4 million acres of forest, the Department of Forest Resources at Oregon State University offers M.F. programs in Forest Management and Silviculture, and M.S. and Ph.D. programs in Forest Economics, Forest Management, Forest Measurements, Natural Resources Policy and Law, Silviculture, Forest Social Science, Forestry/Wildlife, and Natural Resource Education and Extension. Applicants without forestry backgrounds must achieve competence in forestry through independent study or other means decided by each student's graduate advisory committee.

Master of Forestry

The degree of Master of Forestry is designed for students who want one or more years of formal graduate work and who plan professional careers as line or operational managers with forestry organizations, either public or private. The general M.F. program gives graduate level preparation in the full range of disciplines essential to the wise use and management of forest lands. Some specialization is possible, but the main objective is to improve students' knowledge of and competence in comprehensive forest management. The M.F. is not intended for those students wishing to pursue research interests or a higher degree.

A special option, the M.F. in Silviculture, is offered jointly by the departments of Forest Resources and Forest Science. This area of concentration is intended for students desiring to specialize in prescribing silvicultural practices.

Master of Science

M.S. students may choose from a variety of concentration areas and may, with consent of their advisor and committee, tailor a concentration to meet their individual needs. Following are brief descriptions of the most common concentrations. Details follow in subsequent pages.

Forest Measurements, Remote Sensing, GIS: Students in forest measurements and related disciplines apply statistical methods to forestry problems and develop biologically sound mensuration techniques to assist forest managers. Current research includes forest growth and yield modeling, aerial photogrammetry, remote sensing, Geographic Information Systems, and modern forestry inventory techniques.

Forest Economics and Planning: The Forest Economics and Planning concentrations are designed to provide a strong background in economic theory for students interested in the study of forest products markets, forest policy analysis, natural resource administration, and business.

Natural Resources Policy and Law: Intended for students with interests in the broad policy arena surrounding natural resource management, utilization, and protection. Emphasis is placed on advanced-level work in policy formulation, policy analysis, conflict resolution, and law. The goal of this degree program is to prepare students for professional careers in the broad field of natural resource policy and management.

Forest Social Science: Students explore social aspects of forest resource ownership, management, and policy. Recent research projects include recreation management, social acceptability of forest practices, and attitudes toward biodiversity conservation.

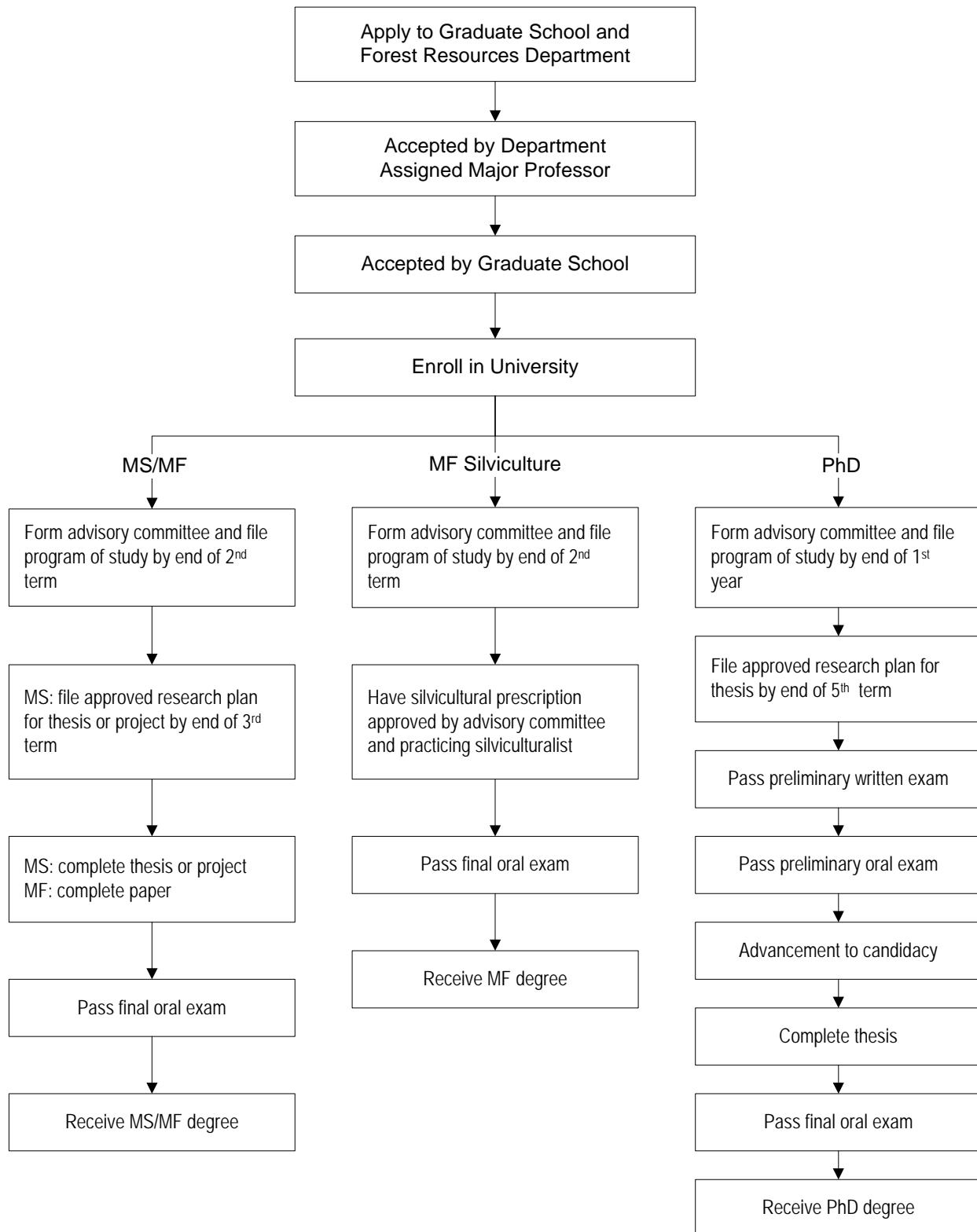
Natural Resources Education and Extension: Intended for students who wish to develop their communication and education skills, this program is for people who want to help bridge the information gap that exists between natural resource experts and a variety of audiences. A substantial background in natural resource management is essential for graduate course work in this field.

Silviculture, Soils, Management: Silviculture students analyze economic tree-growing objectives with sensitivity to physical, biological, social, and environmental forest resource values. Topics for research include forest soils, nutrient cycling, land-use analysis, allocation and planning, forest regeneration, forest protection, ecology and management of shrubs and hardwoods, growth and yield from large-scale application of silviculture techniques, and silviculture/wildlife management.

PhD

The doctoral program in Forest Resources is intended for persons seeking careers in teaching and research. The program emphasizes a strong research specialization while maintaining an understanding and appreciation of broader management and resource-use issues. The thesis and associated research play a dual role by enabling the student to develop in-depth knowledge of specific technical areas, while at the same time gaining experience in conceptualizing, planning, conducting, and reporting a major research project.

Flow Diagram for Graduate Programs in Forest Resources



Master of Forestry (MF)

General Master of Forestry

The degree of Master of Forestry is designed for students who want one or more years of formal graduate work and who plan professional careers with forestry organizations, either public or private. The general M.F. program gives graduate level preparation in the full range of disciplines essential to the wise use and management of forest lands. Specialization is possible, but the main objective is to improve students' knowledge of and competence in comprehensive forest management. The M.F. is not intended for those students wishing to pursue research interests or a higher degree.

Master of Forestry in Silviculture

The M.F. in Silviculture is a program jointly administered by the departments of Forest Resources and Forest Science. It is designed for practicing foresters who wish to upgrade their professional skills and knowledge of Silviculture and Forest Resource Management. The program is aimed at career-oriented persons who wish to expand their capabilities of analyzing silvicultural opportunities in the context of economic production objectives, while maintaining sensitivity to physical, biological, social, cultural, and environmental forest resource values.

The program provides graduate-level education in the full range of disciplines essential for analyzing opportunities, solving problems, and making decisions in silviculture and forest resource management. Graduates from this program should be competent to prepare well-documented silvicultural prescriptions and to supervise their implementation. The program also provides the building blocks for sustained career development in Forest Resource Management. The M.F. in Silviculture is not intended for those students wishing to pursue research interests or a higher degree.

Application may be made through the Department of Forest Resources or the Department of Forest Science.

Accreditation

Both the general M.F. degree and the M.F. in Silviculture degree are accredited by the Society of American Foresters.

Admission to the Program

Applicants for the M.F. degree must meet the standards and requirements of the Graduate School (see the OSU Graduate Catalog) and the Department.

Minimum Educational Background

To pursue this degree program, students must have either:

1. A B.S. in Forestry from an institution accredited by the Society of American Foresters (SAF),
or
2. A Bachelor's or higher degree in Forestry or a related area from an institution accredited by the Society of American Foresters.
3. Have a high scholastic record (a grade point average of 3.0 or higher, on a scale of 1.0-4.0 with 4.0 being highest).

Basic science and mathematics: Chemistry, biology, mathematics, statistics, and computer applications. The objective here is a background that will enable the student to successfully complete future courses.

Liberal arts: Oral and written communication, literature, economics, sociology, political science, philosophy, history, culture, and contemporary perspectives. The objective here is to provide a broad foundation for developing managerial skills and to place Forestry in the proper social context.

Forestry: Forest Biology and Ecology, Forest Measurements, Forest Management, Forest Policy and Administration, and related Natural Resource courses. The objective here is to ensure that students have the coursework equivalent to a B.S. in Forestry from a SAF-accredited institution.

In cases where the student already has a B.S. in Forestry, he or she may proceed directly to graduate-level coursework (Track 1). In cases where the student's background in forestry is limited, the applicant may be admitted on a provisional basis subject to performance and completion of background requirements as certified by the student's advisory committee and the Associate Department Head. It may be necessary to take remedial courses or to pursue a Post Baccalaureate degree in Forestry before or concurrent with embarking on the M.F. degree program (Track 2). Such determinations will be made prior to enrollment in the M.F. program.

Graduate Committee

The Associate Department Head assigns a major professor for each M.F. student when admitted. The major professor, who must be a member of the Graduate Faculty, serves as the student's primary advisor in developing a program of coursework and in other academic matters. During the student's first term, the major professor will help the student establish an advisory committee. For the General M.F. student, the committee must consist of at least two other faculty members, including one more from the College of Forestry. For the Silvicultural M.F. student, the advisory committee must consist of at least two other faculty members, including one each from the Department of Forest Resources and the Department of Forest Science.

Program of Study

The program of study is based on the student's educational background, professional experience, current interests, and future goals. The program is developed, documented, approved, and its progress monitored by the advisory committee and the Associate Department Head. The program must be filed with the Graduate School by the end of the second term of residency.

Graduate Coursework

Graduate coursework will be structured to meet all applicable regulations of the Graduate School. A total of 45 credit hours of graduate-level courses is required. Courses taken to meet the minimum educational background may not be used to meet this requirement. At least 21 credits are to be selected from a series of designated courses within the College of Forestry. As many as 24 credits may be elected from other courses offered by the College or University.

Time Limit

All course work, project credit, and examinations must be completed within a seven-year period. This requirement is strictly enforced.

Required Courses

All graduate students must complete FOR 561, Forest Policy Analysis, and one additional course in the Forest Resources Department taught exclusively at the graduate level, plus two additional College of Forestry graduate courses (exclusive of FS 521). The seminar listed below (FOR 507) should be one in which the students give an oral presentation describing their MF project or paper.

General Master of Forestry

Requirements

ST 511 and 512 should be completed prior to enrolling in FOR 524; ST 531 may be taken concurrently with FOR 524. Knowledge of FORTRAN (or similar language) and computerized data processing is also required for FOR 524.

ST 511, 512	Methods of Data Analysis	4,4
ST 531	Sampling Methods	3
FOR 524	Forest Biometrics	3
FOR 534	Economics of the Forest Resource	3
FOR 561	Forest Policy Analysis	3
FOR 506	Project (Professional Paper)	3
FOR 507	Seminar	1
FS 543	Advanced Silviculture	4

Additional Coursework

The student and advisory committee will select at least 13 credit hours of additional courses to either broaden the student's knowledge of management methods or to specialize in a particular subject area such as Economics, Biometrics, or Silviculture.

Professional Paper

To provide experience in the communication of technical information and in synthesis of material researched from the scientific literature, the student will complete one professional paper. The topic is decided by the advisory committee. The paper should be of sufficient quality and depth to earn, by unanimous agreement of the advisory committee, a grade of B or better in a 3-credit course, FOR 506 Projects.

Final Oral Examination

Given the broad educational objectives of the M.F. program, the oral examination is intended as a comprehensive evaluation of the candidate's ability to integrate knowledge from diverse areas of Forest Management. Consideration of the professional paper may catalyze the discussion, but because it is not designed to be a work of original and innovative research, the topic of the paper usually will not dominate the examination.

Work Experience

Because practical experience complements academic education, the student is strongly encouraged to work at least one summer in forestry or for a forestry-related organization while earning the M.F. degree, if such experience was not obtained previously.

Master of Forestry in Silviculture

Requirements

Silviculture and Related Courses

FOR 534	Economics of the Forest Resource	3
FS 543	Advanced Silviculture	4

Two of the following courses or their equivalent:

FE 530	Watershed Processes	4
FS 545	Advanced Forest Community Ecology	4
FS 646	Ecosystem Analysis and Application	4

Forest Protection and Environmental Sciences

Three of the following courses or their equivalent:

BOT/ENT 515	Forest Insect and Disease Management	5
CE 556	Environmental Assessment	4
CSS 540	Weed Control	4
FE 532	Forest Hydrology	3
FE 535	Water Quality and Forest Land Use	3
FOR 536	Wildland Fire Science & Management	4
FOR 546	Wildland Fire Ecology	4
FS 548	Biology of Invasive Plants	3
FS 553	Forest Wildlife Habitat Management	4
FW 581	Wildlife Ecology	3

Analytical Skills

One of the following courses is recommended:

BA 558	Innovation and Product Management	4
BA 571	Information Management	3
FOR 521	Advanced GIS Applications in Forestry	3
FOR 524	Forest Biometrics	3
FOR 525	Forest Modeling	3
FS 521	Natural Resource Research Planning	2
FS 523	Natural Resource Data Analysis	4
ST 511, 512, 513	Methods of Data Analysis	4,4,4
ST 521, 522	Intro. to Mathematical Statistics	4,4
ST 531	Sampling Methods	3
ST 551, 552, 553	Statistical Methods	4,4,4

Communication and Integrative Skills

FOR 507	Seminars	2
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Practicum: A written silvicultural prescription for a forest management situation is required.

FOR 506	Special Project: Silvicultural Prescription	7
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Business Management or Social Science Options

The Business Management Option is designed for students with an interest in legal, financial, and managerial aspects of forest business enterprises. The Social Sciences Option is intended to serve students with an interest in issue management and policy development in the context of Forest Resource Management. Three courses, or courses pertaining to similar topics, in either of the two options listed below are recommended:

Business Management Option

BA 536	Financial Risk Management	4
BA 550	Organizational Management	3
BA 562	Managing Projects	3
BA 571	Information Management	3
FOR 557	Techniques for Forest Resource Analysis	4
PSY 596	Industrial and Occupational Psychology	3

Social Sciences Option

AREC 550	Environmental Economics	3
ECON 539	Public Policy Analysis	4
FOR 532	Economics of Recreation Resources	4
FOR 537	Valuation of Non-Market Resources	3
FOR 551	History & Cultural Aspects of Recreation	4
FOR 544	Ecological Aspects of Park Management	3
FOR 558	Concepts of Forest Recreation Planning and Management	3
FOR 559	Forest Resource Planning and Decision Making	4
FOR 593	Environmental Interpretation	4
HSTS 513	History of Science	3
HSTS 521	Technology and Change	3
PHL 540	Environmental Ethics	3
PHL 570	Philosophy of Science	3
PS 514	Interest Groups	4
PS 515	Politics and the Media	4
PS 524	Administrative Law	4
PS 572, 573	Public Administration	4,4
PS 574	Bureaucratic Politics	4
PS 575	Environmental Politics & Policy	4
PS 576	Science and Politics	4
SOC 556	Science & Technology in Social Context	3
SOC 575	Rural-Urban Sociology	3

Additional Coursework

The student and advisory committee will select at least 13 credit hours of additional courses to either broaden the student's knowledge of management methods or to specialize in a particular subject area such as Economics, Biometrics, or Silviculture.

Special Project - Silvicultural Prescription

To provide experience in the communication of technical information and in synthesis of material researched from the scientific literature, the student will complete one professional paper. The topic is decided by the advisory committee. The paper should be of sufficient quality and depth to earn, by unanimous agreement of the advisory committee, a grade of B or better in a 3-credit course, FOR 506 Projects.

Final Oral Examination

Given the broad educational objectives of the M.F. program, the oral examination is intended as a comprehensive evaluation of the candidate's ability to integrate knowledge from diverse areas of Forest Management. Consideration of the professional paper may catalyze the discussion, but because it is not designed to be a work of original and innovative research, the topic of the paper usually will not dominate the examination.

Work Experience

Because practical experience complements academic education, the student is strongly encouraged to work at least one summer in forestry or for a forestry-related organization while earning the M.F. degree, if such experience was not obtained previously.

Master of Science (MS, General)

The Master of Science in Forest Resources degree is appropriate for students who want two or more years of formal graduate work and who wish to develop a limited research specialization. Designed primarily for persons pursuing careers in research or teaching, the general M.S. program can be either a first step toward a doctorate or a terminal degree. The program provides an opportunity for independent research to be reported in a formal Master's Thesis. Areas of concentration for thesis research include: Forest Management, Forest Economics, Forest Policy and Law, Forest Biometrics/Modeling, Forest Social Science, Forestry/Wildlife, Silviculture, and Remote Sensing and GIS (Geographic Information Systems).

