

# **Department of Fisheries and Wildlife**



## **Graduate Student Guide**

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## I. INTRODUCTION

This guide contains current information on graduate study in the Department of Fisheries and Wildlife at Oregon State University. Pertinent material from the Graduate School and Agricultural Experiment Station are included in italics. Rules, regulations, and deadlines may change. If students wish to confirm any information in this guide they should refer to the Head Advisor or Department Head for departmental policies and they should refer to the Graduate School for policies administered by the Graduate School. A really great resource is the Graduate School Guide to Success found here

[http://oregonstate.edu/dept/grad\\_school/current/success.html](http://oregonstate.edu/dept/grad_school/current/success.html).

A table of the research interests for the Department's Graduate Faculty is attached as Appendix A.

## II. ADMISSION PROCEDURES

Students may be admitted to the Graduate School in one of two categories:

A. *Regular Graduate Students. These students have been accepted by the university and by a major department to work toward an advanced degree.*

The Department of Fisheries and Wildlife offers thesis programs leading to M.S., and Ph.D. degrees in both Fisheries and Wildlife.

The faculty believes that the training in research and writing skills associated with an M.S. thesis improve the likelihood of success at the Ph.D. level. Therefore, we typically require that students wishing to pursue a Ph.D. first complete a Master's program that included a thesis. However, we recognize that some exceptional students with extensive experience may be qualified to enroll in our Ph.D. program without first earning a Master's degree. Such students should work with their potential advisor to draft a petition (no more than 2 pages) summarizing qualifications. Examples of relevant experiences that should be described, or included with, the petition include detailed accounts of the student's role in previous research activities, peer-reviewed publications, lists of relevant awards (e.g., NSF or other comparable graduate fellowships), or demonstration of other scholarship activities equivalent to those associated with an advanced degree (e.g., undergraduate honor's thesis and other comparable experiences equivalent to a master's thesis of our department). The petition, along with a curriculum vita, should be sent in electronic form to the Graduate Committee. The Graduate Committee will evaluate the materials and notify the department head, advisor and student whether enrollment in our Ph.D. program prior to completion of a Master's degree is recommended.

Students completing an M.S. degree at Oregon State University and planning to continue for a Ph.D. in this Department can do so with approval by the Department Head. A letter from the student's major professor must be submitted to the Department Head and the student must submit a Change of Degree Program Request Form to the Graduate School. .

B. *Conditionally Admitted Graduate Students. Students who have not met the formal admission requirements but whose accomplishments have convinced the University Graduate Admissions Committee and their major departments they have potential for success as advanced degree candidates may be conditionally admitted as follows:*

1. *Students from non-accredited institutions must complete at least one term of satisfactory work at Oregon State, after which they may be admitted with full standing in the Graduate School.*
2. *Students whose preparation does not warrant full admission to the Graduate School but who may prove acceptable later must satisfactorily complete specified conditions to demonstrate their ability to carry out graduate-level work.*
3. *International students who otherwise have met all formal admission requirements but whose TOEFL score is in the range of 500 to 549 (paper-based test) or 173 to 212 (computer-based test) may be conditionally admitted. Conditional admission based on English language proficiency may not be granted to students seeking admission to only a graduate certificate program. Students who score below the minimum on one or more iBT subtests but meet the minimum overall iBT score requirement may be considered for conditional admission. Those who meet all other admission requirements and achieve a minimum total iBT score of 61 may be considered for conditional admission.*

**C. Provisionally Admitted Graduate Students.** *Students who have met all of the university standards for formal admission but whose academic program or major department may have placed additional restrictions upon their admission may be provisionally admitted. These restrictions may include certain prerequisite courses that must be completed, completion of the GRE or GMAT, submission of additional reference letters or scores, etc.*

*Provisionally admitted students cannot take the final exam for their degree until they have satisfied their provisions and have been reclassified as regular graduate students.*

*Credit for graduate courses that students have completed acceptably while registered as conditional or provisional students may count toward the residence requirement for advanced degrees.*

*If students fail to satisfactorily complete these conditions they will be dismissed from the Graduate School. Release by the Graduate School from the conditional status does not guarantee acceptance by the Department. After two terms the conditional student must apply for full admission to the Department.*

### III. GRADUATE EDUCATION RULES AND REGULATIONS

The Graduate School offers graduate student orientation information here [http://oregonstate.edu/dept/grad\\_school/admitted/orientation.html](http://oregonstate.edu/dept/grad_school/admitted/orientation.html). In addition, the Department of Fisheries and Wildlife offers a graduate student orientation course fall term (FW 599). Students are highly encouraged to participate in orientation.

A. Reserving Credits. *Not more than 15 graduate credit hours reserved in combination as an undergraduate and postbaccalaureate can be used in a graduate program.*

B. Transfer Credit. *Courses to be transferred must be graduate level, taken after the completion of a four-year baccalaureate degree (or equivalent), with grades of A or B (or equivalent). Fifteen credits may be transferred from another institution and applied toward a forty-five credit master's degree. Courses to be transferred to a doctoral degree program can be courses used to satisfy the requirements for a master's degree (or equivalent). There is no limit on transfer credit toward the doctoral degree as long as the doctoral residence requirement is satisfied.*

*Graduate courses taken at OSU while the student was a special graduate student or a postbaccalaureate student, courses reserved for graduate credit while the student was an undergraduate or postbaccalaureate student, and graduate courses taken through the Office of Continuing Higher Education at OSU are considered transfer courses.*

*Extension courses, correspondence courses, television courses, and the like are not transferrable. This does not include distance education courses taken for credit.*

*C. Term Credit Load. The normal maximum load for a graduate student devoting full time to graduate study is 16 hours. With the approval of the Graduate School, a student may exceed this limit. ). The minimum load for teaching and research assistants is 12 hours. Fellows may carry the maximum load. A minimum load of 12 hours may be necessary to qualify for purposes of veterans' benefits, visa requirements, etc. (Appendix D.*

Students receiving a stipend must enroll for a minimum of 12 credit hours during each quarter they are on an assistantship.

## **Continuous Enrollment**

### ***I. Minimum Registration***

*Unless on approved Leave of Absence (see Section II), all graduate students in graduate degree and certificate programs must register continuously for a minimum of 3 graduate credits until their degree or certificate is granted or until their status as a credential-seeking graduate student is terminated. This includes students who are taking only preliminary comprehensive or final examinations or presenting terminal projects. Students must register for a minimum of 3 credits and pay fees if they will be using university resources (e.g. facilities, equipment, computing and library services, or faculty or staff time) during any given term, regardless of the student's location. If degree requirements are completed between terms, the student must have been registered during the preceding term.*

*Graduate students who have successfully completed all course and noncourse requirements in accordance with diploma deadlines (see the [Graduate School Web site](#)) are not required to register during the subsequent term.*

*Nonthesis master's degree students who complete all degree requirements during a term for which they are registered will not be required to register for the subsequent term.*

*Doctoral and thesis master's students who fail to meet all deadlines and complete all course and noncourse requirements during the term will be required to register for a minimum of three graduate credits during the subsequent term. However, only if library copies of the thesis have been submitted to the Graduate School within the first two weeks of the subsequent term and the thesis is the only outstanding requirement remaining for certification of the student's graduate degree may an exception to this rule be considered.*

*Graduate students who do not plan to make use of university facilities or faculty time during summer session are not required to register during the summer session and do not need to submit a Leave of Absence/Intent to Resume Graduate Study form. In such instances, summer session will not be counted within allowed Leave of Absence limits (see section II.C.). However, if students do plan to utilize facilities or faculty time during summer session, they must register for a minimum of 3 graduate credits.*

*It should be noted that graduate assistantship eligibility requires enrollment levels that supercede those contained in this Continuous Enrollment Policy. Various agencies and offices*

*maintain their own registration requirements that also may exceed those specified by this Continuous Enrollment Policy (e.g., those of the Veterans Administration, Immigration and Naturalization Service for international students, and those required for federal financial aid programs.) Therefore, it is the student's responsibility to register for the appropriate number of credits that may be required for funding eligibility and/or compliance as outlined by specific agency regulations under which they are governed.*

## ***II. Leave of Absence***

*On-leave status is available to students who need to suspend their program of study for good cause. Students who desire a leave of absence will work with their major professor, program administrator, and the Graduate School to arrange authorized leave. Graduate programs that are designed such that the offering of courses and/or the conduct of research/scholarly work are not on a continuous term-to-term basis will work with the Graduate School to arrange planned leave. Students understand that while on leave they will not use university resources. Graduate Faculty members are students' most important resource at the university and will work closely with graduate students to ensure timely completion of academic goals, understanding of the Continuous Graduate Enrollment Policy, and that graduate students enroll each term other than when they are on authorized leave. The Graduate School will assist graduate students and Graduate Faculty members with administrative procedures related to the Continuous Graduate Enrollment Policy. The Graduate School recognizes the diverse circumstances and unpredictability of graduate students' lives and will work in partnership with the graduate community in arranging leaves and responding to unanticipated situations.*

*A graduate student intending to resume active graduate student status following interruption of his or her study program for one or more terms, excluding summer session, must apply for Regular or Planned Leave of Absence to maintain graduate student standing in his or her degree program and to avoid registration for 3 graduate credits for each term of unauthorized break in registration (See Section IV below). Leave of Absence/Intent to Resume Graduate Study Forms must be received by the Graduate School at least 15 working days prior to the first day of the term involved. The time the student spends in approved on-leave status will be included in any time limits relevant to the degree (See Sections C.1. and C.2. below). Students in on-leave status may not a) use any university facilities, b) make demands upon faculty time, c) receive a fellowship or financial aid, or d) take course work of any kind at Oregon State University.*

*In the case of extraordinarily extenuating circumstances, students may appeal the provisions of the Continuous Graduate Enrollment Policy by submitting a detailed request in writing to the Dean of the Graduate School for additional terms of Leave of Absence or forgiveness of additional credits of registration*

**D. Grade Requirement.** *A grade-point average of 3.00 (a B average) is required for all courses taken as a graduate student and for courses included in the graduate program. Grades below C are not accepted in a graduate program.*

**E. Graduate Courses.** *All courses numbered in the 500-600's carry graduate credit.*

**1. Blanket-numbered Courses.** *Blanket-numbered courses carrying graduate credit may be repeated to a maximum as indicated below. They may include specified reading, laboratory work, field work, or compilation of information essential in the student's program.*

*Research (501 or 601) is for research that is not part of the thesis. Data obtained from such research should not be incorporated into the thesis.*

Thesis (503 or 603) covers the thesis research and writing. A student may register for thesis credit each term. Although no limit is imposed on the total number of theses credit hours for which a student may register, a maximum of 12 thesis credits may be included in the M.S. program and 50 thesis credits in the Ph.D. program.

*Reading and Conference (505 or 605) and Projects (506 or 606) are used for special work not given under a formal course number.*

*Seminar (507 or 607) is used both for departmental seminars and for special group work not given in a formal course.*

*Workshop (508 or 608) is usually a special, short-term course covering a variety of topics.*

*No more than 9 credits of blanket-numbered courses other than thesis, (or research in lieu of thesis for nonthesis) programs, may be applied toward the master's degree; and no more than 15 may be applied toward the doctorate. Blanket-numbered transfer courses will count toward these maxima.*

*Students may enroll in a maximum of 16 credits per term for the following blanket-numbered courses: 501/601, 503/603, 505/605, 507/607, 508/608, 509/609.*

2. Repeating 4xx/5xx Courses. A student who has taken a 4xx course may not normally include the corresponding 5xx course on their graduate program.

3. Satisfactory-Unsatisfactory Graded Courses. Graduate students may elect to take courses on the S-U basis only if those courses are not in their degree program or are not required for the removal of deficiencies.

F. Graduate Fees and Deposit. Because these fees change periodically, the student should consult a current issue of the Graduate Bulletin.

G. Graduate Work by Staff Members and Close Relatives. Registration for courses and degrees will conform to the regulations of the Graduate School and the University.

#### IV. GRADUATE PROGRAM REQUIREMENTS

All students admitted as regular graduate students will have a major professor who agrees to supervise the student's work. Also, it is the responsibility of the student and the major professor to assemble a group of experts in specialized fields to serve as members of the committee.

A. Major Professor. The major professor should advise and guide students in their graduate program, be informed of student's progress and difficulties, provide budgetary support for thesis research when possible, edit the Research Review outline and thesis before they are given to other committee members, encourage active participation in departmental seminars, and in regional and national scientific meetings, and ensure that research, teaching, and extension efforts include advisee students when possible.

A student who is otherwise in good academic standing but does not have a major professor either because the student resigned from a major professor or the major professor resigned as the student's advisor shall have up to two quarters immediately following the quarter in which the resignation took place to find a new major professor, Summer Quarters included. If a new major

professor is not found within that time period, the student's graduate status will be terminated.

A student who does not have a major professor is eligible to apply for and receive University and Departmental Scholarships. While a student who does not have a major professor is eligible to apply for Departmental scholarships, they could not be awarded any money until they find a new major professor in this Department.

**B. Student's Graduate Committee.** All members of the student's Graduate Committee must be members of the Graduate Faculty at Oregon State University with approval to serve at the appropriate graduate program level. The committee is subject to the approval of the Major Professor, the Department Head, and the Graduate School. Faculty from other universities, agencies or organization may be included on the student's Graduate Committee if approved by the Graduate School. A student's request for a committee member not on the OSU graduate faculty list should be directed to the Department Head and should include a resume of the prospective committee member.

The Department of Fisheries and Wildlife distinguishes Graduate Faculty as either Departmental (Core) or Departmental Associate (see Appendix A for a list of and the status of Graduate Faculty members in the Department of Fisheries and Wildlife). The Major Professor for all graduate programs must be a Core Graduate Faculty member from the Department of Fisheries and Wildlife. The student's Graduate Committee for the M.S. must include at least one other Core Graduate Faculty from the Department of Fisheries and Wildlife and a Graduate Faculty member with expertise not represented in the Department. The student's Graduate Committee for the Ph.D. must be comprised of at least two Core Graduate Faculty members (including the Major Professor) from the Department of Fisheries and Wildlife.

