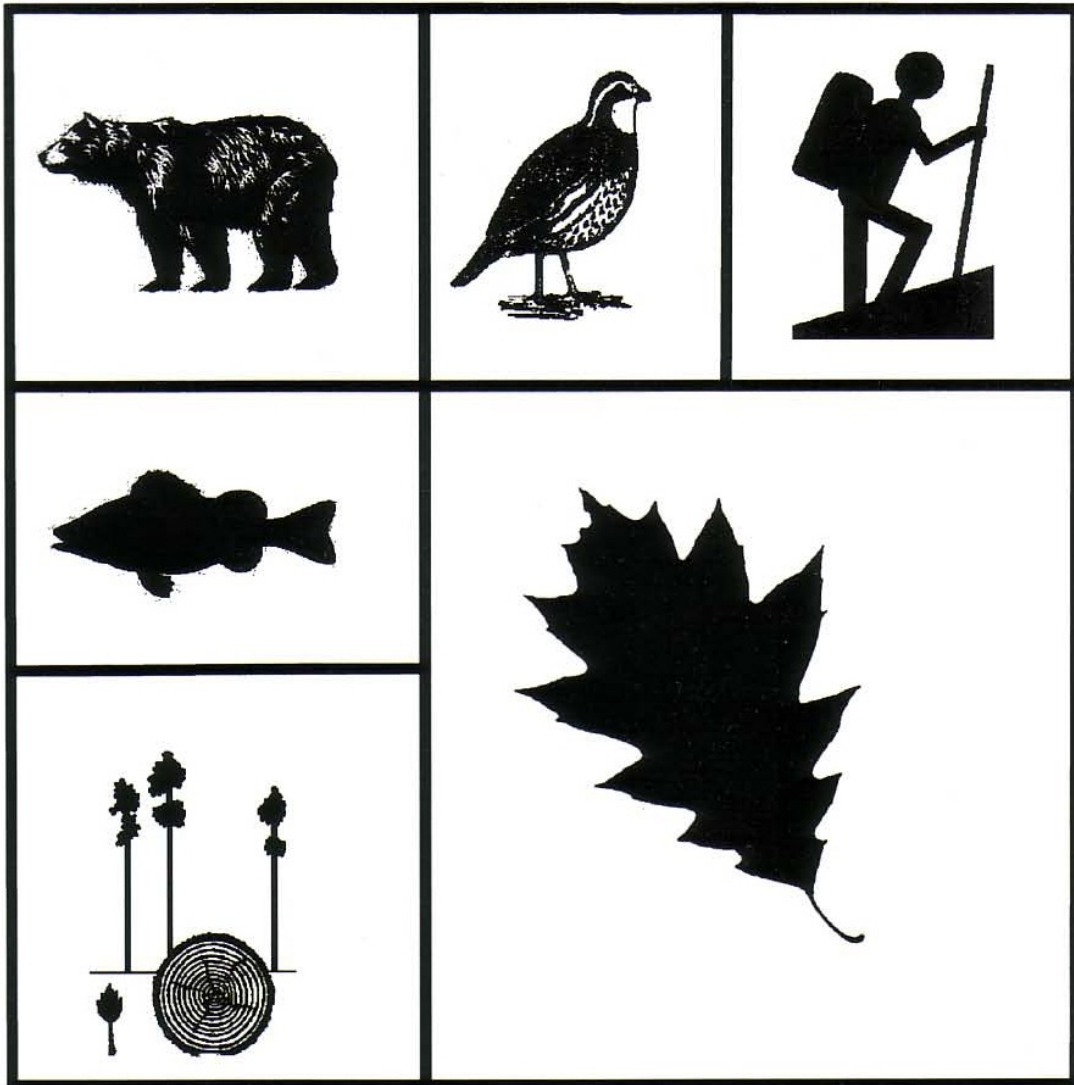


# Graduate Student Handbook



## Department of Forestry, Wildlife, and Fisheries

College of Agricultural Sciences and Natural Resources

The University of Tennessee, Knoxville

Ph.D. Natural Resources

M.S. Forestry

M.S. Wildlife and Fisheries Science

21 August 2013

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## **WELCOME TO THE DEPARTMENT OF FORESTRY, WILDLIFE AND FISHERIES**

The beginning of your graduate program is an exciting time, filled with new ideas, new surroundings, new people, and new responsibilities. Graduate study is fundamentally different from your undergraduate experience, requiring you to balance your time between research and course work, to develop collaborative relationships with your fellow FWF students, your graduate committee members and other faculty members, research technicians, and scientists outside of the university. At times you will be expected to work independently, at others you will be expected to work under the close supervision of your supervisor or another faculty member. By its very nature, your graduate experience will be slightly different than any other student that has ever passed through the same program – your research project, the combination of course work and extra-curricular activities, and the friends and future colleagues you meet will be unique. You are taking the next step to becoming a professional in the disciplinary area that you have chosen.

This handbook has been created to provide guidance through the maze of policies and regulations related to graduate study. We have made every effort to make sure it is accurate and up to date. However, as with any set of guidelines, it is likely that things will change (if they haven't already) as new policies are adopted by the Graduate School, or the Institute of Agriculture, or our department. This is a living document, so always make sure you check with your supervisor, or the Departmental Graduate Coordinator, just in case something has changed.

The faculty and staff of this department are here to make sure your graduate career is both successful and enjoyable. Please don't ever hesitate to seek the assistance of any faculty member in the department, any staff member (be they clerical or technical), or of me.

Keith L. Belli

Professor and Department Head

## INTRODUCTION

In order to serve the mission and vision of the Graduate School and preserve the integrity of Graduate Programs at the University of Tennessee, Knoxville, information related to the process of graduate education in each department is provided for all graduate students. Based on Best Practices offered by the Council of Graduate Schools, this handbook provides a detailed articulation of the information specific to the graduate degrees offered in The Department of Forestry, Wildlife and Fisheries. The Department Graduate Handbook does not deviate from established Graduate School Policies noted in the Graduate Catalog <http://catalog.utk.edu/index.php?catoid=12/> but rather provides the specific ways in which those policies are carried out.

Graduate students are expected to be aware of and satisfy all regulations governing their work and study at the university. Students should refer to the Graduate Catalog, to *Hilltopics*, and to the publications on the Appeals Procedure and the Graduate Assistant Handbook available on the Graduate School website (<http://gradschool.utk.edu/GraduateCouncil/AcadPoli/appealprocedure.pdf>).

The policies and procedures of the Graduate Program in the Department of Forestry, Wildlife and Fisheries are developed and implemented by consensus of the departmental faculty. The Program is administered by the Graduate Program Coordinator, Dr. David Buckley.

## **GENERAL DUTIES AND RESPONSIBILITIES OF FACULTY AND GRADUATE STUDENTS**

Pursuit of a graduate degree is a partnership between the graduate student, the faculty advisor, and the graduate student's committee. The graduate degree is a research-driven experience (with the exception of the M.S. Forestry - non-thesis option), with graduate coursework designed to enhance the overall background of the student. In general, the graduate student develops the thesis/dissertation research in consultation with the graduate advisor and with input from the graduate committee.

The graduate student is responsible for designing the research, conducting the research, analyzing the resulting data, and writing the thesis or dissertation. In addition, the student is expected to develop several manuscripts for publication in peer-reviewed journals during or after completing the degree requirements. The graduate student must meet the degree requirements relative to successful completion of their program of study. The student is also expected to contribute to the teaching program of the advisor and the department in general and assist with other duties associated with the advisor's program and other departmental activities.

The advisor is responsible for providing critical input in designing the research, providing technical and logistical support during research implementation, assisting with conducting and interpreting analyses, and providing critical review during the writing phase. When available, the advisor will also provide financial support in the form of a Graduate Research Assistantship or a Graduate Teaching Assistantship. The advisor also should provide input on the student's program of study and encourage other professional development activities

for the student, such as attending and presenting at professional meetings, and attaining other skills to enhance the student's overall portfolio.