Admission to the Program

An applicant for the M.S. degree must meet requirements of the Graduate School (see OSU Graduate Catalog) in addition to those of the Department. An applicant generally must hold a Bachelor's degree in Forestry or a related area from an institution accredited by the Society of American Foresters and have a high scholastic record (a grade point average of at least 3.00). In some cases an applicant who does not meet these requirements may be provisionally admitted when, in the opinion of the Graduate Admissions Committee and Department Head, his or her accomplishments indicate high potential for success as an M.S. candidate.

Graduate Committee

A major professor will be assigned by the Associate Department Head to each student when admitted. The major professor serves as the student's primary advisor in developing a program of coursework, in selecting a thesis topic, and in other academic matters. An advisory committee will be selected jointly by the student and major professor. It will consist of two members of the Graduate Faculty of Forest Resources (one being the student's major professor), one member of the Graduate Faculty from each declared minor department if applicable, and a Graduate Council Representative (appointed by the Graduate School) if the student is writing a thesis. At least one member of the committee (in addition to the Graduate School representative) should be from a department outside the College of Forestry.

Time Limit for Master's Degree

All course work, thesis, and examinations must be completed within a seven-year period. This requirement is strictly enforced.

Thesis and Language Requirements

The Graduate School prescribes the form of the thesis, as well as the timing and nature of the final oral examination. The M.S. program has no foreign language requirement unless the student's advisory committee stipulates otherwise.

Program of Study

Before completing 18 hours of graduate credit, usually before the end of their second term of residency, the student must select an area of concentration, develop a program of study, and submit it to the advisory committee, Department Head, and Graduate School for approval.

Each area of concentration has background requirements that must be completed either with acceptable courses taken for a prior degree or with additional courses while enrolled as an M.S. candidate at OSU. A total of 45 graduate credit hours (500 level or greater) are required to complete the M.S. degree. Courses taken to meet the minimum educational background may not be used to meet this requirement.

Graduate Core

All graduate students in Forest Resources must 1) complete required graduate core courses, and, 2) meet the requirements of one Forest Resources concentration. The required graduate core courses are as follows:

- FOR 561 (Forest Policy Analysis).
- One additional course in the Forest Resources Department taught exclusively at the graduate level.
- Two additional College of Forestry graduate courses (exclusive of FS 521).
- At least one of the credits earned in the seminar requirements listed in the concentrations below (FOR 507) should be one in which the student gives an oral presentation describing their thesis.

Forest Resources Concentrations

Students may select from a variety of existing Forest Resources concentrations. Examples of M.S. programs in various concentrations are described below. **NOTE:** These are examples only; programs may vary as approved by the student's advisory committee and the Department Head. Students may, under the direction of their Major Professor, and with the approval of their advisory committee and the Department Head, design a concentration to fit their individual needs.

Forest Biometrics/Modeling Concentration

The specialization of Forest Biometrics/Modeling develops the statistical, mathematical and associated computer software tools needed to collect and/or project the basic data needed to make intelligent management decisions. These tools include the application of sampling techniques to estimate static data from inventories of stands or forests, and the application of regression techniques to estimate dynamic data from models of the tree or stand.

Minimum Educational Background

FOR 321	Forest Mensuration	5
FOR 322	Forest Models	3
FOR 443	Silvicultural Practices	4
MTH 251, 252	Calculus	4,4
MTH 253	Infinite Series and Sequences	4
ST 351, 352	Introduction to Statistical Methods	4,4

Example Program Requirements

FOR 503	Thesis	8
FOR 507	Seminar	1,1
FOR 524	Forest Biometrics	3
FOR 525	Forest Modeling	3
FOR 561	Forest Policy Analysis	3
FS 521	Natural Resource Research Planning	2
FS 543	Advanced Silviculture	4
ST 521, 522	Introduction to Mathematical Statistics	4,4
ST 551, 552, 553	Statistical Methods	4,4,4

Forest Management Concentration

Minimum Educational Background

FOR 322	Forest Models	3
FOR 330, 331	Forest Resource Economics	4,4
FOR 341	Forest Ecology	4
FOR 442, 443	Silviculture Reforestation, Silvicultural Practices	4,4

Program Requirements

FOR 503	Thesis	6-12
FOR 507	Seminar	2
FOR 534	Economics of the Forest Resource	3
FOR 561	Forest Policy Analysis	3
FS 521	Natural Resource Research Planning	2
ST 551, 552	Statistical Methods	4,4

Additional Coursework

Approximately 13-19 graduate level credits in one or two related basic disciplines or resource management areas are required; applicable disciplines include Economics, Biometrics, Photogrammetry and Interpretation, Modeling, Remote Sensing/Geographic Information Systems (GIS), Operations Research, Management Science, Social Science, Silviculture, Policy, and Biology/Ecology. Resource Management areas include Forest, Range, and Wildlife Management.

Forest Economics Concentration

The Department of Forest Resources collaborates with the Department of Agricultural and Resource Economics and the Department of Economics in a University-level graduate program in Economics to offer high quality courses in economic theory, econometrics, and natural resource and environmental economics. The Economics degrees and courses are available to economics graduate students in all three departments.

Minimum Educational Background

Intermediate-level courses in microeconomic and macroeconomic theory (ECON 311, 312, 315 or equivalents), upper-division statistics or econometrics (ECON 424, STAT 421 or equivalents), calculus (MTH 251 or equivalent), mathematical economics (ECON 329 or equivalent). Applicants who do not hold a bachelor's degree in forestry will be required to complete undergraduate coursework in forest models, forest ecology, silviculture, and forest economics and analysis.

Example Program Requirements

AREC 512, 513	Microeconomic Theory	4,4
AREC 523, 525, 526	Econometrics	4,4,4
ECON 515	Macroeconomic Theory	4
FOR 534	Economics of the Forest Resource	3

Additional courses to be selected from:

AREC 550	Environmental Economics	3
AREC 551	Natural Resource Economics	3
FE 640	Special Topics in Forest Engineering	3
FOR 535	Markets and Prices in the Forest Sector	3
FOR 537	Valuation of Non-Market Resources	3

Departmental requirements as listed above (thesis, seminar, forest policy, research methods. Statistics requirement is met by econometrics courses).

Silviculture Concentration

Minimum Educational Background

BOT/ENT 415	Forest Insect and Disease Management	5
CSS 305, 306	Soils	4,1
FOR 220	Aerial Photo Interpretation and Measurements	4
FOR 341	Forest Ecology	4
FOR 442, 443	Silviculture	4,4
ST 351	Statistics	4

Program Requirements

FOR 503	Thesis	6-12
FOR 507	Seminar	2
FOR 534	Economics of the Forest Resource	3
FS 543	Advanced Silviculture	4
ST 551, 552	Statistical Methods	4,4

Additional Course Work

Approximately 20 hours of graduate level courses selected from the list below or from Botany, Soils, Geography, or Statistics Departments

FE 530	Watershed Processes	4
FE 535	Water Quality and Forest Land Use	3
FOR 524	Forest Biometrics	3
FOR 525	Forest Modeling	3
FOR 536	Wildland Fire Science & Management	4
FOR 546	Wildland Fire Ecology	4
FS 523	Natural Resource Data Analysis	4
FS 545	Advanced Forest Community Ecology	4
FS 553	Forest Wildlife Habitat Management	4
FS 561	Physiology of Woody Plants	3

Forest Social Science Concentration

The Master of Science in Forest Resources with a concentration in Forest Social Science is designed for students wishing to explore linkages between human society and the forest resources upon which it is dependent. Students in this concentration must develop proficiency in the following areas: 1) Social theory relevant to the student's research, 2) Research methods appropriate to the research, 3) Forestry, to ensure an adequate grounding in the field, and, 4) Other coursework relevant to the student's particular research topic. Within the framework of these 4 areas, and with guidance from the major professor and graduate committee, students have considerable flexibility in designing their curriculum to meet their needs. A total of 45 credit hours are required including 6-10 thesis credits. Minimum educational background is determined on an individual basis; post-baccalaureate coursework may be needed to prepare some students for entry into the program. Following are examples of courses in each of the 4 proficiency areas:

Example courses (Note: These courses are illustrative only - actual courses taken will be determined through consultation with each student's major professor and graduate committee):

Social Theory (minimum 6 credits):

ANTH 575	Theory of Culture	3
ANTH 577	Cultural Ecology	3
COMM 540	Theories of Conflict & Conflict Management	3
PHL 570	Philosophy of Science	3
PS 576	Science and Politics	4
SOC 513	Sociological Theory	3

Research Methods (minimum 9 credits):

ANTH 591	Ethnographic Methods	1-3
FOR 522	Research Methods in Social Science	4
FOR 523	Quantitative Analysis in Social Science	4
FS 521	Natural Resource Research Planning	2
GEO 553	Resource Evaluation Methods	3
SOC 519	Applied Research Methods	3
ST 511, 512	Methods of Data Analysis	4,4

Forestry Foundation (minimum 8 credits):

FE 530	Watershed Processes	4
FOR 534	Economics of the Forest Resource	3
FOR 537	Valuation of Non-Market Resources	3
FOR 561	Forest Policy Analysis	3
FS 543	Advanced Silviculture	4
FS 553	Forest Wildlife Habitat Management	4
FW 536	Wildland Fire Science	3

Example Topical Areas:

Forest Policy:

FOR 561	Forest Policy Analysis	3
FOR 562	Natural Resource Policy & Law	3
FOR 564	Private Forests in Society	4
GEO 552	Principles & Practices of Rural and Resource Planning	3
PS 574	Natural Resource Policy and Bureaucratic Politics	4

Forest Recreation:

BA 592	Consumer Behavior	4
FOR 507	Seminar	1-16
FOR 537	Valuation of Non-Market Resources	3
FOR 551	History and Cultural Aspects of Recreation	4
FOR 553	Nature Based Tourism	3
FOR 558	Concepts of Forest Recreation Planning & Management	4
FOR 593	Environmental Interpretation	4

Forestry/Wildlife Concentration

This concentration is designed for students interested in topics that intersect forestry and wildlife science as an interdisciplinary approach to attaining sustainability of both forest and wildlife resources. Additional coursework in forestry, statistics, spatial analysis, and/or the biological sciences may be suggested.

Example Program Requirements

FOR 503	Thesis	6
FOR 507	Seminar	1
FOR 521	Advanced GIS Applications in Forestry	3
FOR 561	Forest Policy Analysis	3
FS 521	Natural Resource Research Planning	2
FS 553	Forest Wildlife Habitat Management	4
FW 551	Avian Conservation and Management	5
FW 558	Management of Big Game Animals	4
FW 563	Conservation Biology of Wildlife	3
FW 581	Wildlife Ecology	3
GEO 546	Advanced Landscape Ecology	3
PHL 543	World Views and Environmental Values	3
RNG 550	Landscape Ecology and Analysis	3
ST 511, 512	Methods of Data Analysis	8
Additional Seminar		1

Remote Sensing, GIS, and Landscape Ecology Concentration

Example Program Requirements

FOR 503	Thesis	6-12
FOR 507	Seminar	2
FOR 521	Advanced GIS Applications in Forestry	3
FOR 536	Wildland Fire Science & Management	4
FOR 546	Wildland Fire Ecology	4
FS 521	Natural Resource Research Planning	2
FS 553	Forest Wildlife Habitat Management	4
GEO 546	Advanced Landscape Ecology	3
GEO 565	Geographic Information Systems and Science	3
RNG 550	Landscape Ecology and Analysis	3
ST 511, 512	Methods of Data Analysis	4,4

Additional Coursework

Some additional graduate level credits in one or two related areas, including aerial photo interpretation, image processing, ecology, wildland fire, statistics, wildlife, forest management, or forest science.

MS, Natural Resource Education and Extension (NREE)

The Master of Science in Forest Resources with a concentration in Natural Resource Education and Extension is intended for people who want to help bridge the information gap that exists between natural resource experts and a variety of client groups, ranging from resource managers to members of the general public. This degree program is intended primarily for people who already possess a Bachelor's degree in Natural Resources (especially land-based resources such as Forestry, Wildlife, and Range) and who wish to further develop their communication and education skills; however, others are welcome to apply if they are willing to develop a sufficient background in the technical aspects of land-based natural resource management. Further, the program is aimed primarily at those who wish to educate adults, although those primarily interested in younger audiences are encouraged to explore options with interested faculty. Graduates of this program might well find themselves working as educators in the Extension Service, as Public Affairs officers in governmental agencies or private organizations, as Education Specialists for arboreta or other natural resource education centers, or as liaisons working between policy makers and the public.

Before completing the MS in Natural Resource Education and Extension, students will be expected to understand the fundamental techniques, concepts, issues, and philosophies associated with the management of forests and other land-based natural resources. A minimum set of undergraduate courses that addresses this requirement is described below under "Minimum Educational Background." However, additional courses may be required depending on the student's career goals. Further, students will be expected to develop knowledge and skills in two separate areas at the graduate level: 1) Land-based natural resource management and, 2) Education and communications. Course requirements are described below under Graduate Program Requirements.

The M.S. in Natural Resource Education and Extension includes two options for the final project:

Thesis: Normally takes two years to complete and includes original research into some aspect of the education or communication process as it applies to natural resources.

Non-thesis: Normally takes two years to complete and includes a final project in which the student designs, executes, and describes an educational or communication project aimed at a specific natural resource problem or issue.

Admission to the Program

A Bachelor's degree in any field is acceptable for admission to the program. However, a substantial background in Natural Resource Management is essential for graduate course work in this field (see Minimum Educational Background). Students entering the program without this background, or wishing to specialize in fields that require detailed knowledge in fundamental skill areas (e.g., Extension), may require additional time to complete the degree.

Minimum Educational Background

To be effective, a natural resource educator must understand the fundamental terms, concepts, techniques, and philosophies associated with the management of forests and other natural resources. Before completing the M.S. in Natural Resource Education and Extension, each student must develop a background equivalent to the following list (substitutions may be made on a case-by-case basis, subject to approval by the student's advisory committee). Most of these courses are undergraduate in nature and will not satisfy the Graduate Program Requirements.

<u>Credits</u>	<u>Topic</u>
3	General Ecology (e.g., forest, wildlife, range)
3	Management of Natural Systems (manipulation of biological systems to accomplish human objectives – e.g., silviculture, range management, wildlife management)
3	Natural Resource Economics (e.g., forest, recreation, range, agriculture)
3	Forest or Natural Resource Policy
3	Natural Resource Measurements (e.g., forest, range, wildlife, recreation)
3	Resource Protection (e.g., insects, disease, fire, watershed)

Program of Study

Before completing 18 hours of graduate credit (usually before the end of the second term of residency), the student must develop a program of study and submit it to his or her major professor and advisory committee, Department Head, and Graduate School for approval. A minimum of 45 graduate credit hours (500 level or greater) is required to complete the M.S. in Natural Resource Education and Extension. Courses taken to meet the Minimum Educational Background may not be used to meet this requirement.

Graduate Program Requirements

The intent of this requirement is two-fold: 1) To ensure that graduates understand the fundamental concepts, principles, and techniques associated with the management of forests and other land-based natural resources and, 2) To ensure that graduates understand the fundamental concepts, principles, and techniques associated with design and delivery of effective educational programs. Students who select this graduate program are likely to have diverse career interests that require significantly different types of academic preparation. In addition, they may enter the program with dramatically different educational backgrounds. Therefore, each student's graduate coursework must be carefully planned with the student's major professor and advisory committee. It is entirely possible that two students with diverse career interests will complete this degree program with dramatically different sets of courses. For example, students interested in Forestry Extension might need stronger backgrounds in the fundamental technical skills of forestry than students interested in being education specialists for an urban arboretum, and students interested in public relations might need stronger backgrounds in mass media communications than students interested in community college education. With these broad goals in mind, each student must successfully complete the following graduate-level courses (or substitutes approved by the student's advisory committee), in addition to any courses taken to fulfill the Minimum Educational Background requirements:

Natural Resource Requirement

FOR or FS 507	Seminar*	2
Other	Natural Resource Electives**	12
	Total	14

* At least one of the credits earned in the above seminar requirement should be an oral presentation describing the student's project or thesis.

** Courses numbered 500 or greater. At least 6 credits must come from within the College of Forestry. More than 6 credits may be required of students not possessing an undergraduate degree in forestry.

Education and Communication Requirement

Students must select at least 18 credit hours from the following list of courses. Substitutions may be made, but must be approved in advance by the student's major professor.

Program Design, Development, and Delivery

Select at least 2 courses from this list:

AED 552	Program Organization & Management	3
AED 553	Applied Instructional Strategies	3
AED 554	Micro-Teaching	3
AHE 530	Learning and Workplace Cultures	3
AHE 531	Instructional Systems Design I	3
AHE 532	Instructional Systems Design II	3
AHE 533	Workplace Learning Needs Assessment	3
AHE 539	Designing Training Documentation	3
AHE 547	Instructional Strategies for Adult Learners	3
SED 571	Technology & Pedagogy I	1
SED 572	Technology & Pedagogy II	1

Analytical Techniques/Program Assessment/Program Evaluation

Select at least 2 courses from this list:

AED 533	Rural Survey Methods	3
AHE 562	Introduction to Research Methods in Education	3
FOR 522	Research Methods in Social Science	4
SED 580	Research and Evaluation	3
SED 595	Assessment and Evaluation	3
SOC 515	Understanding Social Research	4
SOC 516	Conducting Social Research	4

Learning Theory/Communication Theory

Select at least 2 courses from this list:

COMM 522	Small Group Communication Theory and Research	3
COMM 526	Intercultural Communication	3
AHE 521	Cross-Cultural Communications	3
AHE 553	Learning Theories	3
AHE 567	Leadership Development & Human Relations	3
AHE 578	Adult Development and Learning	3
PSY 554	Cognitive Development	3
SED 531	Overview of Free Choice Learning	3

Electives (minimum of 7 credits required)

Students are required to take a minimum of 45 credit hours for the M.S. in Natural Resource Education and Extension. In addition, they are encouraged to take elective courses that will better prepare them to meet their career and educational objectives. Although no two programs will be the same, this will leave approximately 7 credits to use as electives. The variety of educational programs conducted by the College of Forestry (e.g., Forestry Extension, Continuing Education, the Forestry Media Center, and the Oregon Forestry Education Program) creates the opportunity for valuable real-world internships directly related to students in this program.