It is the student's responsibility to assemble the student's Graduate Committee. The student's Graduate Committee is selected by the student in consultation with the Major Professor who provides guidance and makes recommendations. The Graduate School and Department of Fisheries and Wildlife delegate responsibility to the student's Graduate Committee for ensuring that graduate school and Departmental requirements are met. Thus the student's Graduate Committee is pivotal in administrating both University and Departmental requirements, ensuring that the student meets the requirements for the degree sought.

Members of the student's Graduate Committee serve as advisors in specialized fields, as interested editorial critics of the student's writing (especially the thesis), and as participants in the various meetings and examinations held during the student's program. The student's Graduate Committee is responsible for the student's quality of education by: 1) ensuring the appropriateness of the student's research and coursework; 2) ensuring orderly and timely completion of graduate program requirements; and 3) encouraging participation in professional activities.

The Master of Science program does not require a graduate minor. The Ph.D. program typically includes a graduate minor, but it is not required. If a graduate minor is declared, the student's Graduate Committee must consist of at least one Graduate Faculty member representing the minor. The Minor Representative is expected to serve throughout the student's graduate program including the Study Program, Research Review, Preliminary Examination (if appropriate) and Final Examination, but under special circumstances may be excused from the Research Review.

Many graduate programs will not include a minor, in which situation a Graduate Faculty member from any department on campus other than Fisheries and Wildlife or a person appointed by the

Department Head from outside the university with expertise not represented within the Department may be selected to serve on the basis of their interest in the candidate's research discipline and ability to assist in the student's training.

Conflicts of Interest may occur with Graduate Faculty members appointed from outside the university in cases where the Graduate Faculty member is directly responsible with funding the student's research or if they serve as the student's supervisor for a job with an agency or organization. Graduate Faculty members from outside the university will not be allowed to serve on a student's graduate committee if a conflict of interest exists.

The Graduate Council representative is selected by the student from a list provided by the Graduate School. A Graduate Council representative must be selected by doctoral students before the Study Program Meeting. The Graduate Council representative is expected to participate in all meetings and contribute questions during the Preliminary Exams. Master's students select a Graduate Council representative prior to their final examination; the Graduate Council representative reviews the thesis and participates in the Final Exam.

Although not part of the student's Graduate Committee, a Departmental Reviewer must be present during the required Research Review. The Departmental Reviewer is a member of the Departmental Graduate Faculty and is appointed by the chairman of the Departmental Graduate Committee. It is the student's responsibility to request appointment of a Departmental Reviewer by the Departmental Graduate Committee at least 2 weeks in advance of the proposed Research Review meeting. Contact information for the committee chairperson can be obtained from the Department Head or Head Advisor.

### **1. Master of Science**

The student's committee for the M.S. consists of a minimum of four Graduate Faculty members: two from the major field of study including the Major Professor; one from the minor field of study; and a Graduate Council representative who participates only during the Final Exam. If no minor is declared a student must have at least one committee member representing a non-FW related discipline (Statistics, GIS, Sociology). This person can be an OSU employee and who does not have a regular, courtesy, or adjunct appointment in the Department of Fisheries and Wildlife or can be appointed to the graduate faculty by the Department Head as referenced in paragraph B above.

### **2. Doctor of Philosophy**

The student's committee for the Ph.D. consists of a minimum of five Graduate Faculty members: two from the major field of study including the Major Professor; two from an academic department other than the Department of Fisheries and Wildlife (one may be from outside OSU); and a Graduate Council representative. If a graduate minor is declared, the student's Graduate Committee must include a Graduate Faculty member representing the minor. The graduate council representative can be obtained by contacting the Graduate School. Except as noted above in paragraph B, all members of a student's committee must be OSU employees.

C. Graduate Minor. Neither the Master's of Science nor the Doctor of Philosophy programs in Fisheries and Wildlife require a minor.

If a graduate minor is declared then the minor should be in an academic area that clearly supports the major. A graduate minor may be: (1) an academic area available only as a minor, (2) a different major, or (3) an approved major at another institution in the Oregon State System of Higher Education. (The Master of Science program must consist of at least 15 credits for a

declared minor. The Doctor of Philosophy program must consist of at least 18 credits for a declared graduate minor. In all cases a student's graduate committee must have at least one committee member who does not have a regular, courtesy, or adjunct appointment in the Department of Fisheries and Wildlife.

D. Graduate Students. The student should assume the major responsibility for their graduate program, follow department and university requirements, meet all deadlines, and initiate all steps involved in obtaining the degree; meet regularly with the major professor to discuss progress or difficulties in research, course work, or other matters; and, if experiencing serious difficulties with the major professor, discuss the matter with the Department Head. Appendices G and H should be consulted to ensure deadlines are met.

E. Study Program Meeting. A study program (list of proposed courses) must be filed by all M.S. and Ph.D. students. A form is available from the graduate school ([http://oregonstate.edu/dept/grad\\_school/Survival\\_Guide/forms.htm](http://oregonstate.edu/dept/grad_school/Survival_Guide/forms.htm)). Program meetings and preliminary and final examinations may be held during any period when school is in session.

1. Master's Student. ***A regular master's degree student must file a study program with the Graduate School before completing 18 hours of graduate credit. This includes hours reserved as an undergraduate student or postbaccalaureate and hours earned as a postbaccalaureate, graduate special student, or regular graduate student. A student who does not file a program within the specified deadline will not be allowed to register for the next term.***

*The program is developed under the guidance of the major and minor professors and signed by those professors and the chairman of the academic unit before filing in the Graduate School. Each candidate's program should include substantial work with at least three faculty members offering graduate instruction. Changes in the program may be made by submitting a Petition for Change Form, available in the Graduate School ([http://oregonstate.edu/dept/grad\\_school/Survival\\_Guide/forms.htm](http://oregonstate.edu/dept/grad_school/Survival_Guide/forms.htm)). In this Department, the student's entire committee usually reviews the Study Program during the Research Review Meeting.*

*Effective fall 2005, all graduate student programs of study submitted to the Graduate School must consist of, at a minimum, 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses.*

*The program is developed under the guidance of the major professor, and minor professor when a minor is included, and signed by those professors and the chair of the academic unit before filing in the Graduate School. Each candidate's program should include substantial work with at least three faculty members offering graduate instruction. Changes in the program may be made by submitting a Petition for Change Form, available in the Graduate School.*

2. Doctoral Student. *The student's doctoral study program is formulated and approved subject to departmental policies at a formal meeting of his or her doctoral committee. The student must be registered for a minimum of 3 credits for the term in which the program meeting is held. When the program is approved by the doctoral committee, the departmental chair, and the dean of the Graduate School, it becomes the obligation of the student to complete the requirements as formulated. Changes in the program may be made by submitting a Petition for Change Form available in the Graduate School.*

*All graduate student programs of study submitted to the Graduate School must consist of, at a minimum, 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses.*

***A regular graduate student who holds a master's degree must file a study program with the Graduate School by the by the end of one calendar year of enrollment as a doctoral student. A regular graduate student who does not hold a master's degree must file a study program with the Graduate School by the end of the fifth quarter of enrollment as a doctoral student. A student who does not file a program within the specified deadline will not be allowed to register for the next term.***

The student's graduate committee will determine if a second language is needed in an individual student's program.

3. Conduct of the Program Meeting. The Major Professor shall chair the program meeting and the examination portion of the preliminary and final oral meetings. The Graduate Council Representative shall chair that portion of meetings involving evaluation of the student's performance. The chairman of the latter portion of the meeting may request the use of ballots in arriving at a final decision.

F. Scheduling Meetings. Program meetings, and preliminary and final examinations may be held during any period when school is in session.

- ***Program Meetings:*** *Although the Graduate School requires formal program meetings for doctoral students, students are not required to formally schedule the program meetings with the Graduate School. Prior to a program meeting, doctoral students need to select a GCR from a list provided by the Graduate School and schedule the meeting with all committee members. Following the meeting, doctoral students will submit the signed Program of Study form to the Graduate School. In addition to this:*
  - ***Doctoral Students*** *need to print the Doctoral Program Meeting Checklist ([MS Word File](#)/[Adobe Acrobat File](#)) and take it to his/her meeting. The Graduate Council Representative will complete and sign this form and return it to the Graduate School with the signed Program of Study.*

**Exam Scheduling Form:** *You must schedule all examinations required by the Graduate School using the Exam Scheduling Form. You must submit this form at least one week prior to a doctoral preliminary exam or a master's final exam, and two weeks prior to a doctoral final exam. You are responsible for:*

- *Informing the Graduate School of the date, time, and place of each exam*
- *Confirming the committee membership*
- *Notifying and reminding the committee of the exam date, time, and place*

It is the responsibility of the student to assure that all committee members are aware of the date, time, and location of meetings. Even after arranging the specifics of meetings with committee members by telephone or in person, students should send each member of the committee a memorandum to remind them of the date, time, and place of meetings at least 1 week in advance of the meetings.

G. Research Review. The Research Review is a Departmental requirement for all graduate

students. It is a mechanism whereby the thesis or project research proposed by a student is exposed to the academic diversity of the Department. It provides the opportunity for students to describe their research in detail both in writing and orally, and to obtain comments, criticisms, and suggestions by a Research Review Committee. It is the student's responsibility to request appointment of a Departmental Reviewer by the Departmental Graduate Committee at least 2 weeks in advance of the proposed Research Review meeting. The student needs to pick up the blue research review form from the FW Head Advisor and bring it to their meeting. Contact information for the committee chairperson can be obtained from the Department Head or Head Advisor.

1. Research Review Committee. The Research Review is conducted by a committee consisting of a student's graduate committee, except in special cases approved by the Chair, Department Graduate Committee:
  - a. The major professor.
  - b. The departmental representative (a regular member of the student's committee).
  - c. A departmental reviewer who is a member of the Department's Graduate Faculty and is appointed by the Chairman of the Departmental Graduate Committee. The reviewer is not a regular member of the student's committee and serves only during the Research Review.
  - d. Other members of the student's committee, including the Minor Professors and Graduate Council Representative (for Ph.D. only). Also, other interested and qualified persons, including representatives of agencies that fund the research, may be selected by the major professor to serve on the Research Review Committee.
  
2. Conduct of the Review. The departmental reviewer, who usually represents another field (e.g., a fisheries professor for a wildlife student), administers the review. Usually the student is asked to describe briefly their background and academic preparation, and to give a quick overview of the nature and evolution of their research problem and the planned approach thereto. Thereafter, the departmental reviewer, regular members of the student's committee, and invited guests have the opportunity to discuss any aspect of the proposed research with the student and to question or comment as they see fit. It is the role of the departmental reviewer to ensure that all members of the review committee have an equal opportunity to question or comment.
  
3. Timing of the Review. Except for extenuating circumstances made known to the Chairman of the Departmental Graduate Committee and approved by the Department Head, the Research Review must be completed before major data collection and analysis begins. The review should be completed within two terms by those seeking Masters degrees and within three terms by those seeking doctoral degrees. Students who fail to schedule a review within these periods must notify the Departmental Graduate Committee of plans to schedule a review and should provide an explanation for not scheduling the review earlier. The Departmental Graduate Committee will apprise the Department Head of the status and conditions related to scheduling of the Research Review each term for each graduate student who has not yet completed the review.
  
4. Scheduling the Review. Students are responsible for scheduling the Research Review at a time, date, and location agreeable to members of the Review Committee including the Departmental Reviewer. At the time the student is assembling their committee, they must request appointment of a departmental reviewer by the Chairman of the Department Graduate Committee. In contacting the Chairman of the Graduate Committee, they must indicate

whether they are a Fish or Wildlife student as they will be given a list of potential Department Reviewers from the opposite discipline. They must contact each of these faculty members until a Reviewer can be scheduled. The student should send the name of that faculty member back to the Chair of the Graduate Committee. If no faculty member can be found from the original list of three choices, the Chair of the Graduate Committee will send another list of three faculty members for the student to contact.

A research proposal in which the thesis research or project is described must be provided to all members of the Review Committee at least 10 days before the review. Two hours are to be allotted for the Research Review.

5. Research Proposal. Guidelines for the proposal are detailed in Appendix J.

Typically, the text of the research proposal, excluding literature cited, should not be more than 15 pages.

6. Completion of the Review. The departmental reviewer is responsible for transmitting to the Department Head the consensus of the committee regarding the timeliness of the review, the depth of student's understanding of the background of, and approach to, the research topic, and the nature of the advice provided to the student by the Research Review Committee. Departmental reviewers or regular members of the committee who dissent from the prevailing consensus regarding the timeliness of the review, the student's depth of understanding of the topic, or the advice provided during the review may so indicate on the review form and transmit their opinions to the Department Head by letter. If two or more members of the review committee (includes the departmental reviewer) consider the oral and written presentation inappropriate or consider the student's depth of understanding of the research problem inadequate, the research review will be suspended for a period not to exceed 1 month to provide the student time to prepare. The Research Review must be reconvened, but the Chairman of the Departmental Graduate Committee, upon request, may appoint a new departmental reviewer for subsequent meetings.

The research review committee may request that the proposal be revised if a majority of members agree that the original draft was inadequate or inappropriately prepared and to ensure that suggestions by members were given serious consideration. Such a request by the committee is appropriate even if the review is not to be reconvened.

Students are to be apprized that although the Research Review is strictly advisory, criticisms and suggestions provided should be given serious consideration as members of their committee and the Department Head will examine their completed work and must approve their thesis.

H. Seminars. Each graduate student on a thesis program is expected to present a public seminar related to the thesis subject. Up to one hour including time necessary to reconvene the closed thesis defense will be allotted for this purpose. This one hour time period must be strictly enforced by the Major Professor. The presentation should be made immediately preceding the Defense of Thesis or scheduled separately with approval by the students committee. A brief period will be allowed for the public to ask questions following the seminar. The student and their committee shall then reconvene in private for the thesis defense. It is the responsibility of the student's major professor to see that the seminar is adequately advertised in advance in this department and other appropriate areas.