## **ADMISSION REQUIREMENTS AND APPLICATION PROCEDURE**

### **Admission to the Graduate School**

Application for admission to graduate study must be made through Graduate Admissions <http://graduateadmissions.utk.edu/>. The completed graduate application for admission includes one official transcript from each institution previously attended and an application fee of \$60 payable to The University of Tennessee. An undergraduate Grade-Point Average (GPA) of 2.7 on a 4.0 scale, or 3.0 during the senior year, is required. This is the minimum requirement for admission to The Graduate School. The Graduate Record Examination (GRE) aptitude test is required by the department and should be submitted to the Office of Graduate Admissions and Records. In addition, three online letters of recommendation must be completed by former professors in the major field(s) or employers and submitted to Graduate Admissions. If the student's native language is not English, scores from Test of English as a Foreign Language (TOEFL) must be sent to Graduate Admissions. See The University of Tennessee Graduate Catalog for more information on the regulations of The Graduate School.

### **Admission to the Departmental Master of Science Program**

Admission to the Master of Science degree programs in the Department of Forestry, Wildlife and Fisheries is determined by a Departmental Review Committee after the student has met the requirements for admission to the Graduate School. The Graduate School requires that the applicant have a Bachelor's degree from a college or university accredited by

the appropriate regional accrediting agency or foreign equivalent. Students applying for admission are expected to have at least a 3.0 grade point average (4.0 scale) on undergraduate coursework. The minimum acceptable GRE score is 297 (combined verbal plus quantitative) under the new scoring system and 1,000 (combined verbal plus quantitative) under the old scoring system. All application forms are available on UT's Graduate Admissions web site <http://graduateadmissions.utk.edu/>. All application forms are processed within the Department by the Graduate Program Coordinator. A Departmental Review Committee composed of three potential major professors in the field of study reviews each application. A recommendation is made to The Graduate School by the Graduate Coordinator in counsel with the Departmental Review Committee.

After review of an application by the Departmental Graduate Committee, some applicants may be required to enroll in supplemental undergraduate courses to address deficiencies. If the undergraduate degree is different from the graduate degree, prerequisites often are added in consultation with the advisor and the student's committee. For example, if the first forestry degree to be earned is the Master's degree, certain prerequisites must be met to fulfill Society of American Foresters accreditation requirements. Such prerequisites may be required in addition to the regular requirements for the degree and must be met before entering the program or as soon as possible after entrance. The student must earn a grade of C or better (or S, for S/NC grading) in each prerequisite course.

### **Admission to the Natural Resources Ph.D. Program**

Admission to the Natural Resources Ph.D. program is determined by a departmental Review Committee after the student has met the requirements for admission to the Graduate School. Most applicants will have earned a masters degree before applying to the doctoral



program. In exceptional cases, students with an undergraduate degree only will be admitted to the Ph.D. program. All students applying for admission are expected to have at least a B average (3.0 on 4.0 scale) on undergraduate and previous graduate coursework. Minimum acceptable GRE score is 302 (verbal plus quantitative combined) under the new scoring system and 1,100 (verbal plus quantitative combined) under the old scoring system. All application forms are located on UT's Graduate Admissions web site

<http://graduateadmissions.utk.edu/>.

All application forms are processed within the Department by the Graduate Program Coordinator. A Review Committee composed of three potential major professors in the field of study review each application. A recommendation is made to the Graduate School by the Graduate Coordinator in counsel with the Departmental Review Committee.

### **Other Types of Admission**

Students not admitted to a degree program may be admitted under non-degree or provisional status. Non-degree is for applicants who wish to take graduate classes, but do not wish to pursue a degree program. A student may be admitted under the provisional status for one semester or for one course in each of two semesters. To remain on provisional status, a student must receive permission from the Graduate School to register for a second or succeeding semester. Admission to the non-degree or degree status requires a minimum of a 3.00 GPA in all course work taken while in provisional status, including at least 6 hours of graduate work.

Under non-degree admission, there is no specific limit on the number of courses taken, but before accumulating 15 hours of graduate course work in this status, a non-degree student must apply for and be admitted to a specific program or file a Plan of Study form with the

Associate Dean of the Graduate School for approval to continue taking courses. The form must include educational objectives and a list of proposed courses. A maximum of 15 hours taken before acceptance into a degree program may be applied toward a graduate degree, if approved by the student's graduate committee. Courses must be taken within the 6-year time limit specified for the degree. Students must maintain a 3.0 GPA. International students on a non-immigrant visa may not enroll under provisional or non-degree status. Only in exceptional situations, with prior approval from the Department, are students admitted to the Department of Forestry, Wildlife and Fisheries under provisional status. Admission as non-degree is more common, but not routine.

## **FINANCIAL SUPPORT**

### **Assistantships**

A limited number of graduate research assistantships (GRA's) and graduate teaching assistantships (GTA's) are available in the Department. These assistantships provide a basic stipend, plus waiver of maintenance fee and out-of-state tuition. However, the student is responsible for paying activity and technology fees. Stipends are subject to federal taxation. Federal income taxes are withheld on the total amount. Tennessee state income tax is not levied on payrolls or stipends. Assistantships are administered by a policy statement of the Graduate School.

#### Graduate Research Assistantships

GRAs have the objectives of supporting faculty research and providing assistance to qualified and deserving graduate students. Some GRAs are funded by the Agricultural Experiment Station and are allocated to individual faculty for approved research projects by the Department Head. Additional GRAs are obtained via grants obtained by individual faculty. Graduate students supported by GRAs are expected to assist their major professors with research and are expected to assist in teaching where possible.

Master's degree appointments are for two (2) years and Ph.D. degree appointments are for three (3) years. Appointments can exceed these time periods based on availability of external funding obtained by individual faculty. Students who begin an assistantship after the start of a term or who terminate an assistantship before the end of a term are financially responsible for a portion of their tuition and fees for that particular semester. For example, a student may be appointed to a GRA on 1 July, but be enrolled for the whole summer term, or a student on an assistantship may terminate before the end of the semester to take employment elsewhere.

The student's portion of the tuition is prorated on the basis of the term that he or she is not on assistantship.

### Graduate Teaching Assistantships

GTAs are available in the Department to support classroom instruction. GTAs are 9-month appointments. A quarter-time GTA is expected to devote at least 10 hours per week to helping faculty members with classes. Classes are assigned to GTAs at the start of each semester. GTAs may be assigned classes other than those taught by their major professor.

### **Other Financial Support**

#### Biweekly Payroll

Some faculty have limited funding to pay graduate students an hourly wage for research work. Interested students should check with their major professor about this employment.

#### Cooperative Agreements

Financial support of graduate students is sometimes available in cooperative agreements between the Department of Forestry, Wildlife and Fisheries and private industry, state or federal agencies as temporary or permanent employment or contract work. Such funding can be secured through individual student efforts, but more often through faculty efforts. Students interested in this financial support should speak with their advisor.

#### Scholarships

There are a variety of scholarships available for students not on assistantships. Scholarships available to graduate students in the Department of Forestry, Wildlife and Fisheries through the College of Agricultural Sciences and Natural Resources (CASNR) include:

- Carl I. Peterson Scholarship Endowment Fund  
Eligible: Undergraduate and graduate student in forestry

- Guy Coheleach Conservation Endowment Scholarships

Eligible: Undergraduate and graduate students in the Department of Forestry, Wildlife and Fisheries.

- John Richard Fain Student Aid Fund

Eligible: Undergraduate and graduate students from Jefferson County, Tennessee, enrolled in the College of Agricultural Sciences and Natural Resources.

- Jimmy Jackson Conservation Award Fund

Eligible: Students from Dickson and surrounding counties, Tennessee, enrolled in the College of Agriculture, who have shown an outstanding interest or aptitude in the study of conservation.

- George T. Weaver Scholarship Endowment Fund

Eligible: Undergraduate and graduate students in Forestry, Wildlife and Fisheries.