<i>Thesis:</i>	FOR 503	Thesis	6-9 credits
<i>Non-Thesis:</i>	FOR 501	Research (in lieu of thesis)	6-9 credits

Total Credits

Total credits in the program (depending upon student's background and course selection):

<i>Thesis:</i>	45-48 credits
<i>Non-Thesis:</i>	45-48 credits

Project Paper for Non-Thesis Option

Each student electing the Non-Thesis option will design an educational or communications project that addresses the needs of a specific audience in the natural resource arena. The topic must be approved by the student's advisory committee and be of sufficient quality and depth to earn a grade of "B" or better for 6-9 credits of FOR 501 (Research).

Time Limit

All course work, the thesis or project, and all examinations must be completed within a seven-year period. This requirement is strictly enforced.

MS, Natural Resource Policy & Law (NRPL)

The Master of Science in Forest Resources with concentration in Natural Resource Policy & Law is intended for students with interests in the broad policy arena surrounding natural resource management, utilization, and protection. Emphasis is placed on advanced-level work in policy formulation, policy analysis, conflict resolution, and law. Students entering this program should have a Bachelor's degree with undergraduate coursework in disciplines pertinent to natural resource management such as ecology, economics, sociology, environmental sciences, communications, and statistics. Prior work experience in the fields of natural resources or public administration is also desirable.

The goal of this degree program is to prepare students for professional careers in the broad field of natural resource policy and management. Students completing this program should have a solid foundation of concepts and principles governing natural resource systems and the role that humans play in administering them. Graduates should be able to critically analyze information, integrate and synthesize policy options and implications, and collaborate and communicate effectively.

The program is non-thesis, but requires an internship (or equivalent experience) and project paper involving some aspect of natural resource policy and law. In addition, a set of prescribed courses, options, and electives must be completed. The program, totaling 45 graduate credits, is achievable in one year, provided a full course load is taken during the academic year and the internship and project paper are completed concurrently during the following summer.

Program Requirements

All students must complete at least four courses at the graduate level in the College of Forestry.

Analytical Methods

One of the following course sequences in Statistical Analysis, Qualitative Analysis or Spatial Analysis must be completed:

Statistical Analysis (select one course from this list):

	ST 511, 512	Methods of Data Analysis	4,4
or	ST 551, 552	Statistical Methods	4,4

Qualitative Analysis:

	SOC 516	Conducting Social Research	3
and	SOC 518	Qualitative Sociology	3
or	SOC 519	Applied Research Methods	3

Spatial Analysis:

	GEO 544	Remote Sensing	3
and	GEO 565	Geographic Information Systems and Science	3
or	GEO 569	Topics in Geographic Techniques	3
or	FOR 521	Advanced GIS Applications in Forestry	3

Law

The following course or its equivalent must be completed:

	FOR 562	Natural Resource Policy and Law	3
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One of the following courses or their equivalent must be completed:

	AREC 532	Environmental Law	4
	AREC 553	Public Land & Resource Law	4
	FOR 563	Environmental Policy & Law Interactions	3
	SOC 548	Law & Society	3

Other graduate courses pertinent to this category may be substituted as approved by the student's graduate committee.

Policy

The following course or its equivalent must be completed:

FOR 561	Forest Policy Analysis	3
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Two of the following courses or their equivalent must be completed:

ANTH 581	Natural Resources and Community Values	3
ECON 539	Public Policy Analysis	4
PHL 540	Environmental Ethics	3
PS 574	Bureaucratic Politics	4
PS 575	Environmental Politics and Policy	4
PS 576	Science and Politics	4

Other courses pertinent to this category may be substituted as approved by the student's graduate committee. Examples include seminars and "Special Topics" courses such as FW 699 – Ecological Policy.

Conflict Management Mediation

One of the following courses or their equivalent must be completed:

ANS 585	Consensus and Natural Resources	3
COMM 512	Topics in Speech Communication	3
COMM 540	Theories of Conflict and Conflict Management	3
COMM 542	Bargaining and Negotiation Processes	3
COMM 544	Third Parties in Dispute Resolution/Mediation	3

Other courses pertinent to this category may be substituted as approved by the student's graduate committee.

Seminar

The seminar listed below (FOR 507) should be one in which the student gives an oral presentation describing their project paper.

FOR 507	Project presentation or equivalent	1
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Internship

Each student will complete a 2-3 month internship in a real-world setting in which natural resource law or policy issues are involved. This requirement may be waived at the discretion of the student's advisory committee if the student already has substantial experience in this area, thereby allowing more electives to be taken.

FOR 510	(TBA) Internship	0-9
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Project Paper

Each student will prepare a paper on a topic concerning an issue involving natural resource policy, planning, or law. The topic must be approved by the advisory committee and the paper must be of sufficient quality and depth to earn, by unanimous agreement of the committee, a grade of "B" or better.

FOR 506	Projects	5
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Electives

Sufficient elective credits (1-15), selected from courses listed above or others approved by the student's advisory committee, must be completed to bring the total graduate credits for the program to a minimum of 45 hours.

Time Limit

Coursework and project must be completed within a seven-year period. This requirement is strictly enforced.

Doctor of Philosophy (PhD)

The Doctoral program in Forest Resources is intended for persons seeking careers in teaching and research. The program emphasizes a strong research specialization while maintaining an understanding and appreciation of broader management and resource-use issues. The thesis and associated research play a dual role by enabling the student to develop in-depth knowledge of specific technical areas, while at the same time gaining experience in conceptualizing, planning, conducting, and reporting a major research project. Specialized areas (fields of concentration) for thesis research include Forest Biometrics, Forest Economics, Forest Modeling, Forest Operations Research/Management Science, Forest Social Science, Forest Recreation, Forestry/Wildlife Remote Sensing and GIS, and Silviculture.

Admission to the Program

Applicants for the Ph.D. degree must meet requirements of the Graduate School (see OSU Graduate Catalog) in addition to those of the Department. An applicant generally must hold a Bachelor's degree in Forestry or a related area from an institution accredited by the Society of American Foresters and have a high scholastic record (a grade point average of 3.00 or higher). Students are encouraged to complete a Master's degree before entering the program. In rare cases an applicant who does not meet these requirements may be provisionally admitted where, in the opinion of the Graduate Admissions Committee and Associate Department Head, his or her accomplishments indicate high potential for success as a Ph.D. candidate.

The Associate Department Head assigns a major professor to each student when admitted, making every effort to accommodate the student's expressed interests within the limitations of faculty work load and research programs.

Program of Study

The cumulative equivalent of one full-time academic year of regular non-blanket coursework (defined as 36 credits) must be included in a Doctoral program.

As soon as possible after the student's arrival at OSU, but within no more than one year, an advisory committee is selected jointly by the major professor and the student. It will consist of FIVE MEMBERS OF THE GRADUATE FACULTY: TWO FROM FOREST RESOURCES (ONE BEING THE MAJOR PROFESSOR), ONE FROM EACH DECLARED MINOR FIELD, AND A GRADUATE COUNCIL REPRESENTATIVE. At least one member should be from a department outside the College of Forestry. The Department Head is a de facto member of all doctoral committees.

During the student's first year of enrollment, the committee and the student will select an area of concentration, develop a program of study, and submit it to the Department Head and Graduate School for approval.

Minimum Educational Background

Each student must demonstrate competence in broad areas of forestry knowledge through the completion of appropriate coursework for a prior degree or while in residence at OSU, as determined by his/her advisory committee. The background courses may be different for each field of concentration. All concentrations require background in Forest Ecology, Silviculture, Forest Policy, Forest Economics, and Statistics.

All graduate students must complete FOR 561, Forest Policy Analysis, and one additional course in the Forest Resources Department taught exclusively at the graduate level, plus two additional College of Forestry graduate courses (exclusive of FS 521).

Competence

In addition, each student's program will be designed to ensure competence in the following areas:

1. Coursework and examinations in the field(s) of concentration,
2. Research methods,
3. Seminar,
4. Breadth requirements.

Research

Statistics: Coursework in general probability theory and statistical inference equivalent at a minimum to ST 511, 512 and one of the following: ST 513, 553, or 555. Social Science students may also choose from SOC 516 or SOC 518. ST 557 (or equivalent) is also required.

Computer Science: Working knowledge of or coursework in programming and computer systems.

Research Methods: Coursework in investigative techniques appropriate to the chosen field(s) of concentration as approved by the advisory committee. This must be in addition to those courses selected to fulfill the Statistics and Computer Science requirements. At the discretion of the committee, these may or may not include a foreign language.

Research Project Planning

Including at a minimum FS 521, Natural Resource Research Planning (or an equivalent course).

Seminar

Each student must complete two credit-hours of seminar and must give at least one seminar on his/her own research while in residence at OSU. Options for completing the seminar requirements are FOR 607, FS 607, or other arrangements approved by the advisory committee.

Breadth Requirements

A Ph.D. program involves a process of concentration in an effort to acquire high levels of skill and competence in relatively narrow areas. In addition, successful application of these skills requires that individuals have or develop some perspective on the place of their work in the broader social and environmental context. Our faculty expect that at a minimum each doctoral candidate should understand who will use his/her work and for what purposes, how these applications might affect society and the natural environment, and what controversies may attend these applications.

Fields of Concentration

Each student in conjunction with his/her committee will specify, at the time of filing a program of study, a dissertation research area, and one or more fields of concentration within that area. This selection will be recorded in a memorandum of understanding between the committee and the student and will be attached to the departmental copy of the program of study in the student's file. It is possible that in some dissertation research areas the faculty will require more than one field of concentration.

Specialization details which follow are sample programs for Ph.D. degrees in Forest Resources. Actual requirements for these areas of concentration are set individually by the student's advisory committee.

REMOTE SENSING, GIS, AND LANDSCAPE ECOLOGY CONCENTRATION

This concentration is designed for students interested in studying forests at the stand, landscape, or global level. The program requires a strong background in methodologies of remote sensing, photogrammetry, statistics, field work, and computer mapping. Additional coursework in forest management and/or the biological sciences may be suggested.

Example Program Requirements

FOR 521	Advanced GIS Applications in Forestry	3
FS 553	Forest Wildlife Habitat Management	4
FW 536	Wildland Fire Science	3
FW 579	Wetlands and Riparian Ecology	3
GEO 546	Advanced Landscape Ecology	3
GEO 565	Geographic Information Systems	3
GEO 566	Digital Image Processing	3
RNG 550	Landscape Ecology and Analysis	3
ST 511, 512, 513	Methods of Data Analysis	4,4,4
Additional coursework (in an area of specialization such as ecology, statistics, wildlife)		5

SILVICULTURE CONCENTRATION

Silviculture is for students with an interest in silviculture, especially as an applied discipline. It provides them with a sound biological basis and a grounding in fundamental areas of forest management. In this program, students prepare themselves for research, problem solving, and management related to forests at the stand or forest level; therefore, courses in both management and biological sciences are required. We recommend that students have several years of forest management experience before beginning this field of study.

Silviculture: Application and analysis of silvicultural systems and prescriptions; analyzing and predicting effects of stand tending and silvicultural treatments on stand growth and development; silviculture-soils interactions.

Program Requirements

Specialization in an area related to silviculture, e.g., plant ecology, soil science, or biometrics, 9-18 hours.

FOR 524	Forest Biometrics	3
FOR 525	Forest Modeling	3
FS 543	Advanced Silviculture	4
FS 545	Advanced Forest Community Ecology	4
FS 553	Forest Wildlife Habitat Management	4
FS 646	Ecosystem Analysis and Application	4

Recommended Courses

FOR 536	Wildland Fire Science & Management	4
FOR 546	Wildland Fire Ecology	4
FS 548	Biology of Invasive Plants	3
FS 561	Physiology of Woody Plants	3

FORESTRY/WILDLIFE CONCENTRATION

This concentration is designed for students interested in topics that intersect forestry and wildlife science as an interdisciplinary approach to attaining sustainability of both forest and wildlife resources as well as entire ecosystems. Additional coursework in forestry, statistics, spatial analysis, and/or the biological sciences may be suggested.

Example Program Requirements

FOR 503	Thesis	36
FOR 507	Seminar	1
FOR 521	Advanced GIS Applications in Forestry	3
FOR 561	Forest Policy Analysis	3
FS 521	Natural Resource Research Planning	2
FS 545	Advanced Forest Community Ecology	4
FS 553	Forest Wildlife Habitat Management	4
FS 646	Ecosystems Analysis and Application	4
FW 536	Wildland Fire Science	3
FW 551	Avian Conservation and Management	5
FW 558	Management of Big Game Animals	4
FW 563	Conservation Biology of Wildlife	3
FW 581	Wildlife Ecology	3
GEO 546	Advanced Landscape Ecology	3
PHL 539	Philosophy of Nature	3
PHL 543	World Views and Environmental Values	3
RNG 550	Landscape Ecology and Analysis	3
ST 511, 512, 513	Methods of Data Analysis	4,4,4
	Additional Seminar	1

Additional coursework may be suggested (in forestry and/or an area of specialization)

ECONOMICS CONCENTRATION

The Department of Forest Resources collaborates with the Department of Agricultural and Resource Economics and the Department of Economics in a University-level graduate program in Economics to offer high quality courses in economic theory, econometrics, and natural resource and environmental economics. The Economics degrees and courses are available to economics graduate students in all three departments. Two degrees are offered – Forestry (forest economics) and Economics.

Example Program Requirements

Written preliminary examinations in microeconomic theory, macroeconomic theory, & quantitative methods.

MS program requirements in Forest Economics			27
ECON 611	Math for Economics		4
ECON 612, 613	Advanced Microeconomic Theory		4,4
ECON 615	Advanced Macroeconomic Theory		4
<i>At least three of the following advanced methods or theory courses (at least one in operations research):</i>			
AREC 651	Advanced Natural Resource Economics		3
AREC 652	Advanced Environmental Economics		3
ECON 625	Advanced Econometrics		3
ECON 627	Applied Micro-Econometrics		4
FE 640	Special Topics: Advanced Heuristic Techniques		3
Any 500 or 600 level	Statistics course		
<i>Additional courses to be selected from:</i>			
FOR 535	Market Structure and Prices in the Forest Sector		3
FOR 537	Valuation of Non-Market Resources		3

Departmental requirements as listed above (thesis, seminar, forest policy, research methods. Statistics requirement is met by econometrics courses.)

FOREST MEASUREMENTS CONCENTRATION

Applying statistical methods to forestry problems and developing biologically sound mensuration techniques to assist forest managers.

Forest Biometrics: Sampling Methods, Statistical Inference, Experimental Design.

Forest Biometrics is designed for students interested in applying statistical methods to forestry-related problems. The recommended program incorporates many useful statistical tools and provides a sound foundation in statistical theory.

Program Requirements

Qualifying examinations in both Statistical Inference & Theory administered by the Dept. of Statistics.

FOR 524	Forest Biometrics		3
FOR 525	Forest Modeling		3
ST 551, 552, 553	Statistical Methods		4,4,4
ST 555	Advanced Experimental Design		3
ST 557	Applied Multivariate Analysis		3
ST 561, 562, 563	Theory of Statistics		3,3,3
ST 565	Time Series and Spatial Statistics		3
ST 573	Ecological Sampling		3
ST 623	Generalized Regression Models I		3
ST 625	Generalized Regression Models II		3
ST 651, 652, 653	Linear Model Theory		3,3,3

Forest Modeling: Stand and tree dynamics, yield, and growth potential.

Forest Modeling is designed for students interested in developing mensurational tools that are biologically sound and that are useful for answering questions faced by forest managers. The recommended program builds strength in available methodologies used to answer these questions.

Program Requirements

Qualifying examinations in both Statistical Inference & Theory administered by the Dept. of Statistics.

BOT 543	Plant Community Ecology	3
FOR 524	Forest Biometrics	3
FOR 525	Forest Modeling	3
FS 543	Advanced Silviculture	4
ST 535	Quantitative Ecology	3
ST 551, 552, 553	Statistical Methods	4,4,4
ST 561, 562, 563	Theory of Statistics	3,3,3
ST 565	Time Series and Spatial Statistics	3
ST 573	Ecological Sampling	3
ST 623	Generalized Regression Models I	3
ST 625	Generalized Regression Models II	3

FOREST OPERATIONS RESEARCH/MANAGEMENT SCIENCE CONCENTRATION

This program is designed to provide a firm foundation for research and practice in the decision sciences as applied to forest management. Subject matter areas include harvest scheduling, economics of stand and forest management, economics of the firm, and related microeconomic fields. Basic coursework is drawn from economics, operations research and statistics.

Program Requirements

Educational Background

Knowledge of the following areas based on previous coursework or experience: linear algebra, single- and multi-variable calculus, mathematical statistics (satisfied by ST 521, 522 or equivalent), and intermediate microeconomics (ECON 311 and 312 or equivalent).

Course Requirements

AREC 507	Introduction to Mathematical Economics	4
AREC 512, 513	Microeconomic Theory I, II	4,4
FE 640	Special Topics: Heuristic Techniques	3
ST 543	Applied Stochastic Models	3
ST 548	Operations Research Methods	3
ST 581	Linear Programming	3
ST 583	Nonlinear Optimization	3
ST 551, 552, 553	Statistical Methods	4,4,4
or ECON 523, 525, 526	Econometrics	4,4,4
or Equivalent		

Additional coursework drawn from the following list or as approved by the student's committee:

ECON 611	Math for Economics	4
ECON 612, 613	Advanced Microeconomic Theory	4,4
ECON 625	Advanced Econometrics	4
ECON 627	Applied Micro-econometrics	4
FOR 535	Markets and Prices in the Forest Sector	3
IE 521, 522	Industrial Systems Optimization I, II	3,3

Plus Departmental requirements as listed above (thesis, seminar, forest policy and research methods).