I. Petitions. *A student wishing to deviate from normal Graduate School regulations and*

*procedures may submit a request and the reasons for it to the Graduate School in a letter signed by the student and his or her major professor. In reaching a decision, the Graduate School may seek advice from the Graduate Council. The student will be advised of the decision when it has been made. Action taken on petitions will not be considered as a precedent for any future action.*

J. Diploma Application. *Graduate students wishing a printed diploma must complete an application supplied by the Graduate School. This form should be submitted to the Graduate School the term before the final oral examination is taken.*

K. Deadlines. *Deadlines for scheduling examinations, applying for graduation, depositing completed theses with the Graduate School, and other requirements are available on the Graduate School website [http://oregonstate.edu/dept/grad\\_school/current/deadlines.html](http://oregonstate.edu/dept/grad_school/current/deadlines.html) A copy is on display on the bulletin board in the hall adjacent to Nash 104.*

## V. MASTER OF SCIENCE IN FISHERIES OR WILDLIFE

### A. General Requirements.

*A regular master's degree student must file a study program with the Graduate School before completing 18 graduate credits. This includes credits reserved as an undergraduate or postbaccalaureate student and credits earned as a postbaccalaureate, graduate nondegree-seeking student, or graduate student. A student who does not file a program within the specified deadline will not be allowed to register for the next term. A registration hold also may be placed on students whose programs of study are not approved after initial evaluation by the Graduate School and until appropriate action is taken to bring the program of study into compliance with Graduate Council policy.*

*All master's degree programs require a minimum of 45 graduate credits including thesis (6 to 12 credits). Effective fall 2005, all graduate student programs of study submitted to the Graduate School must consist of, at a minimum, 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses. The major should include 3 hours of selected-topics seminar (e.g., FW 507). Appropriate seminar series are offered by departments of Fisheries and Wildlife, Botany and Plant Pathology, Forest Ecosystems and Society, Statistics, and Zoology, by the College of Oceanic and Atmospheric Science, and by the Hatfield Marine Science Center. Other opportunities may be appropriate, but should be approved by your major advisor.*

*If a minor is declared, approximately two-thirds of the work (30 graduate credits) should be listed in the major field and one-third (15 graduate credits) in the minor field. In such cases, the student's advisory committee must include a member from the minor department. The program is developed under the guidance of the major professor, and minor professor when a minor is included, and signed by those professors and the chair of the academic unit before filing in the Graduate School. Each candidate's program should include substantial work with at least three faculty members offering graduate instruction. Changes in the program may be made by submitting a Petition for Change Form, available in the Graduate School.*

B. Residence Requirements. *The residence requirement for the master's degree is 30 graduate Oregon State University credits after admission as a degree-seeking graduate student. These 30 graduate credits must appear on the master's degree program. (This does not include credits reserved as an undergraduate or postbaccalaureate student, credits taken as a*

*postbaccalaureate or graduate nondegree-seeking student, nor transfer courses.) Deviation from the residence requirement requires a petition to the Graduate School.*

C. Time Limit. This department limits M.S. candidates to five years from first registration in which to complete the degree.

D. Thesis. *When scheduling their final oral examinations, thesis option master's students are required to submit the pretext pages of their thesis to the Graduate School at least one week prior to the final oral examination. Pretext pages include the abstract, copyright (optional), title page, approval page, acknowledgment page, contribution of authors, table of contents, list of figures, tables, appendices, dedication (optional), and preface (optional). It is expected that students will distribute examination copies to all their committee members, including the Graduate Council Representative, sufficiently early to permit thorough review of the thesis prior to the student's final oral examination.*

*Within six weeks after the final oral examination, one printed and one electronic final copy of the thesis, including copies of the abstract, must be submitted to the Graduate School office. If these copies are submitted after the initial six-week period, the student may be subject to re-examination. Please refer to the Graduate School's Web site for complete details ([http://oregonstate.edu/dept/grad\\_school/current/thesis.html](http://oregonstate.edu/dept/grad_school/current/thesis.html)).*

*The student must obtain on the thesis approval page the original signatures of the major professor and the head of the major department. The required Graduate School signature will be obtained by the Graduate School. The thesis will not be accepted for graduation requirements until it has received approval by the graduate dean.*

*Full information concerning the prescribed style for theses is given in the booklet, *Preparing a Thesis or Dissertation at OSU: A Graduate Student Guide*, available on the Web at [http://oregonstate.edu/dept/grad\\_school/](http://oregonstate.edu/dept/grad_school/).*

The Department of Fisheries and Wildlife requires that one unbound copy of the M.S. thesis and one electronic copy be submitted to the Department. Hard copy can be delivered to the office manager in Nash 104D, electronic copy can be emailed to the Department Head.

E. Final Examination. *All master's degrees require a final oral exam. You must have a minimum GPA of 3.00 on both your Program and cumulative graduate transcript to schedule the final oral examination. All course work with a grade of I appearing on the program of study must be completed prior to scheduling the final oral examination. You must schedule your exam with the Graduate School one week in advance to allow time to audit of your Program of Study.*

*Successful completion of a final oral examination is required. The examination should be scheduled for two hours after the seminar or scheduled separately with approval by the students committee.*

*For master's candidates whose programs require a thesis, not more than half of the examination period should be devoted to the presentation and defense of the thesis; the remaining time is to be spent on questions relating to the student's coursework. The examining committee consists of at least four members of the graduate faculty--two in the major field, one in the minor field, and a Graduate Council representative. You must contact members of the committee to arrange the date, time and place, **then schedule the exam with the Graduate School not less than one week before the examination.***

**Exam Scheduling Form:** *You must schedule all examinations required by the Graduate School using the Exam Scheduling Form. You must submit this form at least one week prior to a doctoral preliminary exam or a master's final exam, and two weeks prior to a doctoral final exam. You are responsible for:*

- *Informing the Graduate School of the date, time, and place of each exam*
- *Confirming the committee membership*
- *Notifying and reminding the committee of the exam date, time, and place*

*One dissenting vote is permitted for both thesis and non-thesis degrees. No more than two re-examinations are permitted by the Graduate School, although academic units may permit fewer re-examinations.*

## VI. DOCTOR OF PHILOSOPHY IN FISHERIES OR WILDLIFE

A. **General Requirements.** *The doctor of philosophy degree is granted primarily for creative attainments. There is no rigid credit requirement; however, the equivalent of at least three years of full-time graduate work beyond the bachelor's degree (at least 108 graduate credits) is required. All graduate student programs of study submitted to the Graduate School must consist of, at a minimum, 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses. After admission into the doctoral program, a minimum of one full-time academic year (at least 36 graduate credits) should be devoted to the preparation of the thesis. The equivalent of one full-time academic year of regular non-blanket course work (at least 36 graduate credits) must be included on a doctoral program.*

*The student's doctoral study program is formulated and approved subject to departmental policies at a formal meeting of his or her doctoral committee, which consists of a minimum of five members of the graduate faculty, including two from the major department and a representative of the Graduate Council. If a minor is declared, it must consist of at least 18 credits (15 credits for an integrated minor) and the committee must include a member from the minor department. All committee members must be on the graduate faculty with appropriate authorization to serve on the student's committee.*

*The student must be registered for a minimum of 3 credits for the term in which the program meeting is held. When the program is approved by the doctoral committee, the departmental chair, and the dean of the Graduate School, it becomes the obligation of the student to complete the requirements as formulated. Changes in the program may be made by submitting a Petition for Change Form available in the Graduate School.*

*Effective fall 2005, all graduate student programs of study submitted to the Graduate School must consist of, at a minimum, 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses.*

*Selected 700-level courses that have been deemed equivalent to graduate-level learning may be used on doctoral programs of study upon approval of the student's graduate committee.*

*No more than 15 credits of blanket-numbered courses, other than thesis, may be included in the minimum 108-credit program.*

*A regular graduate student who holds a master's degree must file a study program with the Graduate School by the end of one calendar year of enrollment as a doctoral student.*

*A regular graduate student who does not hold a master's degree must file a study program with the Graduate School by the end of the fifth quarter of enrollment as a doctoral student.*

*A student who does not file a program within the specified deadline will not be allowed to register for the next term. A registration hold also will be placed on graduate students whose programs of study are not approved after initial evaluation by the Graduate School and until appropriate action is taken to bring the program of study into compliance with Graduate Council policy.*

*It is not recommended that a student obtain all of his or her academic training through the doctoral degree at a single institution.*

**B. Residence Requirements.** *For the doctoral degree, the residence requirement consists of two parts: (1) a minimum of 36 graduate Oregon State University credits must be completed; and (2) the student must spend at least three terms of full-time graduate academic work (at least 9 credits/term) on campus or at an off-campus site approved by the Graduate School. The latter requirement of 3 terms of full-time enrollment does not have to take place in consecutive terms. Thesis hours are counted toward residency. Ecampus courses do not count toward residency requirements.*

*Adequate fulfillment of the residence requirement shall be determined by the Graduate School.*

**C. Credit Requirements.** *The cumulative equivalent of one full-time academic year of regular non-blanket coursework (defined as 36 credits) must be included on a doctoral program. Courses completed as part of a student's Masters program can be included.*

Each Ph.D. candidate should include 3 hours of selected-topics seminar (e.g., FW 507). Appropriate seminar series are offered by departments of Fisheries and Wildlife, Botany and Plant Pathology, Forest Ecosystems and Society, Statistics, and Zoology, by the College of Oceanic and Atmospheric Science, and by the Hatfield Marine Science Center. Other opportunities may be appropriate, but should be approved by your major advisor.

**D. Reading List.** An important part of graduate education, particularly at the Ph.D. level, is considered to be readings from the classic and contemporary literature of a broad spectrum of science. Rather than provide a required list, we have suggested two broad areas, seldom covered in course work, in which a student should develop competence (History and Philosophy of Science, Evolution and Speciation). Students are encouraged to consult with their major professor to decide on the way in which this background can best be gained. The candidate is responsible for competence in all basic areas of biology at the preliminary examination.

**E. Preliminary Examinations.** *The student working toward the doctor's degree must pass a group of comprehensive preliminary examinations (at least partly oral) in his or her major and minor subjects. Most departments require a written comprehensive examination to be taken before the oral preliminary examination. The preliminary examination is taken near the completion of the student's course work. The oral exam should be scheduled for at least two hours. If more than one negative vote is recorded by the examining committee, the candidate will have failed the oral examination. No more than two re-examinations are permitted by the Graduate School, although academic units may allow fewer re-examinations. Advancement to candidacy is contingent on passing the preliminary examinations. Oral preliminary examinations must be scheduled in the Graduate School one week in advance. At least one complete academic term must elapse between the time of the preliminary and final oral*

*examinations.*

In addition to the Graduate School requirement that each Ph.D. candidate take and pass an oral preliminary examination, the Department of Fisheries & Wildlife further requires that each candidate take and pass a written preliminary examination. The purpose of the written examination is to provide students who have some difficulty in oral presentation an opportunity to express themselves in writing and to provide a better basis for evaluating candidates. The written test will precede the oral preliminary examination, will consist of questions submitted by each committee member, and will be graded before the oral. Procedure for the exam is as follows:

1. **Written portion.** Each committee member will be expected to submit questions other than the Graduate School Representative where submission of questions is his/her option. Questions should be general in scope and required creative thought, but they might require use of specific information. There is no restriction on the number of questions each committee member may ask, but it should be possible to answer the questions of each committee member in approximately 2 hours. However, the written examination is not an exercise in speed writing, and the student should be given ample time beyond 2 hours, if needed, to answer each committee member's questions. Use of word processors may be permitted in writing answers to questions. Committee members have the option to ask open-book questions or to allow students to make choices on which questions to answer (e.g. answer two of three questions, etc.). Students also have the option to take the written examination over a 1-week period rather than a 1-or 2-day period, but they should not see a particular committee member's questions until they take the examination.

If the student or major professor wish to depart from the above guidelines, they should propose any changes in writing to the student's graduate committee (at the time of the Research Review) and the Departmental Graduate Committee for approval. Only after formal approval by both groups will departures from the above guidelines be permitted.

Administration of the written examination is at the discretion of the student's graduate committee in consultation with the student. Each committee member will be asked to evaluate the entire examination and recommend to the major professor Pass or Fail regarding their individual question. Students who fail one portion of the examination may be required by the doctoral committee to retake that section or the entire exam. Failure on more than one section will necessitate retaking of those portions of the examination. After the second examination, the Committee will determine the student's readiness to proceed to the oral examination. The oral exam must not be scheduled until the reports on the written have been received and evaluated.

2. **Oral portion.** Following the successful completion of the written preliminary, the student should contact the members of the student's committee and schedule the time and place of the oral examination, which must be announced to the Graduate School at least one week before the exam. The Events Scheduling form can be downloaded off of the Graduate School website. The oral examination should be scheduled for 3 hours. Committee members should be reminded of this fact as most are accustomed to a 2-hour examination.

Students are reminded that the objective of the preliminary examination is to determine the ability to integrate material over a wide range of fields; thus, questioning may not follow specific coursework. Students are encouraged to discuss with committee members, well

before the examination, general areas of inquiry that might bear review and to obtain their suggestions for reading material.

Following successful completion of this examination, the student is notified of advancement to candidacy for the Ph.D. degree. The candidate may not be advanced to candidacy if there is more than one dissenting vote from the committee. If the student is not advanced to candidacy, the committee may (but need not) recommend reexamination (must be approved by majority vote). If reexamination is recommended, the Committee must file with the Graduate School a statement describing any conditions imposed, including deficiencies to be made up and the time interval between examinations. Only one reexamination will be allowed.

F. Thesis. *Every candidate for the degree of Ph.D. degree must submit a thesis embodying the results of research and giving evidence of originality and ability in independent investigation. The thesis must be a real contribution to knowledge, based on the candidate's own investigation. It must show a mastery of the literature of the subject and be written in creditable literary form. The preparation of an acceptable dissertation will require at least one full-time academic year. The booklet, "Preparation of the Thesis," is available at [http://oregonstate.edu/dept/grad\\_school/index.htm](http://oregonstate.edu/dept/grad_school/index.htm). If thesis material is to be published prior to the final oral examination, the student should request permission from the Graduate School to do so in order to protect his or her rights to the originality of the material.*

*Regulations concerning the doctoral thesis are the same as those for the master's degree with the following exceptions: An examination copy of the thesis must be presented to the Graduate School at least two weeks prior to the final oral examination. Within six weeks of the final oral examination, one printed and one electronic final copy of the thesis and one extra copy of the abstract and title page must be submitted to the Graduate School. Please refer to the Graduate School's Web site for complete details ([http://oregonstate.edu/dept/grad\\_school/current/thesis.html#library](http://oregonstate.edu/dept/grad_school/current/thesis.html#library)).*

The Department of Fisheries and Wildlife requires that one unbound copy of the M.S. thesis and one electronic copy be submitted to the Department. Hard copy can be delivered to the office manager in Nash 104D, electronic copy can be emailed to the Department Head.