- Rehabilitation Corporation of Tennessee Scholarships

Eligible: Graduate students enrolled in the College of Agricultural Sciences and Natural Resources.

- Gary and Joretta Schneider Scholarships

Eligible: Graduate students enrolled in Forestry, Wildlife and Fisheries.

Applications can be obtained from the Office of the Dean of the College. Applications for a given academic year are due early in the spring semester just prior to that academic year.

Students should also check with The Graduate School, the Office of Scholarships and Financial Aid, and the Veterans Affairs Office about other funding opportunities.

## **REGISTRATION AND ADVISING**

Registration is required of all graduate students when using university facilities and/or faculty time. The minimum number of hours for registration is one. Registration allows use of services such as library checkout, laboratories, and recreation facilities not open to the public. The maximum load for a graduate student is 15 hours and 9 to 12 hours are considered a full load. For the summer term, graduate students may register for a maximum of 12 hours in an entire summer term or for a maximum of 6 hours in a five-week summer session. Students may enroll in only one course during a mini-term session. Students holding a one-half time assistantship normally should enroll for 6-11 hours. A one-fourth time graduate assistant normally should take 9-13 hours. A student on a one-half time assistantship who takes 6 hours will be considered full time. Students receiving financial aid should consult with the department/program head concerning appropriate course loads. Courses audited do not count toward minimum graduate hours required for financial assistance.

Graduate students are advised on their program of study by their advisor. The program of study is then reviewed and approved by the graduate committee. Admission to Candidacy indicates agreement that the student has demonstrated ability to do acceptable graduate work and that satisfactory progress has been made toward a degree. This action usually connotes that all prerequisites to admission have been completed and a program of study has been approved. The Admission to Candidacy form must be signed by the student's committee and all courses to be used for the degree must be listed, including transfer course work.

## **DEGREE REQUIREMENTS**

The department offers two Master of Science degree programs: a program leading to the Master of Science in Forestry and a program leading to the Master of Science in Wildlife and Fisheries Science. Both thesis and non-thesis options are available for the major in Forestry. A thesis is required in Wildlife and Fisheries Science. The department also offers a Doctor of Philosophy degree in Natural Resources.

### **Master of Science - Thesis Option**

#### Course Work

A candidate for a Master's degree in Forestry or Wildlife and Fisheries Science must complete a minimum of 30 semester hours of graduate credit courses. Only courses listed in the Graduate Catalog are offered for graduate credit. The 30 hours must include: 1) 6 hours of Thesis (Forestry 500 or Wildlife and Fisheries 500); 2) 18 hours in the major (major course may be from any academic department but must be approved by the student's committee as contributing the student's major focus area) including the thesis hours, and 3) 20 hours of 500-level courses, including the thesis hours. All students are required to include a 1-hour credit Seminar (Forestry 512 or Wildlife and Fisheries Science 512) in their programs twice while they are in residence. Graduate students must register for 6 hours of graduate course work to be considered a full-time student. Beyond these requirements, a student's committee determines the distribution of the 30 hours.

Forestry 593 and Wildlife and Fisheries Science 593 are Independent Study courses that offer graduate students the opportunity to pursue individualized study of a topic of interest to them under the direction of a faculty member. These two courses may be taken for a

maximum of 6 credit hours each. They are not to be used to complete part of a student's thesis research.

The Department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization, examples include environmental policy and statistics. For details consult the Graduate Catalog.

### Thesis

All Master's candidates in the thesis option are required to complete a thesis to the satisfaction of their graduate committee. The thesis represents the culmination of an original research project completed by the student under supervision of a major professor. Prior to initiating thesis research, the student must find a faculty member (including adjunct faculty) in the Department willing to serve as Major Professor. The Major Professor will advise the student about courses, supervise the student's research and facilitate communication within the Department, with other departments, and with The Graduate School. With few exceptions, students will have been selected by a Major Professor for a particular research project before beginning their Master's program. In the event a student has no Major Professor, the student should consult with the Department Head and secure a Major Professor and research project during the first semester of attendance at The University of Tennessee.

The student must prepare a proposed outline of course work and a research plan. The plan should include the proposed research title, objectives, justification, procedures and tentative timetable. These documents must then be presented to the committee for approval within the first two semesters of residence. Subsequent changes in course work or departures from the original research plan must be approved by the Major Professor prior to such



actions. Research involving human subjects or live vertebrate animals must receive prior approval by the appropriate university committee.

Prior to graduation, students must present a departmental seminar regarding their research results. Presentation of the findings at a professional, technical meeting is encouraged as well. The required FOR/WFS 512 seminar presentation is considered preparatory to this professional seminar and not a substitute.

Before beginning to write the thesis, a graduate student is strongly encouraged to participate in a Thesis Workshop offered each semester by The Graduate School. The UT Guide to the Preparation of Theses and Dissertations provides the correct format for theses and is available at the University Book and Supply Store.

#### Exit Requirements

Before leaving The University of Tennessee, it is the responsibility of each graduate student to clean and organize all equipment and laboratories used during their research. Upon completion of their research, graduate students are strongly encouraged to work with their Major Professor to produce one or more technical publications. If the student does not follow through on publication, the use of these data is at the discretion of the Major Professor after a reasonable period of time. Students should realize that the research they conduct is part of approved research of the University of Tennessee. Unless other arrangements are specifically arranged in writing with research supervisors, original data sets must be deposited with research supervisors before leaving the University. Early discussions regarding authorship with all research collaborators (including peers and faculty other than the Advisor) and procedures for publication are encouraged. All sources of funds and any

direct assistance with the research should be appropriately acknowledged in the thesis and publications.

### **Master of Science - Non-Thesis Option**

#### Course Work

A Master of Science degree with a major in Forestry is available under the non-thesis option. Course requirements include: (1) 35 hours of course work of which 23 hours must be at the 500 level or higher, (2) Forestry 511: Problem Analysis in Forest Resources, and (3) 9 hours of course work in the Department of Forestry, Wildlife and Fisheries that must be at the 500 level or higher, exclusive of Forestry 511.

### **Common MS Requirements- Both Options**

#### Graduate Committees

A Graduate Committee is required for both the Thesis and Non-Thesis MS options. Within the first two semesters in residence, the graduate student and Major Professor must form a graduate committee. The committee must be composed of the Major Professor and at least two other members of the graduate faculty. One member of the graduate faculty must be from a department other than Forestry, Wildlife and Fisheries. A fourth member of the committee may be from outside the University. If the student intends to minor in a discipline outside the Department of Forestry, Wildlife and Fisheries, that discipline must be represented on the committee by a faculty member.

#### Residency

No minimum residency exists for the Master's Program, however there is an overall time limit of six (6) years for the completion of all requirements for the degree from the date of

matriculation. Course work taken more than six years prior to the date of graduation must be re-validated if it is to be used in meeting program requirements.

### **Time Schedule for Master's Degree Requirements**

Secure Major Professor	During first semester
Form committee, prepare outline of proposed course work and research work plan	Within first two semesters
Apply for admission to candidacy for Master's degree	No later than commencement day of the semester preceding the semester of graduation
Diploma application deadline	Deadline date will be available at registration
Deadline for submission of thesis final draft to committee	2 weeks before oral exam
Deadline for scheduling oral exam	Not later than 1 week prior to the oral exam
Formal written announcement of oral exam distributed to FWF faculty	At least 3 days in advance of oral exam
Deadline for taking oral exam	At least 3 weeks before the final date for approval and acceptance of thesis by The Graduate School. Deadline for non-thesis students is 2 weeks later
Presentation of departmental or professional seminar	Prior to last day of semester of graduation
Deadline for final approval of 2 copies of thesis by Graduate School thesis consultant	Not later than 2 weeks prior to commencement

Specific dates for a given academic year are available from The Graduate School

(<http://gradschool.utk.edu/ddategraduation.shtml>).