FOREST SOCIAL SCIENCE CONCENTRATION

The Ph.D. in Forest Resources with a concentration in Forest Social Science aims to provide rigorous training for students pursuing careers in research and teaching in the human and social dimensions of natural resources. Students in this concentration must develop proficiency in the following areas: 1) Social theory relevant to the student's research, 2) Research methods appropriate to the research, 3) Forestry, to ensure an adequate grounding in the field, and, 4) Other coursework relevant to the student's particular research topic. Within the framework of these 4 areas, and with guidance from the major professor and graduate committee, students have considerable flexibility in designing their curriculum to meet their needs. Following are examples of courses in each of the 4 proficiency areas:

Example Courses

Note: These courses are illustrative only - actual courses taken will be determined through consultation with each student's major professor and graduate committee.

Social Theory:

ANTH 575	Theory of Culture	3
ANTH 577	Cultural Ecology	3
COMM 540	Theories of Conflict and Conflict Management	3
PS 576	Science and Politics	4
PHL 570	Philosophy of Science	3
SOC 513	Sociological Theory	3

Research Methods:

ANTH 591	Ethnographic Methods	1-3
FS 521	Natural Resource Research Planning	2
GEO 553	Resource Evaluation Methods	3
SOC 519	Applied Research Methods	3
ST 511, 512	Methods of Data Analysis	4,4

Forestry Foundation:

FE 530	Watershed Processes	4
FOR 534	Economics of the Forest Resource	3
FOR 537	Valuation of Non-Market Resources	3
FOR 561	Forest Policy Analysis	3
FS 543	Advanced Silviculture	4
FS 553	Forest Wildlife Habitat Management	4
FW 536	Wildland Fire Science	3

Example Topical Areas:

Forest Policy:

FOR 561	Forest Policy Analysis	3
FOR 562	Natural Resource Policy and Law	3
FOR 564	Private Forests in Society	4
GEO 552	Principles & Practices of Rural and Resource Planning	3
PS 574	Natural Resource Policy and Bureaucratic Politics	4

Forest Recreation:

BA 592	Consumer Behavior	4
FOR 507	Seminar	1-16
FOR 537	Valuation of Non-Market Resources	3
FOR 551	History and Cultural Aspects of Recreation	4
FOR 553	Nature Based Tourism	3
FOR 558	Concepts of Forest Recreation Planning & Management	3
FOR 593	Environmental Interpretation	4

Satisfaction of this requirement will be judged in part by the student's performance on broad, integrative questions in the preliminary written and oral qualifying examinations. Prior to these examinations, however, it is the responsibility of the student's advisory committee to evaluate the student's breadth of background and understanding and recommend additional work if needed. Additional work may include (but need not be limited to) additional coursework, conduct of or attendance at seminars intended to provide a broadening experience, service as a teaching assistant, and/or organized Readings and Conference. The committee will submit the recommendation in writing to the Department Head and the departmental Graduate Affairs Committee for their review following the meeting to approve a program of study.

Each student will take a Forest Resources preliminary examination prior to advancement to candidacy for the Doctorate degree. The examination is normally taken near the completion of the student's coursework. The examination consists of two parts: written and oral. The purpose of this exam is to provide a comprehensive assessment of the student's competence in the theory, application, and research methods appropriate to the concentration area, and the dissertation topic selected within that area. It should assess the student's general understanding of these subjects as well as determine the student's capability for conducting original research. Demonstration of a general knowledge of the field of forest resources is also expected.

The Departmental preliminary examination is in addition to any "preliminary" or "comprehensive" examinations required in various concentrations such as Economics and Forest Economics (Economic Theory, Quantitative Methods), Forest Biometrics (Statistical inference, Statistical theory), Forest Modeling (Statistical Inference), and Forest Operations Research/Management Science (Operations Research).

Written Preliminary Examination

Successful completion of a Departmental Written Preliminary examination is a prerequisite to taking the comprehensive Oral Preliminary examination. When a student in a PhD area of concentration is ready for a preliminary examination, the major professor will determine the format of the examination, which may include timed sit-down or multi-day take-home examinations, either open- or closed-reference.

Once the examination format is established and specified in writing, the major professor will solicit written questions from the student's committee and other faculty as appropriate. After the exam has been completed, copies of the student's answers will be distributed by the major professor to all faculty contributing to the examination. Each question will be graded by its proposer. The grade categories will be Fail, Marginal Fail, Marginal Pass, Pass Satisfactory, and Pass Excellent. If the student Fails or Marginal Fails any question, then a second opinion on that question will be solicited from a qualified faculty member. Marginal Pass on the sum of the questions posed is deemed the minimum passing grade. Students will have the opportunity to retake the exam once. Results of the examination will be recorded in the student's file.

Oral Comprehensive Preliminary Examination

The Oral Comprehensive Preliminary Examination is conducted by the student's advisory committee. It usually occurs soon after the written exam has been passed, and may cover the same topics as the written exam, or it may extend into other relevant areas. The major goal of the exam is to ensure that the student has a comprehensive grasp of the general field of Forest Resources and is prepared to conduct original research in the chosen area of concentration. The examination must comply with all pertinent rules of the Graduate School, including provisions for scheduling.

The examination should be at least two hours in duration, no more than half of which should be devoted to specific aspects of the prospective Dissertation research. No more than one negative vote is allowed to successfully pass this exam, and it must be passed by the third time unless the Department stipulates fewer re-examinations. The results of this exam will be recorded in the student's file, and successful candidates will be advanced to candidacy for the Doctorate degree.

Thesis and Final Oral Examination

The student and his/her major professor, in cooperation with the advisory committee, will select an appropriate topic for the Thesis research. A formal record of the proposed Thesis, including the Thesis title and a Prospectus or outline, is retained in the student's file. When the student completes the Thesis, a final Oral Examination will be scheduled and conducted in accordance with policies and procedures of the Graduate School. The examination generally concentrates on the thesis research, but may cover other areas as well. When the final examination and Thesis are completed to the satisfaction of the Advisory Committee, and as stipulated by the rules of the Graduate School, the candidate is certified for award of the Ph.D. degree. For the Doctoral degree, there is no time limit on course work but the continuous enrollment policy applies. At least one complete academic term must elapse between the time of the preliminary oral examination and the final oral examination. The final oral exam must be taken within 5 years after the preliminary oral exam. If more than 5 years elapse, the candidate will be required to take another preliminary oral exam.

Faculty and Research Programs

The strength of any graduate program depends on the quality of its faculty. Forest Resources has a continuing commitment to attract and hold distinguished teachers, researchers, and extension specialists. Members of the Graduate Faculty and their areas of teaching and research include:

Forest Measurements, Remote Sensing, GIS

HANN, DAVID W.

Professor

BS, 1968, Oregon State University
MS, 1970, Oregon State University
PhD, 1978, University of Washington

Research Interest: Forest modeling

Current Programs: Development of growth and yield information for major PNW tree species; characterizing the impact of genetic improvement upon the development of Douglas-fir, characterizing the impact of Swiss needle cast upon the development of Douglas-fir, development of sampling methodologies for characterizing complex forest stands.

Courses: FOR 322, Growth and Yield Models
FOR 507, Seminar
FOR 525, Forest Modeling

Selected Publications:

Hann, D.W., D.D. Marshall, and M.L. Hanus. 2006. Reanalysis of the SMC-ORGANON equations for diameter-growth rate, height-growth rate, and mortality rate of Douglas-fir. Forest Research Lab, Oregon State University, Corvallis, Oregon. Research Contribution #49. 24p.

Hann, D.W. and M.L. Hanus. 2004. Evaluation of nonspatial approaches and equation forms used to predict tree crown recession. *Canadian Journal of Forest Research* 34:1993-2003.

Canavan, S.J. and D.W. Hann. 2004. The two-stage method for measurement error characterization. *Forest Science* 50:743-756.

Marshall, D.D., G.P. Johnson, and D.W. Hann. 2003. Crown profile equations for stand-grown western hemlock trees in northwest Oregon. *Canadian Journal of Forest Research* 33:2059-2066.

Hann, D.W., D.D. Marshall, and M.L. Hanus. 2003. Equations for predicting height-to-crown-base, 5-year diameter-growth-rate, 5-year height-growth rate, 5-year mortality rate, and maximum size-density trajectory for Douglas-fir and western hemlock in the coastal region of the Pacific Northwest. Forest Research Lab, Oregon State University, Corvallis, Oregon. Research Contribution #40. 83p.

Hann, D.W. and M.L. Hanus. 2002. Enhanced diameter-growth-rate equations for undamaged and damaged trees in Southwest Oregon. Forest Research Lab, Oregon State University, Corvallis, Oregon. Research Contribution #39. 54p.

Hann, D.W. and M.L. Hanus. 2002. Enhanced height-growth-rate equations for undamaged and damaged trees in Southwest Oregon. Forest Research Lab, Oregon State University, Corvallis, Oregon. Research Contribution #41. 38p.

Hann, D.W. and M.L. Hanus. 2001. Enhanced mortality equations for trees in the mixed conifer zone of Southwest Oregon. Forest Research Lab, Oregon State University, Corvallis, Oregon. Research Contribution #34. 34p.

Bravo, F., D.W. Hann, and D.A. Maguire. 2001. Impact of competitor species composition on predicting diameter growth and survival rates of Douglas-fir trees in Southwest Oregon. *Canadian Journal of Forest Research*.

Hanus, M.L., D.W. Hann, and D.D. Marshall. 2000. Predicting height to crown base for undamaged and damaged trees in Southwest Oregon. Forest Research Lab, Oregon State University, Corvallis, Oregon. Research Contribution #29. 35pp.

Selected Theses:

Hanus, Mark L. 2003. Modeling light competition in the forests of western Oregon. Ph.D.

Canavan, Sean J. 2001. The presence and characterization of measurement error in forestry. Ph.D.

Hanus, Mark L. 1995. Generation of an animation interface for ORGANON. M.S.

Ritchie, Martin W. 1993. Disaggregative and individual-tree growth models in theory and application. Ph.D.

RIPPLE, WILLIAM J.

Professor (See Forestry/Wildlife section)

TEMESGEN, HAILEMARIAM

Assistant Professor

BSc, 1985, Alemaya University of Agriculture

MSc, 1992, Lakehead University

PhD, 1999, University of British Columbia

Research Interests: Forest biometrics and measurement

Current Programs: Developing methods for estimating/updating status, change, and trends; modeling impacts of silvicultural systems, spatial heterogeneity, modeling tree crown attributes and windthrow risk; and developing imputation and sampling techniques to assess, monitor, and analyze forest resources.

Courses: FOR 321, Forest Mensuration
FOR 524, Forest Biometrics

Selected Publications

Temesgen, H., V.J. Monleon, and D.W. Hann. (*in press*). Analysis of nonlinear tree height prediction strategies for Douglas-fir Forests. *Canadian Journal of Forest Research*.

Temesgen, H., Goerndt, M.E., G. Johnson, and D. Adams. (*in press*). The roles of forest measurement and biometrics in the Pacific Northwest USA: status and future needs from the perspective of the Pacific Northwest USA. *Journal of Forestry*.

Younger, N., H. Temesgen, and S. Garber. (*in press*). Taper and volume responses to sulfur treatment in coastal Oregon Douglas-fir stands. *Western Journal of Applied Forestry*.

Temesgen, H., D.W. Hann, and V.J. Monleon. 2007. Regional height-diameter equations for major tree species of southwest Oregon. *Western Journal of Applied Forestry*. 22(3): 213-219.

Temesgen, H., P. Martin, D.A. Maguire, J.C. Tappeiner. 2006. Quantifying effects of different levels of dispersed canopy tree retention on stocking and yield of the regeneration cohort. *Forest Ecology & Management*. 235: 44-53.

Temesgen, H. and A.R. Weiskittel. 2006. Leaf mass per area relationships across light gradients in hybrid spruce crowns. *Trees: Structure & Function*. 20: 522-530.

- Temesgen, H., T. Barrett, and G. Latta. 2005. Cavity Tree Abundance and Stand Characteristics in Western Oregon Forests: Relationships and predictions. *The International Forestry Review* 7(5):35.
- LeMay, V. and H. Temesgen. 2005. Connecting inventory information sources for landscape level analyses. *J. Forest Biometry, Modeling and Information Sciences* 1:37-49.
- LeMay, V. and H. Temesgen. 2005. Comparison of nearest neighbour methods for estimating basal area and stems per ha using aerial auxiliary variables. *Forest Science*.
- Temesgen, H. and S.J. Mitchell. 2005. An individual tree mortality model for South-eastern British Columbia. *Western Journal Applied Forestry* 2:101-109.
- Temesgen, H., V.M. LeMay, and S.J. Mitchell. 2005. Tree crown ratio models for multi-species and multi-layered stands. *Forestry Chronicle*.
- Boisvenue, C., H. Temesgen, and P.L. Marshall. 2004. Selecting a small tree height growth model for mixed-species stands in the Southern Interior of British Columbia, Canada. *Forest Ecology and Management* 202:301-312.
- Temesgen, H. and K.V. Gadow. 2004. Generalized height-diameter models for major tree species in complex stands of interior British Columbia, Canada. *European Journal of Forest Research* 123(1):45-51.
- Badre, T.H., P.L. Marshall, V.M. LeMay, H. Temesgen, and Zumrawi. 2004. Regeneration imputation models for complex stands of Southeastern British Columbia. *Forestry Chronicle* 80(2):271-278.
- Temesgen, H., V. LeMay, and I.R. Cameron. 2003. Bivariate distribution functions for predicting twig leaf area within hybrid spruce crowns. *Canadian Journal of Forest Research* 33:2044-2051.
- Temesgen, H. 2003. Estimating tree-lists from aerial information: a comparison of a parametric and most similar neighbor approaches. *Scandinavian Journal of Forest Research* 18:279-288.
- Temesgen, H. 2003. Evaluation of sampling alternatives to quantify tree leaf area. *Canadian Journal of Forest Research* 33:82-95.
- Temesgen, H., V.M. LeMay, P.L. Marshall, and K. Froese. 2003. Imputing tree-lists from aerial attributes for complex stands of British Columbia. *Forest Ecology and Management* 177:277-285.
- Rowan, C.A., S.J. Mitchell, and H. Temesgen. 2002. Effectiveness of wind firming treatments in Coastal British Columbia. *Forestry* 76:55-65.
- Mitchell, S.J., H. Temesgen, and Y.P. Kulis. 2001. Empirical modeling of cutblock edge windthrow risk on Vancouver Island, Canada, using stand level information. *Forest Ecology and Management* 154:117-130.
- Howard, A.F. and H. Temesgen. 1997. Potential financial returns from alternative silvicultural prescriptions in second-growth stands of Coastal British Columbia. *Canadian Journal of Forest Research* 27:1483-1495.

Forest Economics, Policy & Planning

ADAMS, DARIUS M.

Professor and Interim Department Head

BS, 1966, Humboldt State University

MFS, 1968, Yale University

PhD, 1972, University of California-Berkeley

Research Interests: Forest economics, modeling & analysis of forest products markets, econometrics, economics of forest carbon sequestration, forest policy.

Research Interests: Forest economics, modeling & analysis of forest products markets, econometrics, economics of forest carbon sequestration, forest policy.

Current Programs: Timber assessment market model; forest and agricultural sector market model; Oregon and Washington timber supply models; estimating the impacts of carbon sequestration strategies through tree planting and forest management changes.

Courses: FOR 459, Forest Resources Planning and Decision Making
FOR 533, Economics of Private Forestry in Oregon (alt years)
FOR 535, Markets and Prices in the Forest Sector (alt years)

Selected Journal Publications:

Adams, D. M. and G. S. Latta. 2007. Timber Trends on Private Lands in Western Oregon and Washington: A New Look. *Western Journal of Applied Forestry* 22(1):8-14.

Adams, D. M. and G. S. Latta. 2007. Future Prospects for Private Timber Harvest in Eastern Oregon. *Western Journal of Applied Forestry* 22(3):197-203.

Im, E., D. M. Adams and G. S. Latta. 2007. Potential Impacts of Carbon Taxes on Carbon Flux in western Oregon Private Forests. *Forest Policy and Economics* 9(2007):1006-1017.

Montgomery, C., G. Latta, and D. Adams. 2006. The cost of achieving old-growth forest structure. *Land Economics* 82(2): 240-256.

Adams, D., J. Mills, R. Alig, and R. Haynes. 2005. SOFRA and RPA: Two Views of the Future of Southern Timber Supply. *Southern Journal of Applied Forestry* 29(3): 123-134.

Adams, D. M. and G. S. Latta. 2005. Costs and Regional Impacts of Restoration Thinning Programs on the National Forests in Eastern Oregon. *Canadian Journal of Forest Research* 35(6):1319-1330.

Størdal, S. and D. Adams. 2005. Testing for Variation in the Western Oregon Softwood Log Price Structure. *Canadian Journal of Forest Research* 35(3):713-723.

Adams, D. and G. Latta. 2004. Effects of a Forest Health Thinning Program on Land and Timber Values in Eastern Oregon. *Journal of Forestry* 102(8):9-13.

Alig, R., D. Adams, L. Joyce, and B. Sohngen. 2004. Climate change impacts and adaptation in forestry: Responses by trees and markets. *Choices: The Magazine of Food, Farm and Resource Issues* Fall: 9-11. On-line, see: <http://www.choicesmagazine.org/2004-3/climate/2004-3-07.htm>

Adams, D. and G. Latta. 2004. Effects of a forest health thinning program on land and timber values in Eastern Oregon. *Journal of Forestry* 102(8):9-13.

Helvoigt, T., D.M. Adams, and A. Ayre. 2003. Employment transitions in Oregon's wood products sector during the 1990's. *Journal of Forestry* 101(4):42-46.

Schillinger, R.R., D.M. Adams, G.S. Latta, and A.K. Van Nalts. 2003. An analysis of future private timber supply potential in Western Oregon. *Western Journal of Applied Forestry* 18(3):1-9.

Adams, D.M. 2003. Market and resource impacts of a Canadian lumber tariff. *Journal of Forestry* 101(2):48-52.