*A doctoral thesis abstract will be published by ProQuest Information and Learning. Candidates for the doctor of philosophy and doctor of education degrees pay a minimum fee of \$65 for archiving of the thesis in its entirety by ProQuest and publication of the abstract in Dissertation Abstracts. The student, upon completing the doctorate, is asked to fill out the form for survey of earned doctorates.*

Students must prepare an outline of their thesis for the approval of their major professor no later than 6 months before the student intends to complete degree requirements. This outline must be comprehensive but as simple as possible, consistent with the presentation and analysis of the results.

There is no requirement regarding the number of pages in a thesis. The thesis should be no longer than is consistent with adequate presentation and thorough analysis of the results.

The responsibility for approving the format of the thesis and for checking bibliography rests with the major professor and the committee. In the Department of Fisheries and Wildlife the primary reference for form and style will be the latest edition of the Council of Biology Editors Style

Manual or the style of the anticipated journal of publication, at the discretion of the student's committee. For requirements unique to the thesis, students should also consult the manual "Preparation of the Thesis" available at [http://oregonstate.edu/dept/grad\\_school/index.htm](http://oregonstate.edu/dept/grad_school/index.htm)). Student should pay particular attention to the accuracy of citations in the bibliography, as this section has accounted for considerable work on the part of librarians previously assigned the task of checking format of the thesis.

G. Final Examination. *After completion of or while concurrently registered for all work required by the program, the student must pass a final doctoral examination that may be written in part but must include an oral examination. The final oral examination must be scheduled in the Graduate School Office at least two weeks prior to the date of the examination. All incomplete course work appearing on the program of study must be completed prior to scheduling the final oral examination.*

*The final oral examination consists of a public thesis defense followed by a closed session of the examining committee with the candidate. Under normal circumstances, the final oral examination should be scheduled for two hours.*

*All members of the student's graduate committee must approve the scheduling of the final examination.*

*It is expected that the thesis defense portion of the final oral exam be open to all interested persons and should be limited to one hour. After the open portion of the exam, the examining committee should exclude all other persons and continue with the examination of the candidate's knowledge of his or her field and the evaluation of the candidate's performance.*

*If the department favors a more elaborate presentation, it should be scheduled as a separate seminar. In any case, the time involved for the open presentation may not impinge upon time required for the examining committee to conduct appropriate, iterative oral inquiry with the candidate, to evaluate the candidate's performance, and to deliberate fully within the time constraints of the scheduled oral examination.*

*The examining committee consists of the student's doctoral committee and any additional members, including professors from other institutions, whom the major department may recommend. In the oral examination, the candidate is expected to defend the thesis and show a satisfactory knowledge of his or her field. If more than one negative vote is recorded by the examining committee, the candidate will have failed the examination. No more than two re-examinations are permitted by the Graduate School, although academic units may permit fewer re-examinations.*

*The final oral examination must be taken within five years after the oral preliminary examination. If more than five years elapse, the candidate will be required to take another oral preliminary examination.*

In the final oral examination, thesis presentation, objectives, and results should be accomplished during a one-hour period as described in section IV.H. The final examination for the Ph.D. should be announced to the staff of this department and other appropriate departments, with the understanding that prospective visitors should inform the major professor that they plan to attend.

## VII. GRADUATE STUDENT ASSESSMENT

The Department of Fisheries and Wildlife requires an annual assessment of each graduate student's progress towards completion of their graduate degree. The assessment was created in response to suggestions from graduate students to create a written record of both their academic progress and of their committee's approval of their actions. It is the responsibility of the Major Professor to clearly explain this process to the student, including the right of the student to submit independent comments to the Department Head.

The objectives of the assessment are to: (1) provide students and faculty with feedback on the student's progress towards a graduate degree; (2) identify students who may need additional assistance; and (3) when appropriate, provide a framework for the student and their Major Professor to develop a specific plan of action to facilitate degree completion. In general, the assessment is designed to facilitate positive communication between the student and their committee and to maintain a high-quality graduate education program within the department. The student is responsible for initiating and completing the assessment, while the Departmental Graduate Committee has oversight responsibilities and ensures that assessments are completed in a timely manner.

A. Annual Review. The progress of each graduate student will be reviewed annually. The first review is to occur within 1 year of first enrollment. The review consists of four steps: (1) student's assessment of his/her progress; (2) a review by the student's graduate committee (including a committee meeting if possible); (3) a student-major professor interview and annual evaluation; and (4) a student's optional review of their major professor and graduate committee. The Departmental Graduate Committee will review all documents and report to the faculty.

Step 1. Student Evaluation of Progress. The student assesses his/her progress during the past year using the Graduate Student Self-Evaluation Form (Appendix C or on Department server at G:/shared/graduate student assessment). This form has two parts. Part A is a record of completion dates of major steps in the graduate program (e.g., committee formed, research review, course program, etc.). It is to be updated at each annual review. Part B is a written narrative of activities the student has completed since the last review, and is to be attached to the form (see attached form for detail of content). Narratives are to be typed on a separate page that clearly indicates the name of the student, major professor, and the date of the self-evaluation.

The student forwards a copy of the following documents to each member of his/her graduate committee:

1. Graduate Student Self Evaluation Form (with Part A updated)
2. Written Narrative of progress (as outlined in Part B of the Self-Evaluation)
3. Graduate Committee Student Evaluation form (See Step 2)
4. Appended Resume recommended. This also assists in making decisions concerning scholarships.

**It is the student's responsibility to submit all of the evaluation materials as one complete packet including the student's self evaluation and comments by the major professor and committee members. The complete packet must be turned in to the department Office Manager, Jan Cyrus.**

After the review is complete, all forms will remain in the student's file until graduation.

Step 2. Student Graduate Committee Evaluation of the Student. The student's graduate

committee will assess the student's progress towards completion of their graduate degree at an annual meeting (or through one-on-one discussions with the student if a meeting is not possible). It is the student's responsibility to provide all committee members with the materials outlined in Step 1 prior to the meeting. The meeting is for information exchange and discussion of future plans, and is not a structured evaluation. The student will summarize their thesis research, course work, and professional development; and committee members will ask questions, respond to student's questions, and provide suggestions. At the conclusion of the meeting, each committee member will sign and provide written comments on (if desired) the Graduate Committee Student Evaluation form (see attached), return it to the student, and retain the remainder of the materials for their records. The student will return all Graduate Committee Student Evaluations to the Departmental Graduate Committee with the rest of their Assessment documents.

Step 3. Student-Major Professor Interview and Annual Evaluation. Within 2 weeks of the committee meeting (and after absent committee members have completed their Graduate Committee Student Evaluations), the student's major professor will arrange a student-major professor interview. During the student-major professor interview, the major professor and student will discuss the student's progress, feedback from committee members, issues of concern, and plans for the coming year. The major professor gives the completed Graduate Committee Student Evaluation form to the student (who returns it to the Departmental Graduate Committee with the rest of the assessment documents). If desired by either the student or the major professor, the major professor will write a detailed, one-page written Annual Evaluation of the student's performance. In cases where the major professor believes the student has performed below expectations or that the student's goals and plans for the coming year are inadequate or are not consistent with the professor's evaluation, the major professor will work with the student to develop a written Graduate Education Performance Plan (see attached) for improving the student's performance. The major professor's Annual Evaluations (and Performance Plan if necessary) remain in the student's file until graduation.

Step 4. Student's Optional Evaluation of Major Professor and Graduate Committee. At this time, the student assesses their need to provide feedback (positive or negative) on the performance of their major professor and committee members. If the student wants to provide feedback, there are several options:

1. Written Evaluation of the Major Professor and/or committee member. According to University policy, faculty members are able to view all documents in their file used for their annual evaluations or promotion and tenure assessments. Thus, the student can submit to the Department Head either of the following types of evaluations of their major professor or committee members:

a. Non-confidential Evaluation that could be read by their Major Professor upon request;

-AND/OR-

b. Confidential Evaluation that explicitly states it is confidential. The contents of a confidential letter could not be used in a formal evaluation of the professor's performance.

2. Discussion with the Department Head. The student may meet with the Department Head to discuss the performance (both positive and negative) of their major professor or

committee members. This allows students an opportunity to provide input to the Department Head concerning any problems, which may compromise successful completion of the degree, or an opportunity to recognize special efforts of a Major Professor or committee member(s). The Department Head will keep this meeting strictly confidential if requested by the student. Information from a confidential discussion cannot be used in a formal evaluation for promotion and tenure review.

It is the graduate student's responsibility to forward all completed documents (from Step 1-Step 4) to the Departmental Graduate Committee.

B. After the Annual Review. Outcomes from annual evaluations will either be “Satisfactory Progress” or “Unsatisfactory Performance Evaluation.” Based upon the evaluation either or both the faculty member or student may wish to dissolve the major professor-student relationship.

1. Satisfactory Progress. In most cases, students have made satisfactory progress, and any issues that surfaced in the review are adequately addressed. After review by the Departmental Graduate Committee, all paperwork will be placed in the student's file until graduation.

2. Unsatisfactory Performance Evaluation. The annual assessment may result in an unsatisfactory performance evaluation of the student. In cases of unsatisfactory performance the major professor will work with the student to develop the written Performance Plan for improving the student's performance (See attached). The plan will become part of the student's file and will contain tangible mileposts or benchmarks for improvement. The Department Head will review and monitor progress of this plan on a quarterly basis. In cases where the Department Head is the student's Major Professor, this review will be conducted by the Chair of the Departmental Graduate Committee. Two unsatisfactory performance reports may result in terminating the student's graduate program.

3. Dissolution of the Major Professor-Student Relationship. The Major Professor-Student Relationship is the most basic component of the Department of Fisheries and Wildlife's graduate program. Acceptance of a student into the program is initiated by a major professor willing to act as the student's mentor. However, both the Graduate School and the Department of Fisheries and Wildlife are responsible for providing a reasonable opportunity to complete degree requirements for students that are accepted into the program. In cases where the Major Professor-Student Relationship dissolves, the Department and Graduate School still have a responsibility to that student. Either the student or the faculty member may terminate the Major-Professor-Student Relationship. A student may terminate the Major Professor-Student Relationship in writing by resigning. Resigning from a Graduate Research Assistantship will immediately terminate the student's employment by the Department resulting in the loss of the Graduate Research Assistantship. A faculty member may terminate the Major Professor-Student Relationship in a letter to the student and Department Head. Mutually acceptable arrangements shall be negotiated by the Major Professor, graduate student and the Department Head. Students may request the Graduate School to appoint an advocate to assist them in negotiating a satisfactory settlement. In cases where the faculty member dissolves the Major Professor-Student Relationship, the student's Graduate Research Assistantship will continue through the end of his/her appointment (usually through the academic year).

The Department is responsible for providing a reasonable opportunity for students to complete degree requirements for students whose Major Professor-Student Relationship has dissolved but who are otherwise still in good standing in the program. In such situations, the Department Head will act as the student's Major Professor or will assign a Major Professor to the student. The student will have a minimum of six months to find a new Major Professor.

C. Grievances. If all other efforts to resolve problems fail, students who believe that they have been unfairly treated during their graduate program may file a grievance with the Graduate School. Contact the Graduate School for grievance guidelines.

## VIII. PUBLICATION OF THESIS AND DISSERTATION RESEARCH

Publication of the results of thesis research is important to science, to the student, and to the Department. Adequate and continual publication of results of research frequently determines whether or not funds supporting the research will be continued, and consequently, whether graduate students in the future can be financially supported. Students are strongly urged to publish results of their thesis research at the earliest possible date.

Such publication is facilitated if the thesis is prepared in a form as near to publication form as possible. Tabular material, or detail inappropriate to a publication but determined by the major professor to be required for the thesis, should be placed in appendix that can be deleted when the manuscript is submitted for publication.

Encouragement of publication inevitably raises the question of authorship. Rarely does this become a problem if the topic is discussed early in the research program. Seldom is work of publishable quality wholly the result of the efforts of a single individual. Recognition of the need to acknowledge contributions of others, either as a joint author or as a formal acknowledgment, is an important part of professional maturity. Graduate students are urged to discuss this option with their major professor at an early stage in the student's research program. Appropriate recognition of author affiliation and departmental contribution to publications resulting from graduate studies aids in maintaining the prestige of the department. See Appendix H for policy on author affiliation.

## IX. FINANCIAL SUPPORT

Students are accepted into the Department on behalf of a faculty member and most faculty will not accept students unless financial support is available. Therefore, it is important that students understand the nature and availability of financial support.

### A. Assistantships.

*Graduate teaching and research assistantships are awarded by departments and programs to graduate students with superior records in their undergraduate and/or graduate work. To qualify for appointment as a graduate assistant the student must:*

1. *Be a regularly admitted, conditionally admitted, or provisionally admitted graduate student at Oregon State University (i.e., not a graduate nondegree-seeking, postbaccalaureate student, or PharmD or DVM student).*

2. *Be enrolled as a full-time degree-seeking graduate student at Oregon State University, completing a minimum of 12 credits of instruction each term (9 credits during summer session). Audit registrations, course withdrawals, and enrollment in INTO-OSU and OSU Extended Campus may not be used to satisfy these minimum enrollment requirements.*
3. *Be making satisfactory progress toward an advanced degree.*

*Graduate assistants may be appointed on an academic term basis, an academic-year basis (nine months) or a full-year basis (12 months). Appointments are normally .20 FTE to .30 FTE for those on a nine-month basis and .20 FTE to .49 FTE for those on a 12-month basis. No appointment can be for less than .20 FTE or more than .49 FTE per term. A graduate assistant on less than .49 FTE may take on extra duties; however, **the total stipend plus salary from all sources within the Oregon University System shall not exceed the equivalent of .49 FTE for any term.***

1. Graduate Teaching Assistantships. The Department has no University-supported teaching assistantships but creates functional teaching assistantships as research assistantship positions. A graduate teaching assistant renders services amounting to approximately 15 hours a week, reading papers, handling laboratory and quiz sections, etc. The Department may adjust this load on a quarterly basis.