## **Natural Resources Ph.D.**

### Course Work

A candidate for the Natural Resource Ph.D. must complete 72 hours of coursework beyond the bachelor's degree. Forty-eight hours must be in graduate coursework approved by the student's doctoral committee. Up to 24 hours of master's-level coursework may be applied to the 48-hour requirement. In addition, 24 hours of FWF 600 – Doctoral Research and Dissertation – are required. A minimum of 6 semester hours must be taken in UT Knoxville courses at the 600-level, exclusive of dissertation hours.

### Program of Study

All students in the program will be expected to complete the minimum number of credits within each of the numbered areas listed below. Specific courses to meet these requirements will be determined by the student's graduate committee.

1. Research Methods and Analysis - 9 credits in at least two of the following subject areas:
  - A. Research/Experimental Design
  - B. Statistics/Econometrics/Biometrics
  - C. GIS/Remote Sensing
2. Core Subject Areas - 32 credits to be determined by Doctoral Committee
3. Professional Development - 5 credits
  - A. Teaching - all students are expected to complete FWF 601 and assist in teaching a course during their tenure in the program. (3 credits)
  - B. Professional Communications – all students will be required to

complete FWF 612 twice as part of their program of study. Part of the seminar requirement will consist of assisting in the development and conduct of FWF 512. (1 credit/semester x 2 semesters = 2 credits total)

4. FWF 600 (24 credits)

Doctoral Committee

The doctoral committee is identified by the student and Major Professor and consists of at least four faculty members. At least two of the committee members must be from the Department of Forestry, Wildlife and Fisheries and one member must be from an academic unit other than Forestry, Wildlife and Fisheries. Three of the committee members, including the Major Professor, must have been approved by the Graduate School to direct doctoral research. The committee should be formed during the first year of the student's program.

Dissertation

During the first year, the student should develop a research prospectus that outlines the research problem to be addressed as part of their doctoral research. The prospectus will be presented to the student's committee and the committee will approve the research topic and approach. All students will be required to complete, present, and defend a dissertation. The student should provide each member of the committee a copy of the dissertation at least two weeks prior to the scheduled defense. All students will be required to present a seminar on their dissertation as part of the degree requirements. The seminar can be part of the dissertation defense or presented before the formal defense.

## Time Schedule for Ph.D. Degree Requirements

Secure Major Professor	During first semester
Complete qualifying examination, if required	During first semester
Form committee, prepare proposed outline of course work and research work plan	Within first two semesters
Complete written and oral comprehensive examinations	Upon completion of program of study
Apply for admission to candidacy for Ph.D. degree	No later than commencement day of the semester preceding the final semester
Diploma application deadline	Deadline available at time of registration
Deadline for submission of dissertation final draft to committee	2 weeks before oral exam
Deadline for scheduling oral exam	No later than 1 week prior to oral exam
Formal written announcement of oral exam distributed to FWF faculty	At least 3 days in advance of oral exam
Deadline for taking oral exam	At least 3 weeks before the final date for approval and acceptance of thesis by The Graduate School, deadline for non-thesis students is 2 weeks later
Presentation of departmental seminar	Prior to last day of semester of graduation
Deadline for final approval of 2 copies of dissertation by Thesis Consultant at The Graduate School	Not later than 2 weeks prior to commencement

Specific dates for a given academic year are available from The Graduate School

(<http://gradschool.utk.edu/ddategraduation.shtml>).

## EXAMINATIONS

### **M.S. (thesis option) Final Examination**

A final oral exam is required prior to acceptance of the thesis. The oral exam is broad in nature, covering relevant coursework and contemporary topics and not simply an opportunity to edit and revise the thesis. The student must present a copy of the final draft of the thesis (which the major professor feels represents the best effort of the student) to each committee member at least two weeks before the oral exam. A formal written announcement regarding a student's oral exam must be distributed to departmental faculty by the Major Professor at least three days in advance of the exam. Students must be enrolled for at least three hours of credit the semester they take the final exam. The oral exam will be evaluated by the graduate committee and the student will be passed if a majority of committee members believe the student displayed sufficient technical competency and critical thinking skills to be well prepared as a professional in their chosen field of study. If the student fails to meet this standard, they can retake the oral exam once after spending at least two weeks of additional time in preparation.

### **M.S. (non-thesis option) Final Comprehensive Examination**

Upon completion of at least 28 credit hours of approved study the student is required to take and pass final comprehensive written and oral examinations. The comprehensive exams will be evaluated by the graduate committee. The exam will be evaluated by the graduate committee and the student will be passed if a majority of committee members believe the student displayed sufficient technical competency and critical thinking skills to be well prepared as a professional in their chosen field of study. If the student fails to meet this standard, they can retake the exam once after spending at least two weeks of additional time

in preparation. Oral and written examination deadlines for non-thesis students are given by The Graduate School each semester. Students who complete all degree requirements except their final examinations must enroll in Forestry 502: Registration for Use of Facilities (3-15) each semester they plan to use University facilities or faculty time before their degree is completed.

## **Ph.D. Examinations**

### Qualifying Examinations

Students may be required to complete a written qualifying exam during their first year in the program. The need for the qualifying examination is left to the discretion of the student's committee. The qualifying exam is intended to identify any deficiencies that doctoral students may have early in their program of study and, therefore, should be administered as early in the student's tenure as possible.

### Comprehensive Examinations

All doctoral students are required to successfully complete oral and written comprehensive examinations on all coursework completed as part of the Ph.D. requirements. The exam is scheduled by the Major Professor when the student has completed all or nearly all of the coursework. The student's Ph.D. committee will determine the content, nature, and schedule of the comprehensive exam and certify the results. The Major Professor is responsible for securing exam materials from committee members and administering the written and oral components of the exam. If a student fails to successfully complete the comprehensive examinations initially, the exams may be administered once more, no sooner than the following semester.



## **STANDARDS, PROBLEMS AND APPEALS**

### **Academic Standards**

Graduate education requires continuous evaluation of the student. This includes not only periodic objective evaluation, such as the cumulative grade point average, performance on comprehensive examinations, and acceptance of the thesis or dissertation, but also judgments by the faculty of the student's progress and potential. Continuation in a program is determined by consideration of all these elements by the faculty and the head of the academic unit. The academic records of all graduate students are reviewed at the end of each semester, including the summer term. Graduate students must maintain a cumulative grade point average (GPA) of at least 3.0 on all graduate courses taken for a letter grade of A-F. Grades of S/NC, P/NP, and I, which have no numerical equivalent, are excluded from this computation.

### **Academic Probation**

Once at least 9 hours of graduate course work has been completed, a graduate student will be placed on academic probation if his/her cumulative GPA falls below 3.0. A student will be allowed to continue graduate study in subsequent semesters provided each semester's grade point average is 3.0 or greater. Upon achieving a cumulative GPA of 3.0, the student will be removed from probationary status.

### **Dismissal**

If a student is on academic probation, the degree or non-degree status will be terminated by the Dean of the Graduate School if the student's semester GPA falls below 3.0 in a subsequent semester. When the particular circumstances are deemed to justify continuation,

and upon recommendation of the appropriate academic unit and approval of the Dean of the Graduate School, a student on probation whose semester GPA is below 3.0 may be allowed to continue on a semester-by-semester basis.

Dismissal of a graduate student by the department is accomplished by written notice to the student, with a copy to the Graduate School. Registration for courses in the department from which a student has been dismissed will not be permitted, except by written authorization from that department.

### **Academic Honesty**

Academic integrity is a responsibility of all members of the academic community. An honor statement is included on the application for admission and readmission. The applicant's signature acknowledges that adherence is confirmed. The honor statement declares

*An essential feature of the University of Tennessee, Knoxville, is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.*

### **Grievances**

In the unhappy event that a graduate student becomes involved in a conflict with another individual at UT that cannot be resolved between them, the student should take orderly, dispassionate steps to solve the problem. The student should first seek help from his/her

Major Professor, unless of course, that is where the problem lies. The next level of appeal is the Department Head.