- Alig, R.J., D.M. Adams, and B.A. McCarl. 2002. Projecting impacts of global climate change on the U.S. forest and agriculture sectors. *Forest Ecology and Management* 169(2002):3-14.
- Adams, D.M. 2002. RPA5: Solid wood products. *Journal of Forestry* 100(2):14-19.
- Adams, D.M. 2002. RPA5: Harvest, inventory and stumpage prices. *Journal of Forestry* 100(2):26-31.
- Irland, L.C., D.M. Adams, R. Alig, C.J. Betz, C. Chen, M. Hutchins, B.A. McCarl, K. Skog, and B.L. Sohngen. 2001. Assessing socioeconomic impacts of climate change on U.S. forests, wood-products markets, and forest recreation. *Bioscience* 51(9):753-764.
- Alig, R., D. Adams, J. Mills, R. Haynes, P. Ince, and R. Moulton. 2001. Alternative projections of the impacts of private investment on southern forests: a comparison of two large-scale forest sector models of the United States. *Silva Fennica* 35(3):265-276.

ALBERS, HEIDI J. (JO)

Associate Professor

BS in Geology and Economics , 1985, Duke University
 MES, 1987, Yale University, School of Forestry and Environmental Studies
 PhD in Economics, 1993, University of California-Berkeley

Research Interests: Natural resource economics; forest, land, and biodiversity conservation; resource management decision and risk analysis; integrated ecosystem-economic models; spatial modeling.

Current Programs: spatial and intertemporal land use management in the face of invasive species; interactions of public and private land conservation; spatial aspects of forest management with fire risk; spatial and rural welfare aspects of (international and domestic) biodiversity conservation.

Courses: FOR 330 Forest Economics I
 FOR 332 Risk and Decision-making for Natural Resource Management
 AREC/FOR 599 Special Topics: Spatial Economics for Natural Resources
 FOR/FS 599 Special Topics: Economics and Ecology of Invasive Pests.

Selected Publications:

Blackman, Allen, Heidi J. Albers, Beatriz Avalos, and Lisa Crooks. "Land Cover in a Managed Forest Ecosystem: Mexican Shade Coffee." Forthcoming in *American Journal of Agricultural Economics*.

Konoshima, Masashi, Claire A. Montgomery, Heidi J. Albers, and Jeffrey L. Arthur. "Spatial Endogenous Fire Risk and Efficient Fuel Management and Timber Harvest." Forthcoming in *Land Economics*.

Robinson, E.J.Z., H.J. Albers, and J.C. Williams. "Spatial and Temporal Aspects of Non-Timber Forest Product Extraction: The Role of Community Resource Management." Forthcoming in *Journal of Environmental Economics and Management*.

Albers, Heidi J. and Elizabeth J. Z. Robinson. "Spatial-Temporal Aspects of Cost-benefit Analysis for Park Management: An Example from Khao Yai National Park, Thailand." *Journal of Forest Economics* 13(2-3):129-150. August, 2007.

Albers, H.J., M.J. Goldbach, and D.T. Kaffine. Implications of agricultural policy for species invasion in shifting cultivation systems. *Environment and Development Economics* 11:4:429-452. August, 2006.

- Mahapatra, A.K., H.J. Albers, and E.J.Z. Robinson. 2005. The impact of NTFP sales on rural households' cash income in India's dry deciduous forest. *Environmental Management* 25:3.
- McNeely, J.A., D.P. Faith, and H.J. Albers (coordinating lead authors). 2005. Biodiversity. Chapter 5 in the Policy and Responses Volume of the Millennium Ecosystem Assessment Report.
- Muller, J. and H.J. Albers. 2004. Enforcement, payments, and development projects near protected areas: How the market setting determines what works where. *Resource and Energy Economics* 26:185-204. Special Issue on Biodiversity.
- Albers, H.J. and A.W. Ando. 2003. Could state-level variation in the number of land trusts make economic sense? *Land Economics* 79(3):311-327.
- Albers, H.J. and J. Muller. 2002. How markets alter the effectiveness of enforcement, payments, and agricultural projects near protected areas. *ASEAN Biodiversity* 2:2.
- Robinson, E.J.Z., J.C. Williams, and H.J. Albers. 2002. The impact of markets and policy on spatial patterns of non-timber forest product extraction. *Land Economics* 78(2):260-271.
- Albers, H.J., and M.J. Goldbach. 2000. Irreversible ecosystem change, species competition, and shifting cultivation. *Resource and Energy Economics* 22:261-280.
- Rozelle, S.D., H.J. Albers, and L. Guo. 1998. Forests under reform in China. *China Information* 13(1):106-130.
- Albers, H.J., S.D. Rozelle, and L. Guo. 1998. China's forests under economic reform: Timber supplies, environmental protection, and rural resource access. *Contemporary Economic Policy* 26:22-33.
- Albers, H.J. and E. Grinspoon. 1997. A comparison of the enforcement of access restrictions between Xishuangbanna Nature Reserve (China) and Khao Yai National Park (Thailand). *Environmental Conservation* 24(4):351-362.
- Economic Management of Tropical Forests: Reply. 1997. *Journal of Environmental Economics and Management* 33:214-219.
- Albers, H.J., A.C. Fisher, and W.M. Hanemann. 1996. Valuation of tropical forests: Implications of uncertainty and irreversibility. *Environmental and Resource Economics* 8:39-61.
- Modeling Ecological Constraints on Tropical Forest Management: Spatial Interdependence, Irreversibility and Uncertainty. 1996. *Journal of Environmental Economics and Management* 30:73-94.
- Thayer, M., H. Albers, and M. Rahmatian. 1992. The benefits of reducing exposure to waste disposal sites: A hedonic housing value approach. *Journal of Real Estate Research* 7(3):265-282.

HUNTINGTON, GEOFFREY

Instructor

Director, Oregon Watershed Enhancement Board

BS, 1982, Michigan State University

JD, 1986, University of Oregon School of Law

Courses: FOR 462/562, Natural Resource Policy and Law
FOR 463/563, Environmental Policy and Law

JOHNSON, K. NORMAN

Professor

BS, 1965, University of California, Berkeley

MS, 1969, University of Wisconsin, Madison

PhD, 1973, Oregon State University

Research Interests: Sustainable forestry, landscape assessment, federal forest planning and policy, forest management

Current Programs: Assessing the sustainability of the forested landscapes of coastal Oregon, developing policy options for the federal forests of Oregon

Courses: FOR 365, Issues in Natural Resource Conservation
FOR 460, Forest Policy
FOR 561, Forest Policy Analysis

Selected Publications:

Franklin, J. and K.N. Johnson. 2004. Forests face new threat: global market changes. Issues in Science and Technology (National Academy and University of Texas). Fall 2004.

Bettinger, P., D.L. Johnson, and K.N. Johnson. 2003. Spatial forest development with ecological and economic goals. *Ecological Modeling* 169(2-3):215-236.

Spies, T.G. Reeves, K. Burnett, W. McComb, K.N. Johnson, et al. 2002. Assessing the ecological consequences of forest policies in multi-ownership province in Oregon. In J. Liu and W. Taylor, eds. Integrating Landscape Ecology into Natural Resource Management. Cambridge Univ. Press.

Davis, L., K.N. Johnson, P. Bettinger, and T. Howard. 2000. Forest Management (4th edition). McGraw Hill (forthcoming)

Committee of Scientists. 1999. Sustaining the people's lands: recommendations for stewardship of the national forests into the next century. Report to the Secretary of Agriculture.

Johnson, et al. 1999. Sustaining the people's lands. *Journal of Forestry* 97(5):7-12.

Johnson, K.N., F. Swanson, M. Herring, and S. Greene (eds.). 1999. Bioregional assessments: Science at the crossroads of management and policy. Island Press. 398 p.

MONTGOMERY, CLAIRE A.

Professor

BA, 1976, Portland State University
BS, 1984, Oregon State University
MF, 1986, University of Washington
PhD, 1990, University of Washington

Research Interests: Natural resource and forest economics, bioeconomic modeling.

Current Programs: Economics of biodiversity; forest land use trade-offs; residential housing demand; decision-making under risk of fire.

Courses: FOR 331, Forest Resource Economics II
FOR 534, Economics of the Forest Resource
AREc / Econ 512, Microeconomic Theory I

Selected Publications:

Konoshima, M, Montgomery, C.A., Albers, H.J., and Arthur, J.L. [in press]. Spatial endogenous fire risk and efficient fuel management and timber harvest. *Land Economics*.

Busby, G.M., and Montgomery, C.A. 2007. The opportunity cost of forest certification on private land in western Oregon. *Western Journal of Applied Forestry* 22(1): 55-60.

- Montgomery, C.A., Latta, G., and Adams, D.M. 2006. The cost of achieving old-growth forest structure. *Land Economics* 82(2): 240-256.
- Montgomery, C.A., and Helvoigt, T. 2005. A temporal and spatial analysis of Oregonians' willingness to pay for salmon. *Journal of Environmental Management* 78(4): 330-340.
- Nalle, D.J., Arthur, J.L., and Montgomery, C.A. 2005. Economic impacts of adjacency and green-up constraints on timber production at a landscape scale. *Journal of Forest Economics* 10(4): 189-205.
- Arthur, J.L., J. Camm, R.G. Haight, C.A. Montgomery, and S. Polasky. 2004. Weighing conservation objectives: maximum expected coverage versus endangered species protection. *Ecological Applications* 14(6):1936-1945.
- Nalle, D.J., C.A. Montgomery, J.L. Arthur, N.H. Schumaker, and S. Polasky, 2004. Modeling joint production of wildlife and timber in forests. *Journal of Environmental Economics and Management* 48(3):997-1017.
- Latta, G. and C.A. Montgomery. 2004. Minimizing the cost of stand level management for older forest structure in Western Oregon. *Western Journal of Applied Forestry* 19(4):221-231
- Lichtenstein, M.E., and C.A. Montgomery. 2003. Biodiversity and timber in the Coast Range of Oregon: inside the production possibility frontier. *Land Economics*. 79(1):56-73.
- Montgomery, C.A. 2002. Ranking the benefits of biodiversity: an exploration of relative value. *Journal of Environmental Management*. 65(3):313-326.
- Arthur, J.L., R.G. Haight, C.A. Montgomery, and S. Polasky. 2002. Analysis of the threshold and expected coverage approaches for the probabilistic reserve selection problem. *Environmental Modeling and Assessment* 7(2):81-89.
- Montgomery, C.A. 2001. Modeling the United States housing sector. *Forest Science* 47(3):371-389.
- Montgomery, C.A., R.A. Pollak, K. Freemark, and D. White. 1999. Pricing biodiversity, *Journal of Environmental Economics and Management* 38(1):1-19.
- Montgomery, C.A. 1996. A structural model of the U.S. housing market: improvement and new construction. *Journal of Housing Economics* 5(2):166-192.
- Montgomery, C.A. 1996. Forest policy and risk: Issues and recent trends in the U.S. *Ecological Economics* 16:65-72.
- Montgomery, C.A., G.M. Brown, Jr., and D.M. Adams. 1994. The marginal cost of species preservation: The northern spotted owl, *Journal of Environmental Economics and Management* 26:111-128.
- Montgomery, C.A. 1992. Explaining home improvement in the context of household investment in residential housing, *Journal of Urban Economics* 32:326-350.

ROSENBERGER, RANDALL S.

Assistant Professor

BA	1988	Slippery Rock University of Pennsylvania
MA	1992	Colorado State University
PhD	1996	Colorado State University

Research Interests: recreation economics, environmental and resource economics

Current Programs: benefit transfer and meta-analysis, non-market valuation of recreation resources, health benefits of outdoor recreation

Courses: FOR 432/532, Economics of Recreation Resources
FOR 537, Valuation of Non-Market Resources

Selected Publications:

- Collins, A.R. and R.S. Rosenberger. 2007. Protest adjustments in the valuation of watershed restoration using payment card data. *Agricultural and Resource Economics Review* 36(2):(in press).
- Rosenberger, R.S. 2007. Social and economic issues of global climate change in the western United States. IN L.Joyce, R. Haynes, R. White and R.J. Barbour (tech. coord.). *Bringing Climate Change into Natural Resource Management: Proceedings*. Gen. Tech. Rep. PNW-GTR-706. Portland, OR: USDA Forest Service, Pacific Northwest Research Station. Pp. 67-89.
- Rosenberger, R.S. and T.T. Phipps. 2007. Correspondence and convergence in benefit transfer accuracy: A meta-analytic review of the literature. In S. Navrud and R.Ready (eds.), *Environmental Values Transfer: Issues and Methods*. Dordrecht, The Netherlands: Kluwer Academic Publishers. Pp. 23-43.
- Shrestha, R.K., R.S. Rosenberger and J.B. Loomis. 2007. Benefit transfer using meta-analysis in recreation economic valuation. In S. Navrud and R.Ready (eds.), *Environmental Values Transfer: Issues and Methods*. Dordrecht, The Netherlands: Kluwer Academic Publishers. Pp. 161-177.
- Strager, M.P. and R.S. Rosenberger. 2007. Aggregating high priority landscape areas to the parcel level: An easement implementation tool. *Journal of Environmental Management* 82:290-298.
- Rosenberger, R.S. and T.D. Stanley. 2006. Measurement, generalization, and publication: Sources of error in benefit transfers and their management. *Ecological Economics* 60:372-378.
- Loomis, J.B. and R.S. Rosenberger. 2006. Reducing barriers in future benefit transfers: Needed improvements in primary study design and reporting. *Ecological Economics* 60:343-350.
- Strager, M.P. and R.S. Rosenberger. 2006. Incorporating stakeholder preferences for land conservation: Weights and measures in spatial MCA. *Ecological Economics* 58:76-92.
- Collins, A.R., R.S. Rosenberger and J.J. Fletcher. 2005. The economic value of stream restoration. *Water Resources Research* 41:W2017, 1-9.
- Rosenberger, R.S., Y. Sneh, T.T. Phipps and R. Gurvitch. 2005. A spatial analysis of linkages between health care, expenditures, physical inactivity, obesity and recreation supply. *Journal of Leisure Research* 37(2):216-235.
- Rosenberger, R.S., A.R. Collins and J.B. Svetlik. 2005. Private provision of a public good: Willingness to pay for privately stocked trout. *Society and Natural Resources* 18(1):75-87.
- Rosenberger, R.S. and D.B.K. English. 2005. Impacts of wilderness on local economic development. In: H.K. Cordell, J.C. Bergstrom and J.M. Bowker (eds.). *The Multiple Values of Wilderness*. State College, PA: Venture Press. Pp.181-204.
- Rosenberger, R.S. and J.B. Loomis. 2003. Benefit Transfer. In: P. Champ, K. Boyle and T. Brown (eds.), *A Primer on Non-Market Valuation*. Dordrecht, The Netherlands: Kluwer Academic Publishers. 445-482.
- Rosenberger, R.S., G.L. Peterson, A. Clarke, and T.C. Brown. 2003. Dispositions for Lexicographic Preferences of Environmental Goods: Integrating Economics, Psychology, and Ethics. *Ecological Economics* 44(1):63-76.
- Rosenberger, R.S., G.L. Peterson, and J.B. Loomis. 2002. Applying a Method of Paired Comparison to Measure Economic Values for Multiple Goods Sets. *Journal of Agricultural and Applied Economics* 34(1):215-229.
- Rosenberger, R.S. and J.B. Loomis. 2001. Benefit Transfer of Outdoor Recreation Use Values: A Technical Document Supporting the Forest Service Strategic Plan (2000 Revision). *General Technical Report RMRS-GTR-72*. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station. 59pp. (<http://www.fs.fed.us/rm>)
- Rosenberger, R.S. and J.B. Loomis. 2000. Panel stratification in meta-analysis of economic studies: An investigation of its effects in the recreation valuation literature. *Journal of Agricultural and Applied Economics* 32(3):459-470.
- Rosenberger, R.S. and J.B. Loomis. 2000. Using meta-analysis for benefit transfer: In-sample convergent validity tests of an outdoor recreation database. *Water Resources Research* 36(4):1097-1108.

Forest Social Science

BLISS, JOHN C.

Associate Department Head
Professor, Starker Chair in Private and Family Forestry

BA, 1973, University of Wisconsin-Madison
MS, 1979, University of Wisconsin-Madison
PhD, 1988, University of Wisconsin-Madison

Research Interests: Private, family, and community forestry, small-scale forestry, forest-based rural development.

Current Programs: The Starker Program in Private and Family Forestry; The Elizabeth Starker Cameron Demonstration Forest; Community impacts of rapid forestland tenure change in the United States, Challenges and opportunities of small-scale forestry throughout the world.

Courses: FOR 599/ 699, Communities and Natural Resources

Selected Recent Publications:

Bliss, J. C. Family Forest Owners. Chapter 12. in, Ellen M. Donoghue and Victoria Sturtevant, editors, Community and Forest Connections. WA DC: Resources for the Future. In press.

Fischer, A.P. and J.C. Bliss. 2006. Mental and biophysical terrains of biodiversity: Conservation of oak woodland on family forests. *Society and Natural Resources* 19(7).

Bliss, J.C. and C. Bailey. 2005. Pulp, paper, and poverty: Forest-based rural development in Alabama, 1950-2000. In Robert G. Lee and Donald R. Field, eds., *Communities and Forests: Where People Meet the Land*. Corvallis, OR: Oregon State University Press.

Rickenbach, M.G., J.C. Bliss, and A.S. Reed. 2004. Collaboratives, cooperation, and private forest ownership: Implications for voluntary protection of biological diversity. *Small-scale Forest Economics, Management, and Policy* 3(1):69-83.

Bergmann, S. and J.C. Bliss. 2004. Foundations of cross-boundary cooperation: Fire management at the public-private interface. *Society and Natural Resources* 17(5):377-393.

Kumagai, Y., J.C. Bliss, S.E. Daniels, and M. Carroll. 2004. Research on causal attribution of wildfire: An exploratory multiple methods approach. *Society and Natural Resources* 17(2):113-127.

Carroll, M., Y. Kumagai, S.E. Daniels, J.C. Bliss, and J. Edwards. 2004. Causal reasoning processes of people affected by wildfire: Implications for agency-community interactions and communication strategies. *Western Journal of Applied Forestry* 19(3):184-194.

Bliss, J.C. 2003. Sustaining family forests in rural landscapes: Rationale, challenges, and an illustration from Oregon, U.S.A. *Small-scale Forest Economics, Management, and Policy* 1(2):1-8.