Supervision of the Teaching Assistant will be by the instructor for the course. Instructors who share a Teaching Assistant will coordinate activities of the Teaching Assistant consistent with course requirements and the Assistant's availability. Problems encountered by the Assistant shall be discussed with the supervising instructor(s). If problems cannot be resolved satisfactorily, the Department Head shall be consulted by the parties concerned.

Announcements of Teaching Assistant positions are distributed to faculty and currently enrolled graduate students as early as possible in the spring. Students should apply to assist specific courses. From the pool of applicants, the Resident Instruction Committee selects the Teaching Assistants for the next academic year.

Criteria used, in priority order, for selecting Teaching Assistants are:

- a. Applicants must not exceed the limitation of 6 terms within 36 months for M.S. students and 9 terms in 48 months for Ph.D. students.
- b. Qualifications
  - i. Coursework in subject area
  - ii. Previous teaching experience
  - iii. Instructor and student evaluation
  - iv. Grade point average
  - v. Recommendations
- c. Provide meaningful financial support to Teaching Assistants by appointing as many as possible for 2 terms or more per academic year.
- d. Maximize exposure of undergraduates to a variety of Teaching Assistants with diverse backgrounds.
- e. Race and gender status to promote diversity of role models for undergraduates.

To provide the opportunity of teaching assistantships to the largest number of graduate students, students that have assisted in a course three times will not be considered as teaching assistants

for that course, except when no other qualified graduate student is available. Teaching experience is considered by the faculty to be a significant adjunct to a student's education. All graduate students, particularly Ph.D. candidates, are encouraged and may be required to obtain teaching experience, providing that the student's research program is not affected adversely. This could involve giving one or two lectures in a course or being responsible for a portion of the laboratory work, or whatever mutually agreeable arrangement can be made.

2. Graduate Research Assistantships. A graduate research assistant aids a faculty member in conducting a research project. Appointments and stipends are based on training, ability, and experience. Unfortunately, research programs often do not have sufficient financial resources to support all graduate research. For more details on employment of Graduate Research Assistants see Appendix D.

B. Fellowships. A number of fellowships sponsored by industry, foundations, and government agencies are available to superior students for graduate study in various departments at Oregon State University. These fellowships are awarded through the departments concerned, and application should be made by writing to the department. Fellows render no service to the institution, may carry 16 term hours, and pay full tuition except as noted. Fellowships open to Oregon State University graduate students are listed on the Graduate School website [http://oregonstate.edu/dept/grad\\_school/current/fellowscholar.html](http://oregonstate.edu/dept/grad_school/current/fellowscholar.html). Limited grants are sometimes available from the Sport Fishing Institute or the Wildlife Management Institute. Students with superior academic records should consider competing for nationally offered National Science Foundation, National Institute of Health, or Sea Grant Graduate Fellowships.

C. Affirmative Action. All graduate appointments that receive financial aid will be made under the Affirmative Action program of the University.

## X. GRADUATE STUDENT PRIVILEGES

A. Keys. Keys to laboratories and offices are issued as needed. A form available at the Department's main office which requires the student's OSU ID number and the room numbers of the laboratories and offices to be worked in must be completed. There is a deposit required for each key. It is illegal to duplicate university keys. Lost keys should be reported immediately. To return keys, key holder must place keys in a key shop return envelope available in the departmental office and forward the keys to the key shop via campus mail. A refund check will be issued.

B. After-hours work permit. Graduate students using the buildings after regular hours (0700-1800) must have an after- hours work permit. Permits are available in the main office (Nash 104).

C. Building security. Graduate students should follow prudent security measures, such as closing and locking all doors and windows, when they leave an office or laboratory. See Appendix E for policy on keys to university buildings and rooms.

D. Driving of state vehicles. Driving a state vehicle is a privilege. Regulations covering the use of state vehicles are attached as Appendix F. Note: vehicles may not be used for personal business.

E. Purchasing. You must be authorized by the person(s) in charge of the index before making purchases. All purchasing is charged to an index, therefore, the appropriate index number must

be obtained before making purchases.

Students would work closely with the office staff **before** making any purchases – the department has accounts with a number of vendors who will direct bill purchases and give us discounts. If students make purchases on their own, it is possible that the reimbursement will not be approved based on allowable expenses on the index used. Another reason for a direct billing is that the student does not have to then wait to be reimbursed for the charge. Interest on credit card purchases is not a reimbursable expense.

F. Travel. Travel: Reimbursements for work-related travel must be authorized by the principal investigator. Travel falls into three categories: 1) In-state (within Oregon) 2) Out-of-state and 3) International.

Pre-Authorization is required for ALL travel. The travel authorization form can be found online at: <https://oscar.oregonstate.edu/Resources/SubNav.aspx?NavPage=13&submenu=T13>. It should be filled out and approved before the travel plans are made. Travel authorizations must be filled out even when there is no reimbursement, and/or reimbursement is from an outside source.

Prior approval serves to document that the travel is work-related and, for students on assistantships, that state accident insurance is in effect.

G. First-aid. Students who must be involved in field work are urged to take at least one first-aid course. All students who use SCUBA in their work are urged to take a CPR course.

H. Electronic-Mail. Graduate students are encouraged to acquire a Fisheries and Wildlife account. This will also give them access to the graduate students mailing list. To request an account, email your name, major professor, and ONID username to [jan.cyrus@oregonstate.edu](mailto:jan.cyrus@oregonstate.edu). The mailing list exists to facilitate communication among graduate students in the Department. This list aids in paper waste reduction and enhances ability of faculty, staff, the graduate students representative, and others to communicate efficiently with graduate students. It is illegal to use state property, including electronic networks, for personal gain. Therefore, do not advertise, market or attempt to sell personal items with electronic mail.

I. Graduate Student Representative. Graduate students enrolled in the Department of Fisheries and Wildlife have formal representation to departmental faculty meetings through their graduate student representative. The graduate student representative will be chosen by the Fisheries and Wildlife graduate student body during a meeting held within the first few weeks of fall quarter. The term of the representative extends through the academic year and the summer. The representative can be chosen through a process of consensus or a formal vote. This can be determined by the current graduate representative. All degree candidates are eligible, but priority will be given to a student in the second year of their degree program. The responsibilities of the graduate student representative include: 1) organizing a fall graduate student meeting wherein a new representative will be chosen, 2) representing graduate students at regular faculty meetings and keeping graduate students informed on issues of particular concern that are raised in those meetings, and 3) appointing a proxy to attend any faculty meeting that they are unable to attend.

## XI. INTERNATIONAL STUDENTS.

A. Registration requirements. It is recommended that international students register for at least 9 credit hours each term to avoid visa issues.

B. International students must recognize that immigration officials do not consider grades of W (withdrawal) as indicative of proof of making progress towards achieving a course of study in the United States. When course withdrawals reduce an international graduate student's registration below 9 credits for any term without prior approval from OIE, the student's visa is considered out of compliance and may result in potentially severe consequences.

C. Immigration officials may question grades of I (incomplete) as not making satisfactory progress toward a degree objective. Students should work with their major professor to avoid grades of I or W.

**APPENDIX A**  
**OREGON STATE UNIVERSITY**  
**Department of Fisheries and Wildlife**  
**Core Graduate Faculty**

<b>Faculty Member</b>	<b>Research Interests</b>	<b>Contact Information</b>
<b>Robert Anthony</b> Professor of Wildlife Ecology , Program Leader, Cooperative Fish & Wildlife Research Unit	Wildlife Ecology Population Analysis Environmental Contaminants	<a href="mailto:Robert.Anthony@oregonstate.edu">Robert.Anthony@oregonstate.edu</a> 541-737-1954 Nash 136
<b>C. Scott Baker</b> Associate Professor of Wildlife Ecology	Molecular ecology of whales, dolphins, porpoises; Historical demography and population dynamics of whales; Molecular monitoring of wildlife and fish markets	<a href="mailto:Scott.Baker@oregonstate.edu">Scott.Baker@oregonstate.edu</a> 541-867-0255 Hatfield Marine Science Center Marine Mammal Institute
<b>Michael Banks</b> Associate Professor of Fisheries	Genetic characterization of natural populations Fishery subjects, Aquacultural species	<a href="mailto:Michael.Banks@oregonstate.edu">Michael.Banks@oregonstate.edu</a> 541-867-0420 Hatfield Marine Science Center
<b>Jerri Bartholomew</b> Associate Professor of Fisheries	Salmon diseases, fish parasites	<a href="mailto:Jerri.Bartholomew@oregonstate.edu">Jerri.Bartholomew@oregonstate.edu</a> 524 Nash Hall 541-737-1856
<b>Matthew Betts</b> Assistant Professor of Landscape Ecology	Landscape ecology, behavioral ecology species distributions, forest management and conservation	Matthew.Betts@oregonstate.edu 541-737-3841 Richardson 216
<b>Stephen Brandt</b> Professor of Fisheries Director Oregon Sea Grant	Ecology and management of marine and freshwater ecosystems	<a href="mailto:Stephen.Brandt@oregonstate.edu">Stephen.Brandt@oregonstate.edu</a> 541-737-3396 322J Kerr Administration Bldg
<b>Kelly Burnett</b> Assistant Professor of Fisheries	Habitat use of salmon and trout across landscapes; Spatial data/broad scale research of stream ecosystems; Management and policy implications	<a href="mailto:Kelly.Burnett@oregonstate.edu">Kelly.Burnett@oregonstate.edu</a> 541-750-7309 Forest Sciences Lab 278
<b>George Boehlert</b> Professor of Fisheries Director of Hatfield Marine Science Center	Fisheries Oceanography; Ecology of early life history stages in fishes; Ecology of isolated oceanic islands and seamounts; Fish reproduction and growth	<a href="mailto:George.Boehlert@oregonstate.edu">George.Boehlert@oregonstate.edu</a> 541-867-0211 Hatfield Marine Science Center
<b>Bruce Coblentz</b> Professor of Wildlife Ecology (emeritus)	Behavior of large herbivores and invasive species.	<a href="mailto:Bruce.Coblentz@oregonstate.edu">Bruce.Coblentz@oregonstate.edu</a> 541-737-1959 Nash 158
<b>Sandra DeBano</b> Assistant Professor of Wildlife Ecology	Riparian ecology and entomology Aquatic-Terrestrial and Riparian-Upland linkages; Trophic Interactions	<a href="mailto:Sandy.DeBano@oregonstate.edu">Sandy.DeBano@oregonstate.edu</a> 541-567-6337 Hermiston Agricultural Research & Extension Center
<b>Bruce Dugger</b> Mace Associate Professor of Watchable Wildlife	Avian ecologist; ecology and conservation of waterbirds, particularly waterfowl; behavioral ecologist; wetland management and restoration; watchable wildlife	<a href="mailto:Bruce.Dugger@oregonstate.edu">Bruce.Dugger@oregonstate.edu</a> 541-737-2465 Nash 166

<b>Katie Dugger</b> Assistant Professor of Wildlife Ecology	Avian population ecology - survival, occupancy, & productivity in relation to habitat and climate	<a href="mailto:Katie.Dugger@oregonstate.edu">Katie.Dugger@oregonstate.edu</a> 541-737-2473 Nash 034
<b>Brett Dumbauld</b> Assistant Professor of Fisheries	Burrowing shrimp and the role of shellfish aquaculture in the estuarine environment	<a href="mailto:Brett.Dumbauld@ARS.USDA.gov">Brett.Dumbauld@ARS.USDA.gov</a> 541-867-019 HMSC
<b>Jason Dunham</b> Assistant Professor of Fisheries	Landscape ecology of aquatic ecosystems Ecology of natural disturbance and biological invasions, monitoring	<a href="mailto:JDunham@usgs.gov">JDunham@usgs.gov</a> 541-750-7397; FSL 231 USGS Forest and Rangeland Ecosystem Science Center
<b>Joe Ebersole</b> Assistant Professor of Fisheries	Fish habitat relationships and restoration	<a href="mailto:Ebersole.Joe@epa.gov">Ebersole.Joe@epa.gov</a> 541-754-4775 EPA Main 271
<b>W. Daniel Edge</b> Department Head Professor of Wildlife Ecology	Nongame wildlife, habitat management Wildlife relationships in forest and agricultural ecosystems	<a href="mailto:Daniel.Edge@oregonstate.edu">Daniel.Edge@oregonstate.edu</a> 541-737-2910 Nash 104C
<b>Clinton Epps</b> Assistant Professor of Wildlife Ecology	Ecology, conservation, and management of mammals. Connectivity and dispersal in fragmented landscapes; effects of climate change on distribution and demography; human/wildlife conflict	<a href="mailto:Clinton.Epps@oregonstate.edu">Clinton.Epps@oregonstate.edu</a> 541-737-2478 Nash 140
<b>M. Jesse Ford</b> Associate Professor of Fisheries	Paleoecology Limnology	<a href="mailto:Jesse.Ford@oregonstate.edu">Jesse.Ford@oregonstate.edu</a> 541-737-1960 Weniger 451
<b>Eric Forsman</b> Assistant Professor of Wildlife Ecology	Spotted Owls Other forest wildlife	<a href="mailto:Eforsman@fs.fed.us">Eforsman@fs.fed.us</a> 541-750-7266 US Forest Science PNW Forest Sciences Laboratory
<b>Tiffany Garcia</b> Assistant Professor of Wildlife Ecology	Amphibian population decline Animal Behavior Freshwater Community Ecology	<a href="mailto:Tiffany.Garcia@oregonstate.edu">Tiffany.Garcia@oregonstate.edu</a> 541-737-2164 Nash 122
<b>Jen Gervais</b> Assistant Professor of Wildlife Ecology	Ecotoxicology including impacts of contaminants on wildlife population dynamics and community ecology; conservation biology	<a href="mailto:Jennifer.Gervais@oregonstate.edu">Jennifer.Gervais@oregonstate.edu</a> 541-757-9041 Oregon Wildlife Institute
<b>Guillermo Giannico</b> Associate Professor of Fisheries; Fisheries Extension Specialist	Fish biology and ecology, Animal Behavior , Aquatic Ecology, Limnology, Water Resources Management, Fish habitat rehabilitation and conservation, Riparian community dynamics	<a href="mailto:Guillermo.Giannico@oregonstate.edu">Guillermo.Giannico@oregonstate.edu</a> ; 541-737-2479 Nash 114
<b>Stanley Gregory</b> Distinguished Professor of Fisheries	Stream Ecology , Riparian Ecology Trophic Interactions	<a href="mailto:Stanley.Gregory@oregonstate.edu">Stanley.Gregory@oregonstate.edu</a> 541-737-1951 Nash 116
<b>Susan Haig</b> Professor of Wildlife Ecology	Conservation and landscape genetics Avian behavioral ecology Conservation of small populations Shorebird and wetland ecology	<a href="mailto:Susan_Haig@usgs.gov">Susan_Haig@usgs.gov</a> 541-750-7482; FSL 130 USGS Forest and Rangeland Ecosystem Science Center
<b>Scott Heppell</b> Assistant Professor of Fisheries	Physiological Ecology of Fishes Reproductive life-history of marine fish Impacts of differing strategies on abilities of populations to sustain exploitation	<a href="mailto:Scott.Heppell@oregonstate.edu">Scott.Heppell@oregonstate.edu</a> 541-737-1086 Nash 172