Procedures within the department should ensure that: (1) actions taken within the department abide by the general framework of university regulations; (2) the student be informed of the reasons of the departmental decision; (3) the student be notified promptly in writing of any change of status; (4) the student has an opportunity to seek counsel from at least two faculty members and, if desired, from the Department Head (see Graduate Council Appeal Procedure, revised 5 May 1999); (5) the student has an opportunity to present his or her case before the faculty or appropriate committee; (6) the student be notified promptly in writing of the departmental decision and avenues of appeal; (7) written documentation is maintained of meetings held, actions taken, and decisions made, and (8) decisions are made within a reasonable time frame.

## **NON-ACADEMIC INFORMATION**

It must be emphasized that when graduate students need to take action concerning payroll, travel, vehicles, purchasing, computer use, keys, photocopying, typing, or long distance phone calls they should do so through their Major Professor, who must authorize all such actions.

### **Payroll**

The Department of Forestry, Wildlife and Fisheries provides payment for employed students, either monthly or biweekly. Departmental employment forms and federal tax status forms are available from the Senior Secretary in the departmental office (274 Plant Sciences Bldg.) and must be completed and approved before a student begins employment. Students employed on research/teaching assistantships (GRA/GA) receive payment on the last working day of each month. No time sheets are required, and paychecks are directly deposited in the student's bank account. Some students may be paid on a biweekly basis and are required to return supervisor approved time sheets to the Senior Secretary by noon on the last Friday of each pay period. The Senior Secretary is responsible for the records of these employees and provides time sheets and information on payment schedules. Checks are delivered to the departmental office, where they may be picked up by the student.

## **Travel**

In-state travel on business does not require a travel authorization. Expenses may be claimed according to current state guidelines by filing appropriate reimbursement forms accompanied by receipts for lodging, registration fees, and miscellaneous expenses. Travel Authorizations must be filed to claim expenses for out-of-state travel. Travel advances are available to students for anticipated expenses while on official business. A form requesting the travel advance can be submitted to the departmental bookkeeper when the travel authorization has been approved. A check for the amount of the advance can then be picked up from the Office of the Treasurer. If expense account forms are not processed within 30 days of return from travel, the amount of the advance will be deducted from the employee's paycheck.

## **Vehicles**

### UT Transportation Services

Students must be employed by The University of Tennessee and hold a valid driver's license to be eligible to operate a University vehicle. The University provides general liability coverage for employees injured while on official business. However, in the case of an automobile accident, injured parties must make an appeal to the State Board of Claims for compensation. If the operator is found negligent in an accident, he/she is considered liable for suit, not the University. It is advisable for employees to carry personal liability coverage which provides protection in any vehicle. Students or others not employed by the University who are riding in the UT vehicle are not provided coverage by the state.

The University of Tennessee Motor Pool provides vehicles varying from subcompacts to vans and four-wheel drive trucks for project use. Vehicles must be reserved and payment

arranged in advance of the desired date of use. Vehicles can be returned after hours by parking the vehicle in the Motor Pool lot and placing the keys, credit cards, and receipts in the box provided at the back door. Vehicles are serviced by Motor Pool personnel prior to use to ensure safe and reliable operation. Fuel should be obtained from the Motor Pool when in town. When out of town, fuel can be purchased with the credit card supplied with the vehicle, following regulations in force at the time. Only some gas stations will honor the vehicle credit card, so check before pumping the fuel. A 1-800 number is listed on the card if assistance is needed to locate a participating gas station. All receipts must be returned with the vehicle, and the vehicle must be returned in “essentially the same condition” as when it was picked up.

#### Departmental Vehicles

Certain faculty members have vehicles assigned to them for use on research projects. Each faculty member has different requirements for the respective vehicle(s) and must be contacted by the student prior to use.

### **Equipment**

#### Use

The Department owns and maintains some audio-visual equipment available to students for classroom or project use, with approval of their major professor. This equipment must be checked out in the main office (274 Plant Sciences Bldg.). Basic field and laboratory equipment is available for graduate student use. Students should see their major professor for proper check-out and check-in procedures. It is the user's responsibility to perform simple maintenance. Broken or lost equipment should be reported to the student's major professor and repaired or replaced as soon as possible.

### Purchasing

Purchasing should be handled through the Departmental Bookkeeper, with approval of the Advisor. Purchases of less than \$2000 may be billed directly to the department by the vendor without a requisition procedure. Procurement cards are available through the Advisor and should be used for purchases whenever possible. Receipts should be turned in to the Bookkeeper as soon as possible. Out of pocket expenditures by individuals may be reimbursed through petty cash. For all reimbursable purchase, a store receipt must be returned to the bookkeeper accompanied by a petty cash form (T-4 form). Purchases in excess of \$2000 must be requisitioned through Purchasing; the Bookkeeper should be consulted for details.

### **Miscellaneous**

#### Keys

Key requisitions are made when necessary through your Major Professor to the Senior Secretary, who has the necessary forms and information. There is a fee for each lost key. It is the key holder's responsibility to report missing or stolen keys promptly. Key access to departmental facilities requires an awareness of proper security precautions. When leaving a building after hours, or a building that is normally locked, a student must re-lock the door. All authorized users should have a key. Students should also lock interior offices and lab doors. It is the responsibility of all students to ensure that university facilities are as secure as possible.

#### Photocopying

The Department shares a photocopy machine located in Room 274 Plant Sciences Building capable of copying, enlarging, reducing, or making digital copies. Through the

Advisor, students may request limited copying on these machines for research purposes. Photocopy machines are also in all university libraries, and there are several local copying services for personal use. The Department does not provide copying except where it applies to research, teaching and extension and has the Major Professor's approval.

#### Clerical Support

Use of departmental Secretaries' personal computers by students is prohibited. Requests for secretarial typing pertinent to approved work projects must be handled through the Major Professor. Students should check with a Thesis Consultant in the Graduate Admissions and Records Office (218 Student Services Building) for information about some of the local word processing services. Department office supplies (pads, pencils, etc.) are not available for student use. Some exceptions may apply to Graduate Research Assistants (GRA) and Graduate Teaching Assistants (GTA) for use in their research and teaching responsibilities, but these students should acquire the necessary supplies through their Major Professor.

#### Student Offices

Offices for graduate students are located in various buildings on the Ag Campus. Office space is limited. GRA's and GTA's are given preference in allocation of desk space, although an attempt is made to accommodate all graduate students.

The address and telephone numbers of the Department are:

Department of Forestry, Wildlife and Fisheries  
The University of Tennessee  
274 Ellington Plant Sciences Building  
2431 Joe Johnson Drive  
Knoxville, TN 37996-4563  
(865) 974-7126  
FAX (865) 974-4714



There are mailboxes for graduate students in Room 274 Ellington Plant Sciences Building. A campus mail service is provided for inter-office correspondence. Mail is picked up and delivered once daily at approximately 2:00 p.m. A box for outgoing mail is located near the departmental mailboxes.

Departmental phones are located in most student offices. Use of departmental phones, especially for long-distance calls, must be approved by the Advisor. Such calls should be made from the Advisor's phone (or other designated phone) so billing charges will be accurately assessed.

#### Safety Considerations

- The UTIA Safety Office provides policies, procedures, and training for graduate students to help ensure a safe work environment. Lab safety procedures, biosafety procedures, reporting of accidents and incidents, training and other information can be obtained from the Safety Office website: <http://safety.ag.utk.edu/default.htm>.
- Web links to campus level resources for counseling, harassment, etc. are provided at the end of this handbook.