Edwards, K. K. and J.C. Bliss. 2003. It's a neighborhood now: Practicing forestry at the urban fringe. *Journal of Forestry* 101(3):6-11.

Stankey, G.H., R.N. Clark, and J.C. Bliss. 2003. Social acceptability, compatibility, and timber harvesting. In Richard Haynes, ed., *Compatible Forest Management*. Kluwer.

Bliss, J.C. and A.J. Martin. 2003. Nonindustrial private forests. In Young, R., and R. Giese, eds., *Introduction to Forest Ecosystem Science and Management*, 3rd ed. Hoboken, New Jersey: John Wiley & Sons, Inc. P. 221-240.

- Bliss, J.C. 2003. Sustaining family forests in rural landscapes: Rationale, challenges, and an illustration from Oregon, U.S.A. *Small-scale Forest Economics, Management, and Policy*. 1(2):1-8.
- Bliss, J.C. and A.J. Martin. 2003. Nonindustrial private forests. In Young, R., and R. Giese, eds., *Introduction to Forest Ecosystem Science and Management*, 3rd ed. Hoboken, NJ: John Wiley & Sons, Inc. p. 221-240.
- Edwards, K.K. and J.C. Bliss. 2003. It's a neighborhood now: Practicing forestry at the urban fringe. *Journal of Forestry* 101(3):6-11.
- Kumagai, Y., J.C. Bliss, S.E. Daniels, and M. Carroll. Research on causal attribution of wildfire: An exploratory multiple methods approach. *Society and Natural Resources*. Accepted for publication March, 2003.
- Kumagai, Y., S.E. Daniels, J.C. Bliss, M. Carroll, and J. Edwards. Causal reasoning processes of people affected by wildfire: Implications for agency-community interactions and communication strategies. *Western Journal of Applied Forestry*. Accepted for publication December, 2002.
- Bliss, J.C. and C. Bailey. Pulp, paper, and poverty: Forest-based rural development in Alabama, 1950-2000. In Robert Lee and Donald Field, eds., *Community and Forestry: Continuities in the Sociology of Natural Resources*, 2nd Edition. Chapter accepted for publication.
- Stankey, G.H., R.N. Clark, and J.C. Bliss. Social acceptability, compatibility, and timber harvesting. In Richard Haynes, ed., *Compatible Forest Management*. Kluwer Academic Press. Chapter accepted for publication.
- Sustaining family forests in rural landscapes: Rationale, challenges, and an illustration from Oregon, U.S.A. International Union of Forestry Research Organizations, Small-scale forestry working group, Gengenbach, Germany, July 29-August 1, 2002.
- Is forestry good for community? Plenary speech, BC Community Forestry Forum, Victoria, British Columbia, March 14-19, 2002. www.cf-forum.org
- Stanfield, B.J., J.C. Bliss, and T.A. Spies. 2002. Land ownership and landscape structure: A spatial analysis of 66 Oregon Coast Range watersheds. *Landscape Ecology* 17(8):685-697.
- Extension and the future of family forests: Making connections. Keynote speech, International Union of Forestry Research Organizations Extension, Forestry Working Group, Lorne, Australia, October 28-November 3, 2001.
- Bliss, J.C., G. Aplet, C. Hartzell, P. Harwood, P. Jahnige, D. Kittredge, S. Lewandowski, and M.L. Socia. 2001. Community-based ecosystem monitoring. P. 143-167 in Gray, G., Enzer, M., and Kusel, J. 2001.
- Toms, C..W., M.R. Dubois, J.C. Bliss, J.H. Wilhoit, and R.B. Rummer. 2001. A survey of animal-powered logging in Alabama. *Southern Journal of Applied Forestry* 25(1):17-24.
- Understanding Community Based Ecosystem Management in the United States. *Journal of Sustainable Forestry* 12(3/4):143-167. (Simultaneously published in book form by Haworth Press).
- Bliss, J.C. 2000. Public perceptions of clearcutting. *Journal of Forestry Producers Association* January 2001, p. 50-56.
- Joshi, M.L., J.C. Bliss, and C. Bailey. 2000. Investing in industry, under-investing in human capital: Forest-based development in Alabama. *Society & Natural Resources* 13(5):291-319.

Selected Theses:

- Du, Ke. Conservation and land tenure change in Sichuan Province, Peoples' Republic of China. M.S.
- Fischer, Paige. Managing biodiversity through family forestry: A case study in Western Oregon. M.S.
- Kakoyannis, Christina. Evaluation of organizational efforts to implement integrated natural resource management in Oregon's I-5 Corridor. Ph.D.
- Wiskind, Adam. Conserving riparian health and water quality on nonindustrial private forestland. M.F.
- Kumayagi, Yoshi. 2001, Oregon State University. Causal reasoning of wildfire damage. Ph.D.
- Bergman, Stefan. 2001, Oregon State University. Conflict and cooperation at the public-private interface: A case study of fire management in Eastern Oregon. M.S. Thesis
- Edwards, Kearstin. 2001. Forestry at the urban fringe: Issues, stakeholders and conflict potential in Oregon's Soap Creek Watershed.
- Williams, Rob. 2001. Public knowledge, preferences and involvement in adaptive ecosystem management.
- Broussard, Shorna. 2000. Addressing sustainability through education: An evaluation of natural resource extension programs in the United States. Ph.D.
- Stanfield, Brooks. 2000. Landownership and forest cover in the Oregon Coast Range: Spatial pattern and social ground-truthing. M.S. Thesis

LINDBERG, KREG

Associate Professor (Cascades Campus)

BA, 1986, Dartmouth College

MA, 1989, The Johns Hopkins University

PhD, 1995, Oregon State University

Research Interests: Visitor price-responsiveness and economic impact of nature/eco tourism; inter-visitor conflict in natural areas; economic and social impact of tourism generally.

Selected Publications:

Dellaert, B.G.C. and K. Lindberg. 2003. Variations in tourist price sensitivity: A stated preference model to capture the joint impact of systematic utility and price response consistency. *Leisure Sciences*.

Lindberg, K., T.D. Andersson, and B.G.C. Dellaert. 2001. Tourism development: Assessing social gains and losses. *Annals of Tourism Research* 28(4):1010-1030.

Lindberg, K., A. Molstad, D. Hawkins, and W. Jamieson. 2001. International development assistance in tourism (Research Note). *Annals of Tourism Research* 28(2):508-511.

Lindberg, K. and B. Aylward. 1999. Price responsiveness in the developing country nature tourism context: Review and Costa Rican case study. *Journal of Leisure Research* 31(3):281-299.

Lindberg, K., B.G.C. Dellaert, and C.R. Rassing. 1999. Resident tradeoffs: A choice modeling approach. *Annals of Tourism Research* 26(3):554-569.

Lindberg, K. and S.F. McCool. 1998. A critique of environmental carrying capacity as a means of managing the effects of tourism development (Comment). *Environmental Conservation* 25(4):291-292.

Lindberg, K., R.L. Johnson, and R. Berrens. 1997. Contingent valuation of rural tourism development, with tests of scope and mode stability. *Journal of Agricultural and Resource Economics* 22(1):44-60.

NEEDHAM, MARK D.

Assistant Professor

BA, 1999, University of Victoria, Canada

MA, 2002, University of Victoria, Canada

PhD, 2005, Colorado State University

Research Interests: Natural resource-based recreation management, social psychology of natural resources, human dimensions of wildlife, norms and standards for resource management, carrying capacity and crowding, specialization, risk, trust, conflict, tourism, survey and quantitative methods.

Current Programs: Carrying capacity and management of reefs and marine protected areas in Hawaii; visitors' experiences, preferences, and tradeoffs at recreation sites in Clatsop State Forest, Oregon; effects of concessions and commercial operators in Alaska; hunters' responses to chronic wasting disease.

Courses: FOR 251, Recreation Resource Management
FOR 453 / 553, Nature-Based Tourism
FOR 523, Quantitative Analysis in Social Science

Selected Publications:

Needham, M. D., & Vaske, J. J. (2008). Hunter perceptions of similarity and trust in wildlife agencies and personal risk associated with chronic wasting disease. *Society and Natural Resources*, 21.

Needham, M. D., Vaske, J. J., Donnelly, M. P., & Manfredi, M. J. (2007). Hunting specialization and its relationship to participation in response to chronic wasting disease. *Journal of Leisure Research*, 39(3), 413-437.

Christensen, A., Rowe, S., & Needham, M. D. (2007). Value orientations, awareness of consequences, and participation in a whale watching education program in Oregon. *Human Dimensions of Wildlife*, 12(4).

Stafford, N. T., Needham, M. D., Vaske, J. J., & Petchenik, J. (2007). Hunter and nonhunter beliefs about chronic wasting disease in Wisconsin. *Journal of Wildlife Management*, 71(5).

Vaske, J. J., Needham, M. D., & Cline Jr., R. C. (2007). Clarifying interpersonal and social values conflict among recreationists. *Journal of Leisure Research*, 39(1), 182-195.

Needham, M. D., Vaske, J. J., & Manfredi, M. J. (2006). State and residency differences in hunters' responses to chronic wasting disease. *Human Dimensions of Wildlife*, 11(3), 159-176.

Vaske, J. J., Needham, M. D., Stafford, N. T., Green, K., & Petchenik, J. (2006). Information sources and knowledge about chronic wasting disease in Colorado and Wisconsin. *Human Dimensions of Wildlife*, 11(3), 191-202.

Needham, M. D., & Vaske, J. J. (2006). Beliefs about chronic wasting disease risks across multiple states, years, and interest groups. *Human Dimensions of Wildlife*, 11(3), 215-220.

Vaske, J. J., Needham, M. D., Newman, P., Manfredi, M. J., & Petchenik, J. (2006). Potential for conflict index: Hunters' responses to chronic wasting disease. *Wildlife Society Bulletin*, 34(1), 44-50.

Needham, M. D., Rollins, R. B., & Vaske, J. J. (2005). Skill level and normative evaluations among summer recreationists at alpine ski areas. *Leisure / Loisir: Journal of the Canadian Association for Leisure Studies*, 29(1), 71-94.

Needham, M. D., & Rollins, R. B. (2005). Interest group standards for recreation and tourism impacts at ski areas in the summer. *Tourism Management*, 26(1), 1-13.

- Needham, M. D., Rollins, R. B., & Wood, C. J. B. (2004). Site-specific encounters, norms and crowding of summer visitors at alpine ski areas. *International Journal of Tourism Research*, 6(6), 421-437.
- Needham, M. D., Vaske, J. J., & Manfredi, M. J. (2004). Hunters' behavior and acceptance of management actions related to chronic wasting disease in eight states. *Human Dimensions of Wildlife*, 9(3), 211-231.
- Needham, M. D., Wood, C. J. B., & Rollins, R. B. (2004). Understanding summer visitors and their experiences at the Whistler Mountain ski area, Canada. *Mountain Research and Development*, 24(3), 234-242.
- Needham, M. D., Rollins, R. B., & Wood, C. J. B. (2004). Stakeholders' perceptions of bear viewing tours at an alpine ski area in the summer. *Human Dimensions of Wildlife*, 9(2), 153-156.
- Needham, M. D., & Rollins, R. B. (2003). The lure of summer: A study at Whistler shows what visitors love about the mountains. *Ski Area Management*, 42(2), 28-29.

ROSENBERGER, RANDALL S.

Assistant Professor (See Forest Economics, Policy & Planning section)

SHELBY, BO

Professor

BA, 1970, University of Colorado
 MS, 1973, University of Wisconsin
 PhD, 1976, University of Colorado

Research Interests: Sociology of natural resources; crowding and carrying capacity; resource allocation; norms and standards for resource management; stream flows and resource values

Current Program: Social and ecological impacts of recreational use in Oregon Cascades; wilderness areas; instream flows for the North Umpqua and Arkansas Rivers; aesthetic and recreational impacts of silviculture treatments; recreation impacts on the Clackamas River.

Courses: FOR 351, Recreation Behavior and Management
 FOR 558, Recreation Planning and Management

Selected Publications:

Vaske, J., D. Whittaker, B. Shelby, and M. Manfredi. 2001 Indicators and standards: developing definitions of quality. In Manfredi, M.J. (Ed.), *Wildlife Viewing in North America*. Oregon State University Press (in press).

Shelby, B., L. Butler, T. Brown, and J. Taylor. [in press] Legal and social bases for instream flow protection. In Sales, B., T. Daniel, and J. Hetherington (eds.) *Law, Social Science, and the Natural Environment*. New York: Plenum Publishing.

Martinson, K. and B. Shelby. [in press] Encounter norms in more developed settings: similarities to backcountry. In Brown, P.J. and M.E. Lee, eds. (title yet to be decided).

Brunson, M. and B. Shelby. [in press] Managed stands as amenity resources: Are scenic and recreational quality the same? *Forest Science*.

Brunson, M., B. Shelby, and R. Johnson. [in press] Seasonal differences in recreational commitment among whitewater boaters. *Environmental Management*.

- Whittaker, D. and B. Shelby. 2002. Evaluating instream flows for recreation: applying the structural norms approach to biophysical conditions. *Leisure Sciences* 24(3):363-374.
- Whitaker, D. and B. Shelby. 2000. Managed flow regimes and resource values: traditional versus alternative strategies. *Rivers* 7(3):233-244.
- Hall, T. and B. Shelby. 2000. Temporal and spatial displacement. *Journal of Leisure Research* 32(4):435-456.
- Donnelly, M.P., J. Vaske, D. Whittaker, and B. Shelby. 1999. Toward an understanding of norm prevalence: A comparative analysis of 20 years of research. *Environmental Management* 25(4):403-414.
- Wing, M. and B. Shelby. 1999. Using GIS to integrate information on forest recreation. *Journal of Forestry* 97(1):12-16.
- Hall, T. and B. Shelby. 1999. Changes in use of three Oregon wildernesses, 1976-1993. *Environmental Management* 22(1):89-98.

Selected Theses:

- Rolloff, David. 1998. Scenic quality at Crater Lake National Park: Visitor perceptions of natural and human influence. Ph.D. Dissertation
- Wing, Michael. 1998. Using a geographic information system (GIS) to monitor recreation impacts in a forested setting. Ph.D. Dissertation
- Hall, Troy. 1995. Trends in wilderness use and their social and ecological implications. Ph.D. Dissertation
- Shindler, B. 1993. Management implications of displacement and product shift: Longitudinal research on the Rogue River. Ph.D. Dissertation

SHINDLER, BRUCE A.

Professor
College of Forestry Outstanding Research Professor for 2005

BA, 1968, California State University-Long Beach
MS, 1990, Oregon State University
PhD, 1993, Oregon State University

Research Interests: Social values of natural resources and wildland management.

Current Program: Human dimensions of natural resource management; wildland fire management; citizen-agency interactions and partnerships; communication strategies for planning and decision-making.

Courses: FOR 354, Amenity Resource Management
FOR 355, Management for Multiple Resource Values
FOR 391, Natural Resource Communications
FOR 446, Wildland Fire Ecology

Selected Publications:

- Stankey, G.H. and B. Shindler. 2006. Formation of social acceptability judgments and their implications for management of rare and little-known species. *Conservation Biology* 20(1):28-37.
- Toman, E., B. Shindler, M. Brunson. 2006. Fire and fuel management communication strategies: citizens evaluations of agency outreach activities. *Society and Natural Resources* 19:321-336.

- Shindler, B., J. Hino, and R. Gordon. 2005. Digital video in the classroom: communication skills for future resource professionals. *Journal of Forestry* 103 (1):41-46
- Shindler, B. and R. Gordon. 2005. DVD production: Communication strategies for fire management: creating effective citizen-agency partnerships. Oregon State University.
- Shindler, B., T. Beckley, and C. Finley (eds.). 2003. *Two Paths Toward Sustainable Forests: Public Values in Canada and the United States*. Corvallis, OR: OSU Press.
- Shindler, B. and E. Toman. 2003. Fuel reduction strategies in forest communities: a longitudinal analysis of public support. *Journal of Forestry* 101(7):8-15.
- Shindler, B., M. Brunson, and G. Stankey. 2002. Social acceptability of forest conditions and management practices: a problem analysis. Gen. Tech. Rep. PNW-GTR-537. Portland, OR: USDA Forest Service, PNW Research Station.
- Shindler, B., M. Brunson, and G. Stankey. 2002. The social acceptability of forest conditions and practices: a problem analysis. General Technical Report GTR-537, USDA Forest Service, Pacific Northwest Research Station, Portland, OR.
- Steel, B., D. Lach, P. List, and B. Shindler. 2001. The role of scientists in the natural resource policy process: a comparison of Canadian and American publics. *Journal of Environmental Systems* 28(2):133-155.
- Wright, A. and B. Shindler. 2001. The role of information sources in watershed management. *American Fisheries Journal* (26)11:16-23.
- Shindler, B.A. 2000. Landscape-level management: It's all about context. *Journal of Forestry* 98(12):10-14.
- Shindler, B.A. and K. Aldred Cheek. 1999. Integrating citizens in adaptive management: Characteristics and influential factors for successful interactions. *Journal of Conservation Ecology* 3(1):13-29.
- Nadeau, S., B.A. Shindler, and C.A. Kakoyannis. 1999. Forest communities: New frameworks for assessing sustainability. *The Forestry Chronicle* 75(5):747-754.
- Shindler, B.A. and L.A. Cramer. 1999. Shifting public values in forest management: Making sense of wicked problems. *Western Journal of Applied Forestry* 14(1):11-17.

Selected Theses:

- Toman, Eric. 2005. Fire and fuel management communication strategies: citizen evaluations of agency outreach activities. Ph.D. Dissertation.
- Nadeau, Solange. 2002. Characterization of community capacity in forest dependent communities. Ph.D. Dissertation.
- Toman, Eric. 2002. Citizen perspectives on hazardous fuel reduction in the Blue Mountains: findings and implications from panel research. M.S. Thesis.
- Wilton, James. 2002. Public perspective on forest ecosystem health: knowledge, preferences, and opinions from urban and rural communities in the Pacific Northwest. M.S. Thesis.
- Williams, Robert. 2001. Public knowledge, preferences and involvement in adaptive ecosystem management. M.S. Thesis.
- Wright, Angela. 2000. Citizen knowledge and opinions about watershed management.
- Reed, Michelle. 1998. On-site evaluations on the use of prescribed fire and mechanical thinning.