<b>Selina Heppell</b> Associate Professor of Fisheries	Marine fishes population ecology; life history and population dynamics of marine fishes and sea turtles; impacts of invasive species	<a href="mailto:Selina.Heppell@oregonstate.edu">Selina.Heppell@oregonstate.edu</a> 541-737-9039 Nash 126
<b>Alan Herlihy</b> Professor of Fisheries	Large-scale aquatic ecology; Biogeochemistry; Quantifying aquatic effects of anthropogenic disturbances; Developing survey approaches for monitoring of aquatic systems	<a href="mailto:Alan.Herlihy@oregonstate.edu">Alan.Herlihy@oregonstate.edu</a> 541-754-4442 Environmental Protection Agency
<b>Markus Horning</b> Assistant Professor of Wildlife Ecology	Pinniped ecology; behavioral physiology and ecology of diving animals; population dynamics and life histories of marine mammals; Development of technologies related to conservation of marine resources	<a href="mailto:Markus.Horning@oregonstate.edu">Markus.Horning@oregonstate.edu</a> 541-867-0270 Hatfield Marine Science Center RSF-178
<b>Robert Hughes</b> Professor of Fisheries	Fish Assemblage Ecology Landscape Ecology Stream & River Ecology	<a href="mailto:hughes.bob@epa.gov">hughes.bob@epa.gov</a> 541-754-4516 Environmental Protection Agency
<b>Thomas Hurst</b> Assistant Professor of Fisheries	Early life history of Alaskan fisheries Thermal ecology Behavioral ecology	<a href="mailto:Thomas.Hurst@noaa.gov">Thomas.Hurst@noaa.gov</a> 541-867-0222 HMSC RSF 174
<b>Sherri Johnson</b> Assistant Professor of Fisheries	Landscape influences on streams; Stream-forest interactions; Abiotic factors that influence stream biota and ecosystem functions; Network/Patch Dynamics; Hierarchical analysis of effects of scale of observation	<a href="mailto:Sherrijohnson@fs.fed.us">Sherrijohnson@fs.fed.us</a> 541-758-7771 Forest Sciences Lab 287
<b>Phillip Kaufmann</b>	Stream channel morphology and hydraulics.	<a href="mailto:kaufmann.phil@epa.gov">kaufmann.phil@epa.gov</a> Phone: 541-754-4451 Environmental Protection Agency
<b>Patricia Kennedy</b> Professor of Wildlife Ecology	Wildlife Ecology and Management Conflicts associated with the private and public land management and the ecological impact of agricultural practices on the environment	<a href="mailto:Pat.Kennedy@oregonstate.edu">Pat.Kennedy@oregonstate.edu</a> 541-562-5129 Eastern Oregon Ag Experiment Station
<b>Michael Kent</b> Professor of Fisheries	Fish Disease Parasitology	<a href="mailto:Michael.Kent@oregonstate.edu">Michael.Kent@oregonstate.edu</a> 541-737-5088 Nash 532
<b>Robert Lackey</b> Professor of Fisheries	Ecological policy; role of science in public policy; ecosystem management; salmon science and policy; fisheries management	<a href="mailto:Robert.Lackey@oregonstate.edu">Robert.Lackey@oregonstate.edu</a> 541-737-0569 Weniger 459
<b>Dixon Landers</b> Associate Professor of Fisheries	Limnology	<a href="mailto:Landers.Dixon@epa.gov">Landers.Dixon@epa.gov</a> 541-754-4427
<b>Meta Landys</b> Professor of Wildlife Ecology	Neuroendocrine mediation of life-history trade-offs; hormonal control of reproductive behaviors and territorial aggression; Physiology of avian migration	<a href="mailto:Meta.Landys@oregonstate.edu">Meta.Landys@oregonstate.edu</a> 541-737-9872 Weniger 408
<b>Christopher Langdon</b> Professor of Fisheries	Molluscan aquaculture Invertebrate physiology and biochemistry	<a href="mailto:Chris.Langdon@oregonstate.edu">Chris.Langdon@oregonstate.edu</a> 541-867-0231 Hatfield Marine Science Center
<b>Gary Larson</b> Professor of Fisheries (retired)	Limnology of alpine lakes Long-term studies of Crater Lake	<a href="mailto:Gary.L.Larson@usgs.gov">Gary.L.Larson@usgs.gov</a> 541-752-1388

<b>Hiram Li</b> Professor of Fisheries (retired)	Fish Behavior, freshwater fish ecology, energetics	<a href="mailto:Hiram.Li@oregonstate.edu">Hiram.Li@oregonstate.edu</a> 541-737-1963, Nash 176
<b>Judith Li</b> Associate Professor of Fisheries (retired)	Stream ecology Aquatic invertebrates Trophic interactions in streams	<a href="mailto:Judith.Li@oregonstate.edu">Judith.Li@oregonstate.edu</a> 541-737-1093 Nash 040
<b>Douglas Markle</b> Professor of Fisheries (emeritus)	Fish systematics Fisheries and recruitment	<a href="mailto:Douglas.Markle@oregonstate.edu">Douglas.Markle@oregonstate.edu</a> 541-737-1970 Nash 028
<b>Bruce Mate</b> Professor of Wildlife Ecology Director of Marine Mammal Institute	Marine Mammals, migration of whales	<a href="mailto:Bruce.Mate@oregonstate.edu">Bruce.Mate@oregonstate.edu</a> 541-867-0202 Hatfield Marine Science Center
<b>Jessica Miller</b> Assistant Professor of Fisheries	Ecology of marine and anadromous fishes Fisheries biology Early life history of fishes and larval dispersal	<a href="mailto:Jessica.Miller@oregonstate.edu">Jessica.Miller@oregonstate.edu</a> 541-867-0381 Hatfield Marine Science Center
<b>David Noakes</b> Professor of Fisheries	Behavior, ecology and evolution of fishes, early development and social behavior Aquaculture, Genetics	<a href="mailto:David.Noakes@oregonstate.edu">David.Noakes@oregonstate.edu</a> 541-737-1953 Nash 120
<b>James Power</b> Associate Professor of Fisheries	Estuarine fish ecology and quantitative ecology.	<a href="mailto:Power.Jim@epamail.epa.gov">Power.Jim@epamail.epa.gov</a> 541-867-4027 HMSC
<b>Gordon Reeves</b> Assistant Professor of Fisheries	Ecology of anadromous salmonids Stream habitat landscape ecology and monitoring	<a href="mailto:Gordon.Reeves@oregonstate.edu">Gordon.Reeves@oregonstate.edu</a> 541-750-7314 280W Forest Sciences Lab
<b>W. Douglas Robinson</b> Associate Professor of Wildlife Ecology	Arid land ecology Community ecology Temperate and tropical forest birds Community dynamics in fragmented landscapes	<a href="mailto:Douglas.Robinson@oregonstate.edu">Douglas.Robinson@oregonstate.edu</a> 541-737-9501 Nash 036
<b>Daniel Roby</b> Professor of Wildlife Ecology	Physiological ecology; energetics of birds and mammals; Seabird ecology	<a href="mailto:Daniel.Roby@oregonstate.edu">Daniel.Roby@oregonstate.edu</a> 541-737-1955 Nash 130
<b>Daniel Rosenberg</b> Associate Professor of Wildlife Ecology	Environmental factors affecting the distribution and abundance of animals in managed ecosystems.	<a href="mailto:Dan.Rosenberg@oregonstate.edu">Dan.Rosenberg@oregonstate.edu</a> 541-754- 9041 Oregon Wildlife Institute
<b>Philippe Rossignol</b> Professor of Fisheries	Mathematical ecological theory and applications in public health and fisheries	<a href="mailto:Phil.Rossignol@oregonstate.edu">Phil.Rossignol@oregonstate.edu</a> 541-737-5509 Nash 168
<b>David Sampson</b> Professor of Fisheries	Marine fisheries Stock assessment methods Bio-economic models of fisheries	<a href="mailto:David.Sampson@oregonstate.edu">David.Sampson@oregonstate.edu</a> Hatfield Marine Science Center
<b>Dana Sanchez</b> Assistant Professor, Extension Wildlife Specialist	Mammalian space use and habitat selection Human-wildlife issues	<a href="mailto:Dana.Sanchez@oregonstate.edu">Dana.Sanchez@oregonstate.edu</a> 541-737-6003 Nash 118
<b>Carl Schreck</b> Professor of Fisheries	Fishery biology; genetics and physiology of fish; environmental physiology; aquaculture	<a href="mailto:Carl.Schreck@oregonstate.edu">Carl.Schreck@oregonstate.edu</a> 541-737-1961 Nash 170

<b>Brian Sidlauskas</b> Assistant Professor of Fisheries	Biodiversity, systematic, evolution, and conservation of freshwater fishes	<a href="mailto:Brian.Sidlauskas@oregonstate.edu">Brian.Sidlauskas@oregonstate.edu</a> 541-737-1939 Nash 42
<b>Courtland Smith</b> Professor of Fisheries (emeritus)	Fishery management, socioeconomics	<a href="mailto:SmithC@onid.orst.edu">SmithC@onid.orst.edu</a> 541-737-3858 Waldo 210
<b>Robert Suryan</b> Assistant Professor of Wildlife Ecology	Ecology and population dynamics of marine birds; Marine ecosystem processes affecting food web dynamics and life history strategies; Animal tracking and remote sensing applications; Conservation and fishery Interactions.	Rob.Suryan@oregonstate.edu 541-867-0223 Hatfield Marine Science Center
<b>Grant Thompson</b> Assistant Professor of Fisheries	Marine fish stock assessment and fishery harvest theory; Statistical methodology; Risk analysis and precautionary approaches Prevention of overfishing.	<a href="mailto:Grant.Thompson@noaa.gov">Grant.Thompson@noaa.gov</a> 541-737-9318 Nash 132
<b>David Wooster</b> Assistant Professor of Fisheries and Wildlife	Riparian and aquatic ecology and entomology biological monitoring and assessment; Aquatic-riparian-upland trophic interactions	<a href="mailto:David.Wooster@oregonstate.edu">David.Wooster@oregonstate.edu</a> 541-567-6337 Hermiston Agricultural Res. Ctr

**APPENDIX B**  
**DEFINITION OF FACULTY MEMBERS FOR DEPARTMENTAL GRADUATE**  
**FACULTY**

Definition - Fisheries and Wildlife Graduate Faculty can be distinguished by the roles they fill and the responsibilities they assume for the furtherance of the Department's mission in graduate education.

Departmental Graduate Faculty - Core Faculty are the foundation of the Department's graduate education mission. They participate in multiple functions within the Department, including governance. Thus they are knowledgeable of the standards of graduate scholarship and the rules in the Department and the Graduate School. They are committed to, and participate in, the furtherance of departmental graduate education. Their appointments may be Regular, Senior Research, Adjunct, or Courtesy. These faculty have formal employment responsibilities to OSU directly through their appointment, or indirect responsibilities through a cooperative agreement. When indirect, the Department must be involved in developing their assignments as faculty, and in reviewing their performance. All Core Faculty must have a position description on file describing their roles and responsibilities to the Department. They are expected to attend all faculty meetings, share in the conduct of the Department activities, and contribute to the education of a broad range of departmental students. Only Core Graduate Faculty may advise graduate students. Only Core Faculty may vote on departmental graduate policies.

Departmental Associate Graduate Faculty - Associate Graduate Faculty contribute significantly to the University and departmental graduate education. Their involvement in graduate education is less extensive than that of Core Faculty, often limited to service on graduate student committees. Their appointments may be Regular, Senior, Research, Courtesy, Visiting, or Adjunct. Within the context and constraints of their normal job duties, they attend faculty meetings, provide input into graduate education issues, serve on departmental committees, and support the general welfare of the Department - including graduate education. Associate Graduate Faculty may co-advise a student with a Core Graduate Faculty member if approved to do so by the Graduate School. They may not vote on departmental graduate education policies.

**APPENDIX C**  
**FORMS FOR USE IN GRADUATE STUDENT ASSESSMENT**

**OSU Department of Fisheries and Wildlife**  
**Graduate Student Self-Evaluation Form**

This evaluation is to be filled out by the graduate student and will serve as an assessment of progress towards completion of degree requirements. Part A of this form is **updated** each year, and a copy is forwarded to the student's Graduate Committee and the Departmental Graduate Committee.