#### **Departmental History**

The Department of Forestry at the University of Tennessee was established in 1964, and renamed the Department of Forestry, Wildlife and Fisheries in 1977. The Department has a fully accredited academic program as recognized by the Society of American Foresters and is the only professional forestry program in the state. The mission of the Department is: "To advance the science and sustainable management of natural resources to promote their health, utilization, and appreciation in Tennessee, the region, and beyond through programs in teaching, research, and extension." Graduate study within the Department began in 1966

when a Master of Science with a major in Forestry was approved by the University of Tennessee Graduate Council. The Master of Science in Wildlife and Fisheries Science was established in 1970. A non-thesis option for the Master of Science in Forestry was initiated in 1979, and a Doctoral program in Natural Resources was approved in 2002. Financial support for much of the research within the Department comes from a myriad of federal and state agencies, private organizations and corporations. Relationships exist in the form of grants, memoranda of understanding, cooperative research agreements, employee training, use of facilities, equipment and field sites, and other resource sharing activities. The professional staff consists of the Department Head, 24 research/teaching professors, 4 extension professors, 48 adjunct professors, 6 professors emeritus, and numerous post-doctoral fellows, research or extension associates, assistants, and technicians. Cooperation with Oak Ridge National Laboratory, National Park Service, U.S. Forest Service, Natural Resources Conservation Service, U.S. Geological Survey, Tennessee Department of Conservation, Tennessee Division of Forestry, Tennessee Wildlife Resources Agency, and various forest industries further strengthens the teaching and research programs of the Department. The Department has about 50 graduate students enrolled throughout the year, with many receiving financial support from various funding sources.

### **The Southern Appalachian Field Laboratory**

SAFL is in the U.S. Geological Survey's Biological Resources Division and is located on the campus at the University of Tennessee. Research at the SAFL is directed toward solving natural resource management problems faced by the U.S. Department of the Interior (DOI), with particular emphasis on the southern Appalachian region. This area is rich in biological diversity but threatened with some severe environmental problems. These include air and

water pollution, exotic pests, human use and abuse, and urban and agricultural development. The central focus of SAFL is to provide technical assistance and to facilitate cooperative research in the biological, geophysical, and social sciences with emphasis on upland ecosystems in the southern Appalachian highlands. We believe that the role of the SAFL is best expressed with an emphasis on experimental research; long-term or regional, national, or even global issues; and a holistic perspective of problem solving directed toward entire ecosystems. Our function is to conduct sound scientific research to be effected by in-house studies, cooperative studies with colleges and universities, and serving as a broker for research work through cooperative agreements. Dr. Joseph Clark serves as Branch Chief (Research Ecologist) whose interests include ecology of large mammals, population demographics, and habitat relationships. Dr. John Peine is a Research Sociologist located in the School of Planning studying human dimensions and sustainable development. Dr. Charles Parker, Research Aquatic Biologist, is stationed at Great Smoky Mountains National Park and works on invertebrate taxonomy and biodiversity, and inventory and monitoring of natural systems. Finally, Dr. Kurt Riitters, Research Ecologist, conducts research in landscape ecology and is located at North Carolina State University.

### **Physical Facilities**

#### Buildings

The Department of Forestry, Wildlife and Fisheries shares the Ellington Plant Sciences Building (PSB) and the Plant Biotech Building (PBB) on the Agricultural Campus with the Departments of Ornamental Horticulture and Landscape Design, Entomology and Plant Pathology, and Plant and Soil Sciences. One fisheries faculty member (Dr. Richard Strange) is located in McCord Hall. The departmental Center for Renewable Carbon faculty and

graduate students are located in the office and laboratory research building on the east end of the Ag Campus. The Tennessee Tree Improvement Program (Dr. Scott Schlarbaum and graduate students) is located in Annex B. Fisheries and wildlife faculty and graduate students also use the aquaculture laboratory in Room C 111 of the Johnson Building as well as the fisheries lab in Room 4 McCord Hall. Adjunct wildlife faculty and graduate students are also located in the Environment and Landscape Lab on the east end of the Ag Campus. The Wildlife Health lab suite of 3<sup>rd</sup> Floor PSB is a Biological Safety Level (BSL) 2 lab, and students need to be familiar with Biosecurity Procedures before entering the lab.

### **Field Research and Teaching Areas**

Eastern Tennessee and the surrounding Southern Appalachians offer an abundance of forest, park and aquatic resources for teaching and research. Several national forests, national parks, wildlife areas, TVA lakes, state parks, and forest industries are within a one-to-two- hour drive of campus. The quality and closeness of this resource base, and the agencies which manage it, are a real strength to the Department. The Department of Forestry, Wildlife and Fisheries has five University-owned or operated forested tracts available for field work. Because of the diverse characteristics of these tracts, each one is briefly described.

#### Ames Plantation

The 18,600-acre Ames Plantation is located near Grand Junction, Tennessee, 360 miles from Knoxville. About 10,000 acres are classified as forestland. The Plantation is part of the Hobart Ames Foundation established by the late Mrs. Julia Ames as a permanent memorial to her husband. A provision of Mrs. Ames' will stipulates: "The trust herein... shall be created, held and operated exclusively for scientific and educational purposes as said CASNR or

Institute of Agriculture is or may be lawfully authorized to pursue". The Department of Forestry, Wildlife and Fisheries has been encouraged by the Trustees to make extensive use of the area both in research and instruction. A dormitory was built and a major purpose of this construction was to house forestry spring field session students. Forestlands on the Plantation include pine plantations, upland oak-hickory, and some fine stands of bottomland hardwoods. The combination of a wide variety of timber types and adjacent agricultural lands provides excellent resources for both instruction and research in forest and wildlife resources.

#### Cherokee Woodlot

The Cherokee Woodlot, a 120-acre area owned by the University of Tennessee, is located about one mile from the Agricultural Campus in Knoxville. This woodlot includes a wide array of forest types ranging from old-field, Virginia and shortleaf pine, and loblolly pine plantations, to oak-hickory and excellent cove hardwoods. Extensive use is made of this easily accessible field laboratory.

#### Forest Resources Research and Education Center

The Forest Resources Research and Education Center is comprised of three major university-owned and managed forests that are used for research and education purposes. The Cumberland Forest is an 8,000-acre forest tract located in Scott and Morgan counties, 64 miles from Knoxville. Major timber type groups on the forest include: yellow pine-hardwoods, cove hardwoods and upland oak-hickory. At present the instructional use of this forest is for field trips to observe results of research in plantation management, spoil-bank rehabilitation, species comparison tests, and forest tree improvement.

The Oak Ridge Forest and Arboretum is 2,260 acres, located 18 miles from the Knoxville campus near Oak Ridge, Tennessee. Timber types range from old-field Virginia pine on severely eroded sites to fine stands of yellow poplar. An arboretum of about 250 acres has been established as part of the Oak Ridge Forest.

The Highland Rim Forest of 860 acres is located in middle Tennessee about 163 miles from Knoxville. Much of the forest is in planting projects that include species comparison and provenance tests, hardwood and conifer regeneration investigations, and heritability studies.

### **Departmental Organizations**

Graduate school is an important step toward an individual's entrance into his/her profession. Activity in professional societies is regarded as an indispensable part of a natural resource manager's career. All graduate students should be members and take an active part in their respective professional societies.

#### Society of American Foresters - Student Chapter

The Society of American Foresters (SAF) - Student Chapter is chartered by the SAF national organization and the East Tennessee chapter of the Kentucky-Tennessee SAF. All students enrolled in the Department of Forestry, Wildlife and Fisheries are eligible for membership in SAF through student membership in the UT Chapter. Application for membership should be made through the Faculty Advisor for SAF.

#### Student Wildlife and Fisheries Society (SWFS)

The Student Wildlife and Fisheries Society is comprised of members of the UTK Student Chapter of The Wildlife Society and the Tennessee Student Fisheries Association of the American Fisheries Society, as well as other interested students. Objectives, purposes,

activities and principles are those established by The Wildlife Society and the American Fisheries Society, which include the conservation, management, and wise use of the wildlife and fisheries resources of the world. More specifically, the SWFS provides an opportunity for better liaison between the individual member, regional activities, and the parent Societies. It serves to focus the aims and objectives of the parent Societies upon professional wildlife/fisheries needs, problems and events at the state level. Full membership is available to any member of The Wildlife Society/American Fisheries Society in good standing, and affiliate membership is available in SWFS to those persons not members of the parent organizations. Meetings are held monthly during the school year. Graduate students in wildlife/fisheries should be members of both the parent society and the SWFS. Graduate students in Forestry who have an interest in wildlife/fisheries are encouraged to join SWFS.