Boehm-Burke, Tenley. 1998. The capability of GIS to contribute to the social assessment of forest communities: A case study of the Central Cascades Adaptive Management Area.

TYNON, JO

Assistant Professor

BS, 1984, Wildland Recreation Management, University of Idaho
Graduate Studies, 1985-1987, Recreation, Park & Tourism Sciences, Texas A&M University
Ph.D., 1994, Resource Recreation & Tourism, University of Idaho

Research Interests: qualitative and quantitative inquiry into natural resource-based recreation and tourism issues; sociology of leisure and outdoor recreation; recreation planning and management

Current Research: Crime and violence on public lands; a multi-stakeholder approach to carrying capacity and management of nearshore reefs in Hawaii

Courses: FOR 352, Wilderness Management
FOR 356, Recreation Resource Planning
FOR 422/522, Research Methods in Social Science

Selected Publications:

Chavez, D.J. and J.F. Tynon. 2007. *Forest Service law enforcement officer report: Nationwide study*. Research Series Report. Portland, OR: USDA Pacific Northwest/Southwest Research Station.

Wing, M.G. and J.F. Tynon. 2006. Crime mapping in the national forests. *Journal of Forestry*, 104(6), 293-298.

Tynon, J.F. and D.J. Chavez. 2006. Crime in national forests: A call for research. *Journal of Forestry* 104(3):154-157.

Tynon, J.F. and D.J. Chavez. 2006. Adapting a tourism criminal typology: Classifying outdoor recreation crime. *Journal of Travel Research* 44(3):298-307.

Chavez, D.J., J.F. Tynon, and N. Knap. 2004. Reducing crime and violence on public lands: Case studies in the USDA Forest Service. *Journal of Park and Recreation Administration* 22(3):22-38.

Tynon, J.F. and D.J. Chavez. 2003. Crime and violence on public recreation lands: A research agenda. *Proceedings of the 2003 Hawaii International Conference on Social Sciences*, June 12-15, Honolulu, HI.

Tynon, J.F. and D.J. Chavez. 2002. *Crimes and violence on public lands post-9/11*. Keynote address for the opening session of the Leisure Research Symposium, National Recreation & Park Association, October 16-19, Tampa, Florida.

Tynon, J.F. and D.J. Chavez. 2002. Testing Pizam's model: Classification of outdoor recreation crimes. *Book of Abstracts: 9th International Symposium on Society and Resource Management*, June 2-5, Bloomington, IN: Indiana University.

Tynon, J.F., D.J. Chavez, and C. Kakoyannis. 2001. If you go down to the woods today, you're sure of a big surprise: It's no teddy bear's picnic. *Women in Natural Resources* 22(1):6-17.

Chavez, D.J. and J.F. Tynon. 2000. Triage law enforcement: Societal impacts on National Forests in the west. *Environmental Management* 26(4):403-407.

Tynon, J.F. and D.J. Chavez. 2000. Domestic terrorism: City problems in forest settings. *Proceedings of the 1999 Society of American Foresters National Convention, Portland, Oregon, September 11-15*, (pp. 403-408). Bethesda, MD: Society of American Foresters.

- Chavez, D.J. and J.F. Tynon. 2000. Contested terrain: Natural resources law enforcement. In Burdge, R., Miles, J., Alper, D., & Kruger, L. (Eds.). *Book of Abstracts: Eighth International Symposium on Society and Resource Management, Bellingham, Washington*, June 17-22, 2000. Portland, OR: USDA Forest Service Pacific Northwest Research Station General Technical Report PNW-GTR-497.
- Tynon, J.F. and D.J. Chavez. 2000. Urban crimes in natural environments: Are we prepared? In Schneider, I.E., Chavez, D., Borrie, W., & James, K. (Eds.). *The 3rd Symposium on Social Aspects and Recreation Research, Tempe, AZ*, February 16-19. Tempe, AZ: Arizona State University.
- Chavez, D.J., J.A. Harding, and J.F. Tynon. 1999. National Recreation Trails: A forgotten designation. *Journal of Forestry* 97(10):40-43.
- Hammersley, C.H. and J.F. Tynon. 1998. Job competency analyses of entry-level resort and commercial recreation professionals. *Journal of Applied Recreation Research* 23(3):225-241.
- Tynon, J.F. 1997. Quality hunting experiences: A qualitative inquiry. *Human Dimensions of Wildlife* 2(1):32-46.
- Tynon, J.F. 1997. The Katahdin Region summer leisure travel market. In *Our forest's place in the World: New England and Atlantic Canada's forests. Proceedings of a joint meeting of the New England Society of American Foresters, Maine chapter of the Wildlife Society and Northeastern Forest Pest Council*. Orono, ME: Maine Agricultural and Forestry Experiment Station Misc. Pub. 738; SAF Pub. 98-01.
- Harris, C.C., J.F. Tynon, and W.J. McLaughlin. 1990. A comprehensive method for studying leisure travel. *Journal of Travel Research* 29(2):39-44.

Selected Theses:

- Pegas, Fernanda. 2004. An analysis of the motivations of Oregon's ranchers to diversify into agritourism. M.S. Thesis.
- Torres, Tami. 2001. The influence of cultural identity on resident perceptions of recreational boating and the BLM: A case study from a gateway community. M.S. Thesis.

Natural Resources Education And Extension

JENSEN, EDWARD C.

Professor of Forest Biology and Natural Resources Education
Associate Dean for Academic Affairs
1999 Elizabeth P. Ritchie Distinguished Professor

BS, 1973, University of Illinois
MS, 1976, University of Washington
PhD, 1989, Oregon State University

Research Interests: Natural resources education; forest ecology.

Current Programs: Developing, conducting, and evaluating natural resource education programs for various audiences; improving instruction in the College.

Courses: FOR 141, Tree and Shrub Identification
FOR 241, Dendrology
FOR 499/599, Shrubs of PNW Forests
FOR 499/599, PNW Flora
FOR 599, Analysis and Design of Forestry Instruction
FOR 599, Evaluating Natural Resources Education

Selected Publications:

Jensen, E.C. and C.R. Ross. 2005. Trees to know in Oregon. Oregon State University Extension Service. Extension Circular #1450. Corvallis, OR.

Jensen, E.C., W.R. Randall, R.F. Keniston, and D.N. Bever. 2005. Manual of Oregon trees and shrubs (Ninth Edition). John Bell and Associates, Corvallis, OR.

Seiler, E.C., J. Peterson, and E.C. Jensen. 2005. Woody plants of North America. Kendall/Hunt Publishing Company, Dubuque, Iowa. (Textbook on CD-ROM)

Boyle J.R., J.K. Winjum, K. Kavanagh, and E.C. Jensen (Guest Editors). 1999. Special issue on planted forests: Contributions to the quest for sustainable societies. In: *New Forests*. 17(1-3):1-359, and 18(1):3-112.

Jensen, E.C., P.S. Doescher, and B. Shelby. 1998. A new natural resources curriculum for a new century. *Journal of Forestry* 95(2):4-6.

Vergun, J.R., E.C. Jensen, P.S. Doescher, and R.R. Racine. 1996. Natural resource education: A partnership between Northwest Indians and Oregon State University. *Journal of Forestry* 94(11).

Jensen, E.C. 1996. Internationalizing forestry education. *Journal of Forestry* 94(3):26-29.

Selected Examples of Graduate Student Projects and Theses:

The reproductive ecology of PNW broadleaved trees and shrubs: a multi-media educational program for natural resource specialists and managers.

Wildflowers of the Columbia Gorge: a comprehensive curriculum guide for K-12 school groups and other visitor groups.

A University-based information center on forestry and wildlife: a feasibility study.

Conifers of the Pacific Northwest: a CD-ROM for 5th grade and above.

The Huckleberry Story: Building a bridge between culture and science: an educational video on the cultural significance and management of huckleberries in PNW forests.

Comparing the effectiveness of virtual and traditional forestry field tours: thesis.

Tree identification for K-12 Teachers: a web-based course.

Conservation Easements: an education program and decision-making guide for small woodland owners.

Enhancing Recruitment and Retention Rates of Native American Students in the College of Forestry

VIVIANE SIMON-BROWN

Associate Professor

Coordinator, The Sustainable Living Project at OSU

Forestry Extension

BA, 1974, Portland State University

Executive MPA, 1991, Lewis & Clark College

Extension and Research Interests: Integrating three aspects of the human dimensions of natural resources sustainability: Sustainable living education to help individuals and families make intelligent, thoughtful quality of life and consumer choices about natural resources; Public engagement to better understand the public's natural resource values and beliefs systems; and Collaborative public processes that move people from conflict and promote direct and meaningful natural resources decision-making.

Courses: NR 455, Decision-making
Non-credit: Sustainable Living. <http://www.forestry.oregonstate.edu/cof/extended/sustain/>
Intelligent Consumption
Fair-Open-Honest Public Process
The Collaboration Framework. <http://crs.uvm.edu/ncco/collab/framework.html>
Ethics-Based Education

Selected Publications:

Reed, S., and V. Simon-Brown. 2006. Fundamentals of Knowledge Transfer. Chapter in Forest Landscape Ecology: Transferring Knowledge to Practice. Sage Publications.

Simon-Brown, V. 2006. The Sustainable Living Project at OSU: A values approach to intelligent consumer decisions. *International Journal of Environmental, Cultural, Economic and Social Sustainability*, Vol. 2.

Simon-Brown, V, and J. Creighton. 2005. Using Theater to address Natural Resource Challenges. *Women in Natural Resources*. October. <http://www.cnr.uidaho.edu/winr/EdenCreek.htm>

Simon-Brown, V. 2004. Intelligent Consumption: Addressing Consumer Responsibilities for Natural Resources. *Journal of Extension* 42(5), 8pp.

Jackson, B., M. Habecker, M. Kroenke, M. Reichenbach, S. Traaholt, V. Simon-Brown, and B. Hubbard. 2004. Members Evaluate Their Association of Natural Resource Extension Professionals (ANREP). *Journal of Extension* 42(6), 10pp.

McEvoy, S. (2004-present), N. Gitt (2000-present), G. Levine (1999-2000), webmasters, and V. Simon-Brown, author. (1999-present). The Sustainable Living Project at OSU World Wide Web Site. <http://www.cof.orst.edu/cof/extended/sustain/>

- Simon-Brown, V., B. Withrow-Robinson, M. Engle, S. Reed, and S. Broussard. 2003. Art as catalyst for conversations about forests. *Journal of Women in Natural Resources* 24(1):25-31.
- Douthwaite, V., D. Fleming, and V. Simon-Brown. 2003. Sustainable rural development: A study guide. Curriculum text in CD and Web formats for a distance education course.
- Withrow-Robinson B., S. Broussard, V. Simon-Brown, M. Engle, and S. Reed. 2002. Seeing the forest: Art about forests and forestry. *Journal of Forestry* December, 100(8):8-14.
- Reichenbach, M. and V. Simon-Brown. 2002. Linking strategic thinking and project planning: The Oregon State University Extension forestry experience. *Journal of Extension* 40(4).
<http://www.joe.org/joe/2002august/iw1.shtml>
- Simon-Brown, V. 2002. Choosing your group's structure, mission, and goals. In, National Coastal Ecosystem Restoration Manual. Ridlington, S., editor. ORESU-H-02-002 1(2):17-29.
- Simon-Brown, V. 2002. Effective meetings management. In, National Coastal Ecosystem Restoration Manual. Ridlington, S., editor. ORESU-H-02-002 1(3):31-43.
- Dodrill, S., V. Simon-Brown, and J. Baldwin. 2001. Rethinking the American Dream. 16 minute videotape with companion guide (EM 8790) for national distribution to natural resources educators. In partnership with UO Institute for Sustainable Environment, and OSU Extension Communications.
- Simon-Brown, V. 2001. Sustainable living: A companion guide. Oregon State University Extension Service. EM 8790. 16 pp. October 2001.
- Strigel, M., C. Meine, J. Abramovitz, et al. 2001. The report of the intelligent consumption project. Strigel, M., and Meine, C., editors. Member of the working group. 30 pp. 2500 distributed.
- Simon-Brown, V., S. Fitzgerald, and M. Reichenbach. 2001. Stewardship and woodland planning. In, Backyard Woodlands: A Landowner Resource Notebook. Fitzgerald, project leader. OSU Extension Service, EM 8745. Chapter 1, pp. 3-9.
- Fitzgerald, S. and V. Simon-Brown. 2001. Tree and shrub identification. In, Backyard Woodlands: A Landowner Resource Notebook. Fitzgerald, project leader. OSU Extension Service, EM 8745. Chapter 3, pp. 23-25.
- Conway, F., V. Simon-Brown, and P. Corcoran. 2001. Watershed stewardship: A learning guide. Instructor guide for Section I, Chapters 1-6. EM 8714T.
- Simon-Brown, V. 2000. Sustainable living: Strategies for breaking the cycle of work and spend. *International Journal of Sustainability in Higher Education* 1(3):290-296.
- Faast, T. and V. Simon-Brown. 1999. A social ethic for fish and wildlife management. *Journal of Human Dimensions of Wildlife* 4(3):86-92.
- Driscoll, D., C. Raab, V. Simon-Brown, and T. Wykes. 1999. Simple living: Choosing an uncluttered, focused, rich life. Developed an instructor's guide, and adapted an Extension publication by Sam Quick and Robert Flashman. Oregon State University Extension Service. HE 3-900T, HE 3-901, HE 3-903. 36 pp. Used by 500+ Family Community Education members in Spring 2000. Adapted by Simon-Brown in 2000 for web use.
- Osis, V., V. Simon-Brown, and V. Thompson. 1999. Water World Marine Science Discovery Project Guide. Updated environmental education material to correlate with Oregon's CIM social sciences benchmarks. Oregon State University Extension Service. 4-H 350L. 20 pp.
- Bergstrom, A., R. Clark, T. Hogue, T. Iyechad, J. Miller, S. Mullen, D. Perkins, E. Rowe, J. Russell, M. Slinski, B. Snider, F. Thurston, and V. Simon-Brown, editor. 1994. Collaboration framework...

Addressing community capacity. Columbus, OH: Ohio State University, CSREES, National Network for Collaboration. 14 pp. Over 10,000 distributed. Reprinted in 1996.

Forest and Restoration Ecology

DOESCHER, PAUL S.

Professor and Director of the Natural Resources Program

BS, 1975, University of Illinois

MS, 1977, University of Montana

PhD, 1983, Oregon State University

Research Interests: restoration of native plant communities; fire ecology; ecological and physiological dynamics of plant species.

Current Programs: restoration of shrub steppe and woodland communities in the Intermountain West; large-scale, integrative research programs; undergraduate education; curriculum development.

Selected Publications:

- Allcock K., R. Nowak, B. Blank, T. Jones, T. Monaco, P. Doescher, T. Tanaka., D. Ogle, L. St., John, M. Pellant, D. Pyke, V. Satyal, J. Tanaka, E. Schupp, and C. Call. 2006. Integrating weed management and restoration on western rangelands. *Ecological Restoration* 24:199-200. *Invited paper*
- Walstad, J.D., M.D. Reed, P.S. Doescher, J.B. Kauffman, R.F. Miller, B.A. Shindler, and J.C. Tappeiner. 2003. Wildland Fire Ecology: A new course in distance education. *Journal of Forestry* 101:16-20.
- Liston, A., B.L. Wilson, W.A. Robinson, P.S. Doescher, N. Harris, and T. Svejcar. 2003. The relative importance of sexual reproduction vs. clonal spread in an aridland bunchgrass. *Oecologia* 137:216-225.
- Waichler, W.S., R.F. Miller, and P.S. Doescher. 2001. Community characteristics of old-growth juniper woodlands. *Journal of Range Management* 54:518-527.
- Doescher, P.S. 2001. Technical Note: Early harvest of squirreltail seed. *Journal of Range Management* 54:197-199.
- Meays, C.L., A.S. Laliberte, and P.S. Doescher. 2000. Defoliation response of bluebunch wheatgrass and crested wheatgrass: Why we cannot graze these two species in the same manner. *Rangelands* 22:16-18.
- Goodwin, J. R., P.S. Doescher, L.E. Eddleman, and D.B. Zobel. 1999. Persistence of Idaho fescue on degraded sagebrush steppe. *Journal of Range Management* 52:187-198.
- Bailey, J.D., C. Mayrshorn, P.S. Doescher, E. St. Pierre, and J.C. Tappeiner. 1998. Understory vegetation in old and young Douglas-fir forests of Western Oregon. *Forest Ecology and Management* 112:289-302.
- Jensen, E.C., P.S. Doescher, and B. Shelby. 1998. A new natural resources degree for a new century. *Journal of Forestry* 96:15-17.
- Karl, M.G. and P.S. Doescher. 1998. Ponderosa pine aboveground growth after cattle removal of terminal tissue. *Journal of Range Management* 51:147-151.
- Doescher, P.S., T.J. Svejcar, and R.G. Jaindl. 1997. Gas exchange of *Festuca idahoensis* in response to defoliation and grazing history. *Journal of Range Management* 50:285-290.
- Goodwin, J.R., P.S. Doescher, and L.E. Eddleman. 1996. Germination of Idaho fescue and cheatgrass seeds from coexisting population. *Northwest Science* 70:230-241.
- Vergun, J.R., E.C. Jensen, P.S. Doescher, and R.R. Racine. 1996. Natural resource education: A partnership between Northwest Indians and Oregon State University. *Journal of Forestry* 94:20-24.

Jabbes, M., D. Johnson, and P. Doescher. 1996. Evaluation of root growth of selected *Medicago* and *Hedysarum* species. P. 262-265. In: Barrow, J. R., E. D. McCarthur, R. Sosebee and R. J. Tausch (comps.). Proceedings: Shrubland ecosystem dynamics in a changing environment. USFS General Technical Report INT-GTR-338. Ogden, UT.