Name \_\_\_\_\_ Admission Date \_\_\_\_\_

**Part A. Indicate date of completion:**

\_\_\_\_\_ Committee formed: Major Professor: \_\_\_\_\_

Committee Members

Name

Department

\_\_\_\_\_ Minor Selected: Minor: \_\_\_\_\_

\_\_\_\_\_ Program Filed

\_\_\_\_\_ Research Review

\_\_\_\_\_ Course work completed

\_\_\_\_\_ Preliminary exams completed (Ph.D. only)

\_\_\_\_\_ Defense

**Part B. Written Narrative:**

On an attached sheet, provide a summary (1 page, single-spaced) of the activities undertaken since your past review. Include the following topics, which correspond to the categories evaluated by your committee members: (1) Coursework taken (and grades received); (2) Field work, data collection/analysis and progress on writing thesis; (3) Participation in professional development opportunities; and (4) Services to the Department and the University. Discuss any other relevant information, including any problems or impediments to your progress. Include on each attached annual self-evaluation:

1. name
2. major professor
3. date of assessment

**OSU Fisheries and Wildlife**  
**Graduate Committee Student Evaluation Form**  
 (a separate copy to be given to each member of the student's committee)

To Committee member:

The Department of Fisheries and Wildlife requires that all graduate students complete an annual review of their progress which requires feedback from all committee members. Please review the student's attached Self-Evaluation form and written summary of the past years' activities. This form is intended to evaluate the student's progress towards program completion and will be placed in the student's permanent file. Please complete this form at the conclusion of an annual committee meeting that the student has scheduled (or following a one-on-one discussion with the student if you could not attend the meeting).

Student \_\_\_\_\_ Date: \_\_\_\_\_

Please answer the following questions and sign the form below. Specific comments are encouraged.

1. The student is making satisfactory progress in completing his/her course work.
2. The student is making satisfactory progress in data collection, analysis or writing for this/her thesis.
3. The student has participated in professional development opportunities.
4. Although service is not required, documentation of service can help assess a student's professional development.

Yes	NO	N/A	W		
1				Committee Member Signature	Date
2					
3				Committee Member Name (Please print)	
4					

**Comments:**

**OSU Department of Fisheries and Wildlife  
Graduate Education Performance Plan**

This form is intended to monitor a student's performance towards degree completion **resulting from an unsatisfactory review** at an annual assessment. This form should outline mutually agreed-upon (between student, major professor) benchmarks of performance.

Student \_\_\_\_\_

Major Professor \_\_\_\_\_

**Plan** (Identify deficiencies and outline plan to remedy them):

**Benchmarks** (Criteria used to evaluate progress):

Student \_\_\_\_\_ Date \_\_\_\_\_

Major Professor \_\_\_\_\_ Date \_\_\_\_\_

Department Head \_\_\_\_\_ Date \_\_\_\_\_

## **APPENDIX D**

### **EMPLOYMENT OF GRADUATE RESEARCH ASSISTANTS**

#### 1. Method of Appointment:

Graduate Research Assistants work half-time (or less, according to FTE) during most of the year and must enroll for 12 credits for each term they are on an assistantship. The stipend is received in 3 equal monthly payments each term. The FTE is .49 or less.

#### 2. Term of Service:

Graduate Research Assistant positions with the Agricultural Experiment Station are 12-month appointments.

#### 3. Nature of Appointment:

Graduate Research Assistants are employed as assistants to a faculty member. Usually the research conducted by the GRA will be used for a thesis, but the GRA has no right to withhold data collected while receiving money for the work. The GRA may be permitted to use the research results of a thesis, but all data collected are the property of the University.

Graduate Research Assistants will be required to work the equivalent of 6 months on approved Experiment Station research projects. This is usually shown in the budget as a .49 FTE. Most GRA's will find that much more time will be necessary and may be required as part of their graduate education.

Arrangements may be made to appoint an individual as a Graduate Research Assistant for a portion of the year, and as a Graduate Teaching Assistant during the remainder of the year on the Residence Instruction budget.

Arrangements should be made for the Graduate Research Assistant to have 2 weeks off each year. The time off should be scheduled during a period when absence will interfere least with research program involved. Regular staff holidays can be taken but Graduate Research Assistants are not entitled to, nor should they expect to take, vacations between terms.

#### 4. Maximum credit hours:

Maximum credit hours for graduate research assistants on .49 FTE are 40 per year.

#### 5. Service to the Agricultural Experiment Station in Relation to Graduate Thesis Research:

Time spent on thesis research is considered on official service to the Station if the thesis problem is an essential phase of an approved Station research project. In other words, if the student spends at least 15 hours per week on thesis research connected with an approved Station project, they would not be expected to work additional hours on other assignments to earn their stipend.

#### 6. Course Load:

All course loads are calculated on a fiscal year basis, July 1 - June 30. If an appointment is made

after July 1, the number of courses which the student may take may need to be reduced. For example, a student appointed on October 1 would be given approval for a maximum of only 27 credits of regular course work.

It should be recognized that many, if not most, students - particularly in their initial year - will not be able to carry the course load mentioned above.

#### 7. Tuition and Fees:

All students are responsible for tuition, any student on an assistantship with a .20 FTE and above will receive a tuition remission. All students are responsible for their own fees. Students on assistantship will also receive a \$300 per term (Fall, Winter and Spring terms only) fee offset to help students pay their fees. Students also receive payment toward their health insurance (see next paragraphs)..

Student on assistantships (research and teaching assistantship) receive a tuition waiver(s) and a \$300 lump sum payment in each of those terms (fall, winter and spring) during which they are on a graduate assistant appointment is at 0.20 FTE or greater. This appointment is contingent upon formal acceptance as a graduate degree-seeking student by the University's Graduate School, and continued status as a graduate degree-seeking student at OSU.

Oregon State University is pleased to offer health insurance coverage as a part of a graduate assistantship. The University will contribute 85% of the monthly premium for coverage of the graduate assistant only, plus half the cost of administrative fees associated with health insurance. This contribution will be made for each term in which the student remains eligible for assistantship. Students are also eligible to receive health insurance coverage during summer session, even if without a summer appointment, if the student will be enrolled during the subsequent fall term. The University will contribute 50% of the total monthly premium for graduate assistant only provided they meet eligibility requirements during summer session.

## **APPENDIX E**

### **POLICY ON KEYS TO UNIVERSITY BUILDINGS AND ROOMS**

The Physical Plant Key Shop is the institutional key shop. Keys may be duplicated only by this institutional key shop.

Keys may be obtained only upon approval of the student's major professor and the Administrative Manager. The department head or authorized staff issues his approval in triplicate, on forms provided by the Physical Plant. The person requesting the key(s) makes the required deposit at the Key Shop (cash or check only). A \$10.00 cash deposit will be required for each key received. When picking up keys, photo ID must be presented and the key request signed.

The institutional key shop maintains a file of these requests, numerical lists of keys issued, and alphabetical lists of personnel having keys. These lists are kept by buildings or areas of the campus for ready reference.

Keys are the responsibility of the individual. Loss of keys must be reported promptly to the Administrative Manager and institutional key shop. Replacement of lost keys will be made upon submission of a key approval form signed by the Administrative Manager and upon payment of the same deposit as for an original key. Replacement keys will bear a different number from the original.

Duplication of keys that have been issued is strictly forbidden. Anyone found to have an unauthorized key may be subject to loss of privileges for after hours use of the building and may forfeit all keys that have been issued to them.

Upon leaving the employ of the institution, a key holder must place keys in a key shop return envelope available in the departmental office and forward the keys to the key shop via campus mail. A refund check will be issued.

## **APPENDIX F USE OF UNIVERSITY VEHICLES**

1. Vehicles operated by the Motor Pool may not be used for any personal business. They must be driven only by personnel in the employ of Oregon State University.
2. Non-employees cannot be carried as passengers unless their travel involves or relates to official business of Oregon State University. Picking up hitchhikers is not permitted. Spouses are permitted as passengers only on long trips or late at night (to help keep the driver awake) and then only with prior permission of the dean or department head.

No pets are allowed in vehicles.

3. Cars must be operated at all times so as not to violate basic rules for careful driving. State cars are checked regularly by the Oregon State Police and the insurance company, and reports of operation relayed back to the responsible supervisor.
4. Drivers must have valid driver's licenses. It need not be from Oregon.
5. Drivers shall be personally responsible for costs resulting from the following:
  - a. Fines resulting from violations of law.
  - b. Damage to vehicles caused by transportation of pets or other personal belongings, or resulting from unnecessary abuse or neglect of the vehicles.
  - c. Damage to vehicles while engaged in unauthorized or illegal use.
  - d. Restoration of vehicles to original condition when necessitated by installation or removal of personally owned accessories or equipment.
  - e. Damage to vehicles caused by gross negligence of drivers.
7. Payments for use of vehicles must be by requisition charges against departmental budgets through the Oregon State University Business Office. Cash payments from individuals cannot be accepted.
8. Any accident involving Motor Pool vehicles must be reported to the Motor Pool, extension 7-4141, as soon possible. After hours, call 737-0123 and ask for Motor Pool emergency.
9. State-owned vehicles shall not be driven in excess of authorized and posted speeds and shall at all times be driven in a manner conducive to safety, economy, and good public relations.

## APPENDIX G GRANT PROPOSAL INFORMATION

### I. Where to find grant information

- A. SPIN search at Kerr Library-See reference desk
- B. Research Office in Administration Building has a large book indexed by subject and name.
- C. Research Briefs are put out every two weeks by the Research Office and are posted on the Internet.

### II. Who administers grants

- A. The Research Office administers most grants that involve a contract and they have some important guidelines you need to know about:
  - 1. Only faculty can be the principal investigator so you must work through a faculty member.
  - 2. There will be overhead charged to the grant and this is dependent on the granting agency, so be sure to have this overhead calculated into your grant. See the Research Office web page ([www.oregonstate.edu/dept/research/index.htm](http://www.oregonstate.edu/dept/research/index.htm)) for overhead rates, OPE and other rates for your budget.
- B. The Agricultural Research Foundation (ARF) may administer some grants that are simply a gift if the gift is given to an individual faculty member for support of their research and is less than \$10,000.
- C. E.R. Jackman Foundation (non-profit foundation) is able to accept donations on behalf of the department.
- D. If you have questions or unique funding situation, please see the Department Head.

### III. The forms you will need to fill out:

- A. Ask your major professor if you need to fill out the Institutional Animal Care and Use Committee form. The IACUC form needs to be filed before any other forms can be approved. This form is for any research involving live animals in the field or in the laboratory. The front office now has this on computer.
- B. The Grant Proposal Check-off sheet (known as the BLUE sheet)

### IV. The sections of your proposal need to include:

- A. A budget which must be approved by the Research office BEFORE you submit a request to a granting agency. The normal sequence is for the department to approve and sign the budget, then College of Agricultural Sciences approves and signs it, and finally the Research Office approves it. Note however, you should give your budget to the Departmental accountant well in advance and ask for the accountant's comments first to avoid accounting problems.
- B. A signature page with signatures obtained in the order listed: Principal Investigator, Department Head, Dean and then OSU Research Office.
- C. Any forms required by the granting agency.

## VI. Noteworthy tips

- A. **YOU ARE NOT AUTHORIZED TO BUY ANYTHING UNTIL YOU ARE GIVEN AN INDEX NUMBER. DO NOT BUY ANYTHING UNTIL YOU HAVE THIS NUMBER OR YOU WILL HAVE TO PAY FOR THOSE PURCHASES PERSONALLY!!**
- B. The Research Office takes a minimum of 48 hours to complete the OSU routing so plan ahead. They will call the Principal Investigator when the process is completed.
- C. Signature pages are sometimes difficult to complete because people are out of town, so plan accordingly.
- D. Flag the places where people need to sign with sticky notes so that you will not have to repeat the process.
- E. Do not expect others to make deadlines with money. Many grantors are months late with payments to the University and considerable hassles may be involved. If at all possible, be flexible on the start date of your research.
- F. If you have people working for your project, you can only expect them to work 40 hours per week, and they have the right to take 15 minute morning and afternoon breaks.

**APPENDIX H**  
**POLICY ON AUTHOR AFFILIATION**  
Department of Fisheries and Wildlife

**General Policy:** Authors who are affiliated in any way with Oregon State University and the Department of Fisheries and Wildlife must recognize this university and department in publications.

**Employees and Students:** All research conducted by Oregon State University employees and students must be attributed to the university, and for those assigned to this institutional unit, to the department. The address of students and employees must include the name of this department and the university. For example:

Susan Salmonid, Department of Fisheries and Wildlife, Oregon State University,  
Corvallis, Oregon 97331.

**Hatfield Marine Science Center:** Staff and students affiliated with the university, this department, and the HMSC, should recognize both administrative units in their address. For example:

Harry Halibut, Department of Fisheries and Wildlife, Hatfield Marine Sciences  
Center, Oregon State University, Newport, Oregon 97365.

**Cooperative Fish and Wildlife Research Unit Staff and Students:** Unit Leaders and Assistant Leaders must acknowledge their affiliation with this university and department. This may be done by including the name of the university and department in the address (preferred), as a footnote, or in the acknowledgments section of the publication. University employees and students who are also working in the Units must list the department and university as part of their address; they may also include the Unit's name in the address. For example:

Ole Owl, Department of Fisheries and Wildlife, Oregon Cooperative Fish and  
Wildlife Research Unit, Nash 104, Oregon State University, Corvallis, Oregon 97331,  
and Robert G. Anthony, Oregon Cooperative Fish and Wildlife Research Unit, Biological  
Resources Division, USGS, Nash 104, Oregon State University, Corvallis, Oregon  
97331.

**Faculty, Staff and Students with Dual Affiliations:** This department and university must be recognized in the address. The sponsoring agency may also be recognized as part of the address. Courtesy faculty should recognize this department and the university in their address if the work somehow involved departmental affiliation. Cooperative Education Students must recognize this department and university in their address. For example:

Harry Woodpecker, U.S. Fish and Wildlife Service National Stump Lab, Los  
Angeles, CA, and Department of Fisheries and Wildlife, Oregon State University,  
Corvallis, Oregon 97331

**APPENDIX I  
GRADUATE RECORD**

Milestone	Deadline	Date Accomplished
Admission		
Study Program	18 credit hours (M.S.) One calendar year (Ph.D)	
Research Review	Third term	
Study Program Substitutions	Any time	
Thesis to Graduate School	One week before Final (M.S.) Two weeks before Final (Ph.D.)	
Thesis Title	Approved by Dept. Head	
Preliminary Exam (Ph.D. only)		
Written		
Oral	At least one term before Final	
Final Examination	M.S. - 7 yrs. Ph.D. - 5 yrs. after preliminary exam	
Degree Received		

## **APPENDIX J**

### **A Student's Guide to Research Proposal Preparation**

#### **The Role of the Research Proposal**

The heart of the graduate experience is the thesis. It begins the change within the student to begin producing information rather than becoming an information consumer. All students accepted into graduate school have acquired the skills of getting good grades. We presume that you all have that ability. Professionalism and scholarship comes from defining a problem, designing a means to solve it, gathering and analyzing the necessary data, and finally, interpreting the results in context of the published literature thus demonstrating value of your research. Its relevance may be identifying or solving a critical natural resource problem, adding new understanding to management or ecological theory, demonstrating the practical applications of a new technique, to name but a few topical themes. It all begins with writing the proposal and ends with a publication. Then the cycle begins anew.