#### Honorary Societies

Honorary societies to which graduate students in the Department can be nominated include Xi Sigma Pi (Forestry), Gamma Sigma Delta (Agricultural Research), Alpha Zeta (Agriculture), and Sigma Xi (Scientific Research). Students nominated for membership in one of these societies should consider that such memberships represent important elements of their overall academic credentials.

## FACULTY

**Keith L. Belli**, Professor and Head. Research interests include hardwood growth and yield modeling, inventory and sampling, regeneration modeling, and simulation of intermediate stand management treatments. Dr. Belli has also been active in national issues related to research policy and curriculum development. Ph.D. University of Minnesota, 1986.

**David S. Buckley**, Professor and Graduate Program Coordinator. Expertise in ecological interactions affecting regeneration of oak and effects of forest management practices on stand structure, microclimate, and dynamics of commercial and non-commercial plant species. Research interests include the silviculture and disturbance ecology of Tennessee oak forests, mechanisms underlying the outcome of silvicultural treatments, and relationships between forest structure and wildlife. Teaches FWF 212, Dendrology and Silvics of North American Trees; FOR 215, Forest Ecology; FOR 322 Silvicultural Practices; and FOR 520, Advanced Forest Ecology. Ph.D. Michigan Technological University, 1994.

### Forestry

**Ray Albright**, Adjunct Associate Professor. Expertise in forest ecology, hydrology, and soils. Dr. Albright is research coordinator with the USDI National Park Service. He serves as a federal representative within the Southern Appalachian Cooperative Ecosystem Studies Unit. Ph.D. Southern Illinois University, 1989.

**David S. Buckley**, Professor. See entry above pertaining to Graduate Program Coordinator.



**Wayne K. Clatterbuck**, Professor, Extension Forestry Specialist. Expertise in forest stand dynamics focusing on the ecological changes in species composition, stand structure, and development during forest succession and following forest disturbance. Management experience with hardwood silviculture, particularly oak species, from obtaining regeneration to intermediate stand treatments and rehabilitating undesirable cutover stands. Responsible for forest landowner education programs with the Tennessee Agricultural Extension Service. Ph.D. Mississippi State University, 1985.

**J. Mark Fly**, Professor. Expertise in the Human Dimensions of Forestry, Wildlife, and Fisheries with emphasis on the behavior, attitudes and preferences of recreational users of private land and on non-industrial private forest management. Director of the Human Dimensions Research Lab. Instructs For 423, Wildland Recreation Planning and Management, and WFS 560/For 590 Human Dimensions of Forestry, Wildlife, and Fisheries Management. Ph.D. University of Michigan.

**Jennifer Franklin**, Associate Professor. Expertise in whole-plant physiology of trees and the interactions between trees and the environment, with the goals of maximizing the productivity of Tennessee forests. Ph.D. University of Alberta, 2002.

**Donald G. Hodges**. Professor. Expertise and teaching/research responsibilities in forest economics and management. Research interests include economics of forest management

practices, demand for and economic impact of outdoor recreation, timber prices, and timber markets. Teaches graduate course in Forest Management (FOR 420), Planning (FWF 416), Advanced Forest Management (FOR 530), Advanced Forest Economics, Seminar in FWF (FWF 612), and Seminar in Natural Resources (FWF 610).

**Kevin P. Hoyt.** Director, Forest Resources Research and Education Center. Expertise in forest management and prior experience in forest industry. Member of the Tennessee Forestry Association Board, Forest Resources Association, and Society of American Foresters. Ph.D. University of Tennessee, 2008.

**Sharon Jean-Philippe,** Assistant Professor. Teaching and Research interest in Urban Forestry. Research interests include biogeochemical cycling of elements, carbon sequestration and structure and function of microbial communities in urban forest soils. Ph.D. University of Tennessee, 2010.

**Charles E. McGee,** Adjunct Professor. Cognizant of hardwood management systems and regeneration methods. Recently developed a management guide for the improvement or regeneration of low-quality hardwood stands. Evaluated positive and negative effects of low cost silvicultural procedures. Retired from the U.S. Forest Service at the Southern Forest Experiment Station at Sewanee, Tennessee. D.F. Duke University, 1960.

**Brien Ostby,** Research Assistant. Expertise in environmental education and interpretation. Experience with the Tennessee State Park system, the National Park Service, Maryville College, and the Tremont Environmental Education Center in the Great Smoky Mountains

National Park. Has assisted in table mountain pine regeneration study in GSMNP and in various oak regeneration studies. B.S. University of Tennessee, 1972.

**David M. Ostermeier**, Professor. Expertise and teaching/research responsibilities in forest and natural resource policy with emphasis on natural resource governance and policy processes. Recent research has focused on forest certification and collaborative policy mechanisms as policy tools. Graduate course instruction includes: For 422: Forest and Wildland Resource Policy; FWF 520, Natural Resources at the International Level; and FWF 570, Natural Resource Sustainability: Social, Political, and Institutional Dimensions.

**Scott Schlarbaum**, Professor and Project Leader, UT Tree Improvement Program. Active in areas of basic and applied research including genetic improvement of upland forest tree species, cytogenetics of trees, pest resistance breeding, clonal propagation, forest health and policy issues, and cytotaxonomy and phylogeny of Coniferales. Teaches For 540 Genetics in Forestry. Ph.D. Colorado State University, 1980.

**Glendon W. Smalley**, Adjunct Professor. Research soil scientist retired from the USDA Forest Service. Authority on forest site classification and evaluation, particularly the Cumberland Plateau and Highland Rim physiographic provinces. Professional training and interests in silviculture, forest soils, and growth and yield in an effort to devise a more useful system of classifying forest sites and determining their current and potential growth. Ph.D. University of Tennessee, 1975.

**Larry Tankersley**, Extension Associate, Expertise in Adult and Youth (4-H) Extension Programing in Forest Stewardship. Experience in pine plantation silviculture and management, general forest ecology and resource economics related to forest management, especially taxation and investment analysis. B.S. Mercer University in Atlanta, GA, and M.S. University of Georgia.

### **Center for Renewable Carbon**

**Darren A. Baker**, Research Assistant Professor. Expertise in polymer physics and chemistry. Ph.D. University of Leeds, 2001.

**Joseph Bozell**, Professor. Experience in the use of transition metal organometallic complexes in organic chemistry and expertise in traditional organic chemistry. His primary research interests are in using the tools of organic chemistry to develop technology for converting renewable materials (biomass, carbohydrates, lignin, lignocellulosics) into chemical products and polymers. His research projects include the use of organometallic chemistry in synthesis, biobased nanostructural materials and self assembly, new synthetic methods, interaction of organometallics with carbohydrates, novel transformations of renewable feedstocks, catalysis and biorefinery development. Ph.D. Colorado State University

**David Harper**, Associate Professor. Research interests include wood/polymer interfaces, wood composites, and materials from renewable resources. Ph.D. Civil Engineering,

Washington State University

**Nicole Labbe**, Associate Professor. Research interests include FTIR imaging to monitor penetration and diffusion of organic components in fiberboard, Moisture content in wood by Nuclear Magnetic Resonance time-domain low resolution, wood-water interaction, water profile in green wood, extractives in heartwood and sapwood of Maritime Pine. Ph.D. University of Bordeaux I, 2002

**Timothy G. Rials**, Professor and Director of the Center for Renewable Carbon. Research expertise in structure and properties of wood/polymer interfaces, raw material assessment and process monitoring using spectroscopy, and cure analysis of thermosetting polymers. Ph.D. Virginia Polytechnic Institute and State University, 1986.