REUTER, RONALD J.

Assistant Professor of Natural Resources (OSU Cascades; OSU Ecampus)

BS, 1992, University of Minnesota

MS, 1995, University of Idaho

PhD, 1999, Penn State University

Research Interests: landscape and restoration ecology, pedology, wetland soils, education in Natural Resources

Current Research: Ecology of managed juniper – shrub/steppe systems; soil processes in managed ecosystems; community learning as a tool in Natural Resource education.

Courses: FOR 445, Restoration Ecology
FOR 365, Current Issues in Natural Resource Conservation
FW 479, Wetland and Riparian Ecology
CSS 205, Soils: Sustainable Ecosystems
CSS 395, World Soil Resources
FOR 407, Starker Lecture Seminar
NR 407, Oregon Water Law and Policy Seminar

Selected Publications:

Zophy, K. and R.J. Reuter. 2006. Using topography and understory plant community characteristics to prioritize the management of western juniper (*Juniperus occidentalis*). *Ecological Restoration* 24:280-281.

Reuter, R.J. 2005. Learning Ecological Restoration at a Distance (Oregon). *Ecological Restoration* 23:290.

Reuter, R.J. and J.C. Bell. 2003. Hillslope hydrology and soil morphology for a wetland basin in south-central Minnesota. *Soil Science Society of America Journal* 67:365-372.

Reuter, R.J. and J.C. Bell. 2001. Soils and hydrology of a wet-sandy catena in East-Central Minnesota. *Soil Science Society of America Journal* 65:1559-1569.

McDaniel, P.A., R.W. Gabehart, A.L. Falen, J.E. Hammel, and R.J. Reuter. 2001. Perched water tables on Argixeroll and Fragixeralf Hillslopes. *Soil Science Society of America Journal* 65:805-810.

Smith, E.R., R.V. O'Neill, J.D. Wickham, K.B., Jones, L. Jackson, J.V. Kilaru, and R. Reuter. 2000. The USEPA's Regional Vulnerability Assessment Program: A research strategy for 2001-2006. US Environmental Protection Agency, Office of Research and Development, Research Triangle Park, NC.

Reuter, R.J., P.A. McDaniel, J.E. Hammel, and A.L. Falen. 1998. Solute transport in seasonal perched water tables in loess-derived soils. *Soil Science Society of America Journal* 62:977-983.

RIPPLE, WILLIAM J.

Professor (See Forestry/Wildlife section)

Forestry/Wildlife

RIPPLE, WILLIAM J.

Professor

Director, Environmental Remote Sensing Applications Laboratory (ERSAL)

BS, 1974, South Dakota State University

MS, 1978, University of Idaho

PhD, 1984, Oregon State University

Research Interests: Wolf, ungulate, aspen ecology; trophic cascades; remote sensing of vegetation; fire ecology; geographic information systems; wildlife habitat analysis; landscape ecology; biodiversity; historical ecology.

Current Programs:

The Leopold Project. <http://www.cof.orst.edu/leopold/> The goal of Leopold Project is to continue the work Aldo Leopold started on topics that intersect forestry and wildlife science and ecosystems especially predators, ungulates, and forests.

The Aspen Project. <http://www.cof.orst.edu/aspen/> An interactive web page designed to examine the decline of Quaking Aspen throughout the western United States. This site has had 13,000 hits since 1998.

The Lewis & Clark Project. <http://www.cof.orst.edu/lewis&clark/>. Wildlife Along the Lewis & Clark Trail studying human wildlife associations as a study in historical ecology.

The Wolves in Nature. <http://www.cof.orst.edu/wolves/> The purpose here is to investigate the role of a top predator, the gray wolf (*Canis Lupus*), in structuring ecological communities.

Species Range Contractions. <http://www.cof.orst.edu/rangecontractions> The purpose of this study is to compare historic and current ranges of both carnivores and ungulates, identify large-scale patterns in species ranges and determine the degree of human influence on species range changes.

Courses: FOR 420/520, Advanced Aerial Photos and Remote Sensing
FOR 421/521, Advanced GIS Applications in Forestry

Selected Publications:

Beschta, R.L. and W.J. Ripple. In press. River channel dynamics following extirpation of wolves in northwestern Yellowstone National Park. *Earth Surface Processes & Landforms*.

Olson, Gail S., R.G. Anthony, E.D. Forsman, S.H. Ackers, P.J. Loschl, J.A. Reid, K.M. Dugger, E.M. Glenn, and W.J. Ripple. 2005. Modeling of site occupancy dynamics for northern spotted owls, with emphasis on the effects of barred owls. *Journal of Wildlife Management*. 69:918-932.

Larsen, E.J. and W.J. Ripple. 2005. Aspen Stand Conditions on elk winter ranges in the Northern Yellowstone Ecosystem. *Natural Areas Journal*. 25:326-338.

Beschta R.L. and W.J. Ripple. 2005. Rapid Assessment of Riparian Cottonwoods Recruitment: Middle Fork of the John Day River in Northeastern Oregon. *Ecological Restoration*. 23:150-156.

Ripple W.J. and R.L. Beschta. 2005. Linking Wolves to Plants: Aldo Leopold on Trophic Cascades. *BioScience*. 55: 613-621.

Ripple W.J. and R.L. Beschta. 2005. Refugia from browsing as reference sites for restoration planning. *Western North American Naturalist*. 65:269-273.

- Ripple W.J. and R.L. Beschta. 2005. Willow thickets protect young aspen from elk browsing after wolf reintroduction. *Western North American Naturalist* 65:118-122.
- Ripple, W.J. and R.L. Beschta. 2004. Wolves and the ecology of fear: Can predation risk structure ecosystems? *BioScience* 54:755-766.
- Ripple, W.J. and R.L. Beschta. 2004. Wolves, elk, willows, and trophic cascades in the Upper Gallatin Range of Southwestern Montana, USA. *Forest Ecology and Management* 200:755-766.
- Laliberte, A.S. and W.J. Ripple. 2004. Range Contractions of North American Carnivores and ungulates. *BioScience* 54:123-138.
- Olson, G.S., E.M. Glenn, R.G. Anthony, E.D. Forsman, J.A. Reid, P.J. Loschl, and W.J. Ripple. 2004. Modeling of demographic performance of northern spotted owls relative to forest habitat in Oregon. *Journal of Wildlife Management* 68:1039-1053.
- Glenn, E.M. and W.J. Ripple. 2004. On using digital maps for assessing wildlife habitat. *Wildlife Society Bulletin* 32:852-860.
- Ripple, W.J., S.K. Nelson, and E.M. Glenn. 2003. Forest landscape patterns around marbled murrelet nest sites in the Oregon Coast Range. *Northwest Naturalist* 84:80-89.
- Larsen, E.J. and W.J. Ripple. 2003. Aspen age structure in the Northern Yellowstone Ecosystem: USA. *Forest Ecology and Management* 179:469-482.
- Laliberte, A. and W.J. Ripple. 2003. Automated wildlife counts from remotely sensed imagery. *Wildlife Society Bulletin* 31:362-371.
- Ripple, W.J. and R.L. Beschta. 2003. Wolf reintroduction, predation risk, and cottonwood recovery in Yellowstone National Park. *Forest Ecology and Management* 184:299-313.
- Boyd, D.S., G.M. Foody, and W.J. Ripple. 2002. Evaluation of Approaches for forest cover estimation in the Pacific Northwest, USA, using remote sensing. *Applied Geography* 22:375-392.
- Ripple, W.J., E.J. Larsen, R.A. Renkin, and D.W. Smith. 2001. Trophic cascades among wolves, elk and aspen on Yellowstone National Park's Northern Range. *Biological Conservation* 102:227-234.
- Ripple, W.J. and E.J. Larsen. 2001. The role of postfire coarse woody debris in aspen regeneration. *Western Journal of Applied Forestry* 16(2).
- Ripple, W.J. and E.J. Larsen. 2000. Historic aspen recruitment, elk, and wolves in Northern Yellowstone National Park, U.S.A. *Biological Conservation*.
- Lawrence, R.L. and W.J. Ripple. 2000. Fifteen years of vegetation recovery at Mount St. Helens. *Ecology*.
- Ripple, W.J., K.T. Hershey, and R. Anthony. 2000. Historical forest patterns of the Central Oregon Coast Range. *Biological Conservation* 93:127-133.
- Lawrence, R.L. and W.J. Ripple. 1999. Calculating change curves for multitemporal satellite imagery: Mount St. Helens 1980-1995. *Remote Sensing of Environment* 67:309-319.

Silviculture, Soils & Management

BAILEY, JOHN D.

Associate Professor - Silviculture

PhD, 1997, Oregon State University

MF, 1985, Virginia Tech

BS, 1983, Virginia Tech

Research Interests: Silviculture, fuels and fire behavior, forest ecosystem management, and forest restoration.

Courses: FOR 441, Silviculture Principles
FOR 443, Silviculture Practices
FOR 429, Integrated Projects
FOR 543, Advanced Silviculture
FOR 436/536, Wildland Fire Science and Management

Selected Publications:

Faiella, S.M. and J.D. Bailey. 2007. Fluctuations in fuel moisture across restoration treatments in semi-arid ponderosa pine forests of northern Arizona, USA. *Intl J. Wildl. Fire* 16:119127.

Irwin, Maria 2007. Effects of slash arrangements and treatments on the pinyon-juniper woodland understory community. M.S. Thesis

Landis, A.G. and J.D. Bailey. 2006. Predicting the age of pinyon and juniper trees in northern Arizona: guides for forest restoration treatments. *West. J. App. For.* 21(4):203-6.

McDowell, N.G., H.D. Adams, J.D. Bailey, M. Hess and T.E. Kolb. 2006. Homeostatic maintenance of ponderosa pine gas exchange in response to stand density changes. *Ecological Applications* 16(3):1164-1182.

Bailey, J.D. and C.A. Harrington. 2006. Temperature regulation of bud-burst phenology within and among years in a young Douglas-fir (*Pseudotsuga menziesii*) plantation in western Washington, USA. *Tree Physiol.*26:421-430.

Iniguez, J.M., J.L. Ganey, P.J. Daugherty and J.D. Bailey. 2005. Using cluster analysis and a classification and regression tree model to develop cover types in the sky islands of southeastern Arizona. IN: RMRS-P-36 (Gottfried et al., eds) USDA FS Rocky Mountain Research Station. 631p.

G.L. Zausen, T.E. Kolb, J.D. Bailey, and M.R. Wagner. 2005. Long-term impacts of stand management on ponderosa pine physiology and bark beetle abundance in northern Arizona: A replicated landscape study. *For. Ecol. Mgt.* 218:291-305.

Bailey, J.D. and N.A. Harjanto. 2005. Teak (*Tectona grandis* L.) tree growth, stem quality and health in coppiced plantations in Java, Indonesia. *New Forests* 30:55-65.

Linn, R., J. Winterkamp, J.J. Colman, C. Edminster and J.D. Bailey. 2005. Modeling interactions between fire and atmosphere in discrete element fuel beds. *Intl. J. Wildland Fire.* 14:37-48.

Landis, A.G. and J.D. Bailey. 2005. Reconstruction of age structure and spatial arrangement of pinyon-juniper woodlands and savannas of Anderson Mesa, northern Arizona. *For. Ecol. Mgt.*204:221-236.

Sesnie, S. and J.D. Bailey. 2003. Using history to plan the future of old-growth ponderosa pine. *J. of Forestry* 101/7: 40-47.

Bailey, J.D. and W.W. Covington. 2002. Evaluating ponderosa pine regeneration rates following ecological restoration treatments in northern Arizona, U.S.A. *For. Ecol. Mgt.* 155/1-3: 271-278.

Selected Theses:

Guerra, Vidal. 2001. Stand structure and dynamics of isolated *Pseudotsuga* forests in southern North America. Ph.D. Dissertation.

Goodwin, Karen. 2004. Effects of soil type on regeneration of ponderosa pine in the Southwest. Ph.D. Dissertation.

Sesnie, Steven. 2001. Environmental histories: A foundation for adaptive management on the Kaibab Plateau in northern Arizona. M.S. Thesis.

Brischler, Eric. 2002. Age/size structure and spatial arrangement of Gambel oak (*Quercus gambelii*) in southwestern pine-oak forests. M.S. Thesis.

Landis, Andrew. 2003. Reconstruction of age structure and spatial arrangement of pinyon-juniper woodlands and savannas on Anderson Mesa, northern Arizona. M.S. Thesis.

Leonard, Ariel. 2005. Assessing differential effects of two long-term institutional arrangements on forest ecosystem health in northern Arizona. M.F. Professional Paper.

Faiella, Shawn. 2005. Fire, fuel and structural dynamics in treated and untreated ponderosa pine forests of northern Arizona. M.S. Thesis.

Hassler, Frank. 2006. Juniper woodland and savanna infill in northern Arizona: implications for mechanical restoration and reintroduction of fire. M.S. Thesis.

Sabo, Kyla. 2006. Understory vegetation dynamics following fuel reduction strategies in northern Arizona ponderosa pine forests. M.S. Thesis.

REUTER, RONALD J.

Assistant Professor (See Forest and Restoration Ecology section)

TAPPEINER, JOHN C., II

Professor Emeritus

(Joint Appointment with Biological Resource Division, USGS)

BS, 1957, University of California-Berkeley

MS, 1961, University of California-Berkeley

PhD, 1966, University of California-Berkeley

Research Interests: Ecology and management of shrubs and hardwoods; growth and yield; development of oldgrowth forests; silviculture/wildlife management.

Current Programs: Shrub and hardwood ecology and management in Oregon forests; silvicultural systems for western Oregon forests.

Courses: FOR 441, Silviculture Principles
FOR 443/543, Silvicultural Practices
FOR 406/506-4, Integrated Projects
FOR 446, Wildland Fire Ecology

Selected Publications:

Silviculture of Central Oregon Forests (COPE Book Chapter)

Deal, R.L. and J.C. Tappeiner. 2002. [in press]. The effects of partial cutting on stand structure and growth in Western Hemlock-Sitka Spruce stands in Southeast Alaska. *Forest Ecology and Management*.

Latham, P. and J.C. Tappeiner. 2002. Response of add-growth conifers to reduction in stand density in Western Oregon forests. *Tree Physiology*. In press.

Tappeiner, J.C., J.C. Zasada, D. Huffman, and L.M. Ganio. 2001. Salmonberry and salal annual aerial stem production: the maintenance of shrub cover in forest stands. *Canadian Journal of Forest Research* 31:1629-1638.

Bailey, J.D. and J.C. Tappeiner. 1998. Effects of thinning on structural development in 40 to 100-year-old Douglas-fir stands in Western Oregon. *Forest Ecology and Management* 108:99-113.

Selected Theses:

Poage, N. 2001. Structure and development of old-growth Douglas-fir in Central Western Oregon. Ph.D.

Bailey, J.D. 1996. Effects of stand density reduction on structural development in Western Oregon Douglas-fir forest. Ph.D.

Haeussler, Sybille. 1987. Germination and first-year survival of Red Alder seedlings in the Central Coast Range of Oregon. M.S.

WALSTAD, JOHN D. (JACK)

Professor Emeritus

BS, 1966, College of William and Mary

MF, 1968, Duke University

PhD, 1971, Cornell University

Research Interests: Vegetation management, integrated forest protection, regeneration, natural & prescribed fire

Current Programs: None, due to transition to emeritus status

Courses: FOR 111, Introduction to Forestry
FOR 407/507/607-006, Seminar on Professionalism
FOR 346, Topics in Wildland Fire

Selected Publications:

Walstad, J.D. and J.C. Tappeiner. 2000. The challenges facing forest ecosystem health in the 21st century, p. 15-16. In Ross, D.W. (compiler), Proceedings, 51st Annual Meeting, Western Forest Insect Work Conference, Portland, OR, Feb. 7-10, 2000.

Curtis, R.O., D.S. DeBell, C.A. Harrington, D.P. Lavender, J.C. Tappeiner, and J.D. Walstad. 1998. Silviculture for multiple objectives in the Douglas-fir region. USDA Forest Service, Pacific Northwest Research Station, Portland, OR. General Technical Report PNW-GTR-435. 123 pp.

Tappeiner, J.C., D. Lavender, J.D. Walstad, R.O. Curtis, and D.S. DeBell. 1997. Silvicultural systems and regeneration methods: Current practices and new alternatives. pp. 151-164. In: Kohm, K.A., and J.F. Franklin (Eds.). "Creating a Forestry for the 21st Century: The Science of Ecosystem Management." Island Press, Washington, D.C. 475 pp.

Walstad, J.D. 1997. Forest and Forestry. pp. 391-395. In: McGraw-Hill Encyclopedia of Science and Technology, 8th Edition, Volume 7. McGraw Hill, New York, NY.

Extension Faculty

BENNETT, MAX

Assistant Professor (Extension Agent, Jackson and Josephine Counties)

Professional Interests: Silviculture, forest health, integrated management for forest health, fire hazard reduction

FITZGERALD, STEPHEN

Associate Professor (Extension Agent, Deschutes, Jefferson, Crook, and Grant Counties)

Professional Interests: Fuel Reduction Methods Fire Ecology, Uneven-aged Management, Silviculture Systems in Dry Forests, Post-fire regeneration.

FLETCHER, RICK

Associate Director, Sustainable Forestry Partnership
Professor (Extension)

Professional Interests: Forest management, marketing, Christmas tree production, urban tree care, agroforestry, volunteer program management

HOLMBERG, JOSEPH

Instructor (Extension Agent, Benton County & OSU Extension)

JOHNSON, JAMES E.

Associate Dean – Extended Education and International Programs, Extension Forestry Program Leader, Professor

Professional Interests: Forest landowner education; forest development opportunities; policy alternatives to stimulate stewardship of private and family forests; application of new technologies, natural resources program evaluation.

LANDGREN, CHAL

Professor and Staff Chair (Columbia and Washington Counties Extension Agent)

Professional Interests: Christmas trees (tree improvement, leader controls, fertilization and long term productivity), forest business and finance, reforestation

VIVIANE SIMON-BROWN

Associate Professor (See Natural Resources Education and Extension section)

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