Proposal writing is one of the most important skills of a professional. You will write many within your professional life time whether you area researcher, an extension agent, a district biologist, a supervisor or a teacher. The information here is to guide you through this process and to give you tips about how to become proficient. The guidelines are flexible and you should work on the committee on this. In general, newcomers spend too much emphasis on the literature review and not enough time demonstrating how the proposed problem is to be solved. A good design demonstrates competence, proficiency.

The Research Proposal is due at the end of Winter Quarter of the first year. Departmental policy is that no research can commence before the proposal is written.

## WRITING A COMPELLING PROPOSAL

Writing a proposal essentially **follows the scientific method**.

There are several approaches to the scientific discipline and philosophers disagree on its practice, but

without doing philosophy of science too much injustice, the **fundamental assumption of science is of cause and effect**; the universe does not act randomly.

Sometimes natural science is presented as a dichotomy: **descriptive vs. experimental science**. Of the two, descriptive science is considered less powerful because it is involved in a search for pattern; it is inductive; it produces correlations. However, I would argue that descriptive science is valuable because it generates hypotheses and is an essential first step in unknown scientific territory and because in some cases scientific experimentation is too costly, unethical or infeasible.

Experimental science is considered more complete because it tests hypotheses deductively (Remember cause and effect?). However, this pre-supposes that you have a hypothesis to test.

### Examples of descriptive science

1. Basic description of components (e.g., species surveys along a gradient).
2. Comparative studies (e.g., examining differences sites that presumably differ only in the structure or function of interest).
3. Describing the courtship behavior of bower birds.
4. Assessing demographic parameters of a species of fish by examining age distribution of fishes captured in an experimental gill net.
5. Assessing the status of a rare bird by examining fledging success.
6. Describing the phenology of ecological processes.

### Examples of experimental science

1. Testing the concept of trophic cascading through manipulation of fertilizers and predator densities.
2. Manipulation of cover density as a means to restore habitat for valley quail.
3. Manipulation of rodent densities in enclosures as a means to test for social stress as a trigger for emigration.
4. Manipulation of spill from dams as a tool to enhance smolt survival passage through dams.

These are relatively clean-cut examples, but there are those who claim to do experiments (e.g., astrophysicists) and perform no manipulations. They may test hypotheses by deducing phenomena as yet unseen from model predictions and measure outputs from natural events as opportunities are presented. Is this a descriptive approach or an experimental one? Last word of advice: take a philosophy or history of science course. There are schools of thought about science, what it comprises and how it should be practiced and disagreements can be large. Do not be hide-bound and insist that there is only one way to test hypotheses.

The construction of a research proposal and a research paper follows the scientific method.

## The Compelling Proposal

### Table of Comparisons

<b>Proposal</b>	<b>Scientific Procedure Hypothetico-Deductive Method</b>	<b>Scientific Paper</b>
<b>Introduction</b> Formulation and justification of objectives	A hypothesis is formulated or an interesting pattern (result) is observed.	<b>Introduction</b> Formulation and justification of objectives
<b>Methods (Study Design)</b> Objectives are recast into hypotheses to test using a statistical framework (e.g., strong inference scheme, multiple hypothesis testing, decision tree, path analysis)	A model is constructed to explain the hypothesis	<b>Methods</b>
<b>Methods (Analytical tools)</b> Statistical design E.g., regression, logistic regression, ANOVA, repeated measures ANOVA, AIC, BIC, etc	An experiment is performed to gather relevant data	
	The data are analyzed and smoothed	<b>Results</b>
	Parameters of the model are evaluated using the data	
	Model is tested and predicted results are obtained.	
<b>Anticipated Results</b> Alternative Scenarios	Statistical tests are applied to determine if the predicted results are in close agreement with experimental results (Goodness of Fit Test)	<b>Discussion</b> 1. Synthesis of objectives into the main theme 2. Interpretation of results for each objective.
<b>Study Ramifications</b> Value of the study	If observations do not match expectations reformulate ideas	3. Context with conventional wisdom 4. Ramifications for theory, application and research directions.

## How to Make the Proposal Compelling

1. Have an attractive **title**.
  - A. The title should be crisp and encompass the theme of the study.
  - B. Use key words and phrases that emphasize its importance and novelty.
  - C. Themes & syllogisms can be reflected in the title. Generate curiosity. Have courage to be provocative, but use good taste.
  - D. For instance:  
 Qualitative Mathematical Models Can Predict Impacts of Exotic Species on Native Anurans  
  
 Indexing Carrying Capacity of Salmonids on the Basis of Longitudinal Stream Temperatures  
  
 Cumulative Effects of Watershed Fragmentation on Populations of Lahontan Cutthroat Trout (*Oncorhynchus clarki henshawi*): A Riverscape Perspective.  
  
 Abnormal Migration and Premature Mortality Of Pacific Salmon  
  
 Are Pfiesteria Species Toxicogenic?  
  
 Is Gause's Law Illegal?
  
2. Make sure you hit all the important points mentioned in the Request for Proposals (RFP).
  
3. Make sure you follow the formatting guidelines required by the agencies (e.g., 15 page limit).
  
4. **Introduction (Background and Justification)**  
 The role of the introduction is to present critical background material from which the objectives are formulated. This synthesis provides context that justifies the novelty and importance of the proposed work. This does not have to be an exhaustive review; you should be very selective and cite only the key work upon which your ideas were developed. This is what musicians call the hook. Tell the reader what is needed, why it is needed and how the needs will be addressed. Why is your study important and interesting? The proposal should show the immediate application of the research. **(2.5-3 pages)**.
  
5. **Methods (Hypotheses, Approach and Study Design)**  
 Translate the objectives into testable hypotheses. Both descriptive and experimental research objectives can be posed as hypotheses. Once that is done, establish the flow of the study. The purpose of a schematic diagram of the study design is that it provides a quick, clear explanation of the research theme because it is organized.  
  
 If there is considerable understanding concerning the ecological process in question, a flow chart may be easily developed, essentially a schematic model of the process itself. If not, the flow of study can be constructed using different methods (e.g. strong inference scheme, Chamberlain's Multiple Hypothesis Scheme, Path Analysis, all of which you will encounter in your education) I have found that decision pathways are useful guides.

They help the investigator exhaust all possible scenarios from the hypotheses posed. An example is given below. Two watersheds, the North Fork John Day and Wenaha rivers are located in the Blue Mountain Ecoregion and are separated by the Blue Mountains which form its divide. The question arises, “Why is the escapement of spring chinook salmon two orders of magnitude higher in the North Fork of the John Day River than in the Wenaha Basin?” Is it the fact that habitat is better in the N.F. John Day or that the salmon originating from the Wenaha Basin have to traverse 5 additional dams? These two hypotheses are posed below as decision pathways.

**ARE DIFFERENCES IN SALMONID PRODUCTIVITY BETWEEN THE JOHN DAY (JD) VS. GRANDE RONDE (GR) BASINS EXPLAINED BY DIFFERENCES IN THE AVAILABILITY OF SUITABLE HABITAT OR MIGRATION SURVIVAL ?**

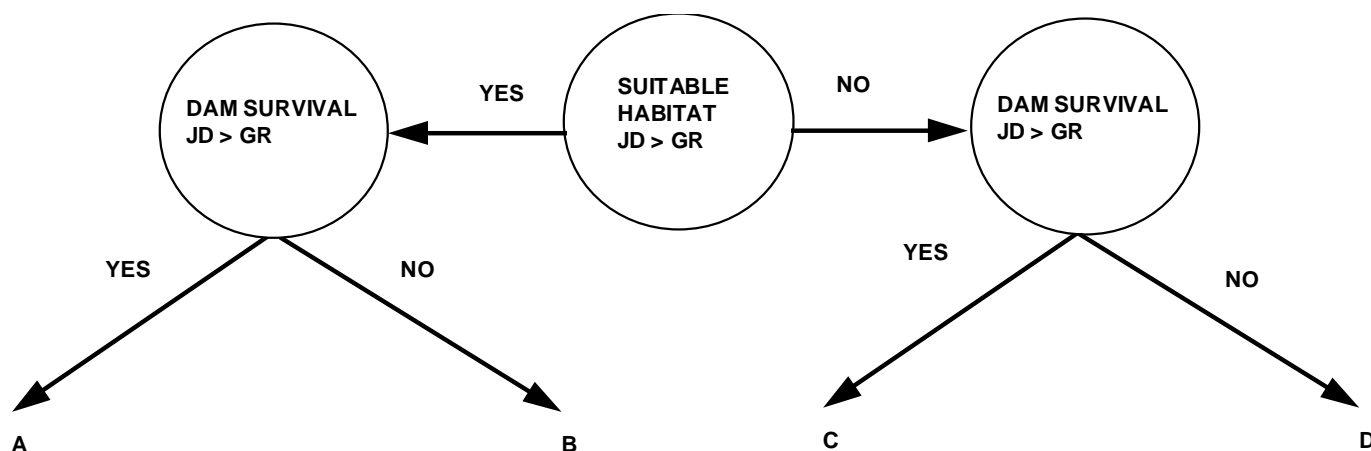


Table 10. Alternative explanations given evidence and flow from decision pathways.

Outcome	Potential Conclusion
A	The John Day has more suitable habitat and its smolts have greater survival rates to Bonneville Dam.
B	The John Day has more suitable habitat, but its smolts have no greater survival rate to Bonneville Dam.
C	The amount of suitable habitat is minimally no greater in the John Day in relation to the Grande Ronde Basin, but its smolts have greater survival rates to Bonneville Dam .
D	Neither available habitat nor smolt migration survival rates explains the greater salmonid production rates of the John Day in relation to the Grande Ronde basin.

The study design leads to the sampling design, the analytical tools to be used and then the technical protocols for gathering the data. Often times a section concerning the study area will help the reader understand the constraints and opportunities the landscape can have upon the sampling scheme employed. It is worthwhile spending most of your effort on the methods section (**7-8 pages**).

### **Anticipated Results**

What are the alternative scenarios or outcomes that can be anticipated? What are the implications of each possibility? Are there those that do not make biological sense? Are there results that are counterintuitive, but ecologically meaningful? Is there the possibility that a result may challenge a cherished paradigm? Do you anticipate an intellectual or management breakthrough? How can the results of your thesis be immediately applied? (**1 page**)

### **Literature Citations: (2-3)**

Use the best (Classics). Use the latest (shows you are hip and up to date).

### **Time Table :**

Tasks, milestones, decision-points (follow the hot lead), reporting schedules. Is your study efficient? Overburdened with tasks? Are you organized? Will you graduate on time (i.e., your GRA-ship has not expired)? (**1 page**)

### **Budget:**

How will you allocate your financial resources? Can you afford all the supplies including repairs and breakage? How much buffer do you have in your finances for mistakes (re-sampling needed)? What will mileage and travel cost? Have you factored in student help correctly? (**1 page**)

### **(From referee guidelines for manuscripts to Ecology)**

1. Presentation-- Does the paper tell a cohesive story? Is a tightly reasoned argument evident throughout the paper? Where does the paper wander from this argument? Do the title, abstract, key words, introduction, and conclusions accurately and consistently reflect the major point(s) of the paper? Is the writing concise, easy to follow, interesting?
2. Methods-- Are they appropriate(?), current(?), and described clearly enough(?) that the work could be repeated by someone else?
3. Statistical design and analyses-- Are they appropriate and correct? Can the reader readily discern which measurements or observations are independent of which other measurements or observations? Are replicates correctly identified? Are significance statements justified? For further advice, consult our Guidelines for Statistical Analysis and Data Presentation.

## **APPENDIX K**

### **How to Write a Scientific Paper**

#### **‘Easy Steps to Publishing Hard Science’: How to Write a Scientific Paper**

One of the major hurdles for graduate students is ‘writing up’ their work for publication in a refereed journal. One problem is that most ‘how-to’ books address philosophical, editorial or rhetorical matters, not structural ones. This brief column provides a structure on which to base a scientific paper and to ‘get started’.

#### **GENERAL:**

You must write! Scientists basically need do only two things: carry out replicable studies, and communicating the results to peers. If it’s not written, it’s not done.

Start writing the paper as soon as you start the work, not after. The process of formulating a hypothesis is essentially the same as writing.

Keep it focused: one question, one paper; stick to a single theme. People talk about LPU’s (least publishable units), but don’t be misled by this. With some exceptions, long monographs are rarely published or read, and not in line with a modern scientific approach. The shorter the better – always. Long papers come across as self-indulgent, and they often are. When your text is not communicating what you expect, start cutting. A one-question-one-paper approach will also cut down on self-doubt and procrastination.

Target your audience. Identify a few journals; aim high and for wide circulation. Journals have impact rankings, and those rankings do mean something. Don’t bury your work. Publishing in *Science*, *Nature*, *PNAS*, and the top journals in your specialty (e.g. *Am. Nat.*, *Ecology*, *Can. J. Fish. Aq. Sc.* etc) is a rite of passage expected from junior researchers in most top-tiered institutions. Publishing in a bottom-tiered journal is probably not worth it.

Concentrate on primary-data peer-reviewed publications in international journals, especially as a junior scientist. Reviews, books, editorials and reports are no doubt valuable, but generally of lower scientific value.

Standard style references such as *Strunk & White’s Elements of Style* are useful. This classic text is short, humorous and worth learning by heart. Writing scientific papers is not a literary exercise and everything you need to know about English for writing science is here.

Publish (at least submit) before you graduate, since you are less likely to do so once you are gone.

#### **TITLE:