**Adam M. Taylor**, Associate Professor. Research interests include wood quality, wood deterioration and wood protection. Based at the Tennessee Forest Products Center and responsible for wood products extension programs. Ph.D. Oregon State University, 2004.

**Siqun Wang**, Professor. Research interests include manufacture and performance of wood-based composites, dimensional stability, consolidation, optimization of pressing strategy, wood furnish drying, and wood adhesion. Ph.D., Nijang Forestry University, 1991.

**Timothy M. Young**, Research Professor. Research expertise in industrial statistics and human machine interface platforms as applied to wood products manufacture. Industrial

statistics research expertise is in the area of statistical process control, design of experiments and process modeling of real-time production data. Human machine interface platform interests are in the development of expert systems and statistical-based process control algorithms. Ph.D. University of Tennessee, 2007.

## **Wildlife**

**David A. Buehler**, Professor of Wildlife Science. Research interests include understanding the relationship between forest management and conservation of wildlife populations, use of geographic information systems to develop landscape-level wildlife habitat models, endangered species and conservation of biodiversity. Graduate courses taught include WFS 515, Avian Ecology and Conservation. Ph.D. Virginia Polytechnic Institute and State University, 1990.

**Joe Clark**, Adjunct Associate Professor and Director of the U.S. Geological Survey's Southern Appalachian Field Laboratory. Interests relate to wildlife population analysis and wildlife/habitat relationships. Dr. Clark has primarily worked with large carnivores and has experience in determining size, natality, mortality, and growth in wild populations. For those studies, he has made extensive use of population modeling techniques. Dr. Clark also has been involved in habitat modeling efforts, particularly those involving multivariate statistics and Geographic Information Systems. Teaches WFS 545 "Advanced Population and Habitat Analysis" every other year. Ph.D. University of Arkansas.

**Shigetoshi Eda**, Research Associate Professor. Research focus on immunological reactions of cattle against surface molecules of *Mycobacterium avium* subsp. *paratuberculosis* (MAP), the causative agent of Johne's disease in livestock and wild animals. Ph.D. Tokyo University of Pharmacy and Life Sciences.

**Matthew J. Gray**, Associate Professor. Expertise in wetland ecology and management. Research emphasis in examining the influences of human landscape use and prescribed management on wetland communities. Current programs areas include amphibian conservation, hardwood bottomland restoration, carrying capacity estimation in wetlands, and waterfowl ecology. Instructs Wetlands Ecology and Management (WFS 340) and Wildlife Habitat Evaluation and Management (FWF 410). Ph.D. Texas Tech University, 2002.

**Craig A. Harper**, Professor, Extension Wildlife Specialist. Expertise and experience in habitat management for wildlife, in particular, forest management and management of early successional habitats, including wildlife food plots. Responsible for implementing wildlife-related programs through the Tennessee Agricultural Extension Service. Current program areas include: quality deer management, establishment and management of native warm-season grasses, managing habitat for farm-wildlife, and forest management for ruffed grouse and wild turkeys. Ph.D. Clemson University, 1998.

**Graham J. Hickling**, Research Associate Professor and Director of the Center for Wildlife Health. Research focuses on applied projects investigating the spatial dynamics of a range of

wildlife diseases - with a view to improved management of the impacts of these diseases on humans, livestock and valued wild species. Simulation modeling and bio-economic analyses are often a component of these studies. Ph.D. University of Western Ontario.

**Patrick Keyser**, Professor and Director for the Center for Native Grasslands Management.

The Center provides regional and national leadership in the development of comprehensive research and outreach programs focused on a broad range of issues pertinent to the management of native grasslands. Ph.D. Clemson University, 2001.

**Debra Miller**, Research Associate Professor - Wildlife Health. Dr. Miller's chief focus is free-ranging wildlife followed by exotics (introduced free-ranging species and zoo species), captive native species (e.g., alligators, ungulates), and exotic pet species. Her primary areas of research are marine mammals (reproduction and pathology) and amphibian diseases as they relate to anthropogenic influences. D.V.M. and Ph.D., Mississippi State University

**Lisa I. Muller**, Associate Professor. Research interests include management and ecology of white-tailed deer and elk. Special emphasis on wildlife health and evaluation of damage and management options for deer in agricultural settings. Teaches WFS 444, Ecology and Management of Wild Mammals and WFS 531, Wildlife Physiology and Nutrition. Ph.D. University of Georgia, 1995.

**Adam S. Willcox**, Research Assistant Professor. Research interests include human dimensions of wildlife, fish, and other natural resources focusing on: 1) applied conservation



behavior to predict stakeholder engagement in natural resource management and conservation, and 2) integrating stakeholder perceptions and attitudes into fish and wildlife programming, planning, and policy. Ph.D. University of Florida, 2010.

**Emma V. Willcox**, Assistant Professor. Research interests include wildlife-habitat relationships, wildlife habitat management and restoration, and the integration of wildlife management and conservation with forestry and agriculture. Current research focused on examining wildlife and habitat responses to a variety of land management practices, including prescribed fire, grazing, mechanical treatments, and native plantings. Ph.D. University of Florida, 2010.

## **Fisheries**

**Richard J. Strange**, Professor. Research specialization in intensive aquaculture. Additional interests in fish physiology, nutrition, and trout ecology. Instructs courses: FWF 250 Conservation, FWF 317 Principles of Wildlife and Fishery Science, WFS 443, Fisheries Science; WFS 556, Recirculating Aquaculture. Ph.D. Oregon State University, 1977.

**J. Larry Wilson**, Professor. Experience in reservoir fisheries population dynamics and management, aquatic ecosystem assessment, and aquacultural systems. Expertise in non-native introductions, sampling methods, vegetation control, and culture of warmwater species. Instructs courses: WFS 442, Fisheries Techniques, and WFS 555 Fish Culture. Ph.D. University of Tennessee

## APPENDICES

### **Pertinent Graduate Student Web Pages:**

- Best Practices in Teaching  
[http://gradschool.utk.edu/files/2009-10\\_BPIT-Flyer.pdf](http://gradschool.utk.edu/files/2009-10_BPIT-Flyer.pdf)
- Center for International Education  
<http://web.utk.edu/~globe/index.php>
- Counseling Center  
[www.utk.edu/counselingcenter](http://www.utk.edu/counselingcenter)
- Department of Forestry, Wildlife and Fisheries Website  
[www.fwf.ag.utk.edu/](http://www.fwf.ag.utk.edu/)
- College of Agricultural Sciences and Natural Resources Website  
[www.casnr.utk.edu/](http://www.casnr.utk.edu/)
- Funding, Fellowships, Assistantships for Graduate Students  
<http://gradschool.utk.edu>
- Graduate School  
<http://gradschool.utk.edu>
- Graduate Catalog  
<http://gradschool.utk.edu>
- Graduate Student Appeals Procedure  
<http://gradschool.utk.edu/GradAppealHbook.pdf>
- Graduate Student Senate  
<http://web.utk.edu/~gss>
- Graduate and International Admissions  
<http://admissions.utk.edu/graduate/>
- International House  
<http://web.utk.edu/~ihouse>
- Judicial Affairs  
<http://web.utk.edu/~osja/>

- Office of Equity and Diversity  
<http://oed.utk.edu>
- Office of Minority Student Affairs/Black Cultural Center  
<http://omsa.utk.edu>
- Research Compliance/Research with Human Subjects  
<http://research.utk.edu/compliance/>
- SPEAK Testing Program  
<http://gradschool.utk.edu/speaktest.shtml>
- Thesis/Dissertation Website  
<http://web.utk.edu/~thesis/>
- VolAware  
<http://volaware.utk.edu>
- Library Website for Graduate Students  
<http://www.lib.utk.edu/refs/gradservices.html>
- OIT  
<http://oit.utk.edu/>
- Housing  
<http://uthousing.utk.edu/sutherland/sutherlandresources.htm>
- Safety  
<http://safety.ag.utk.edu/default.htm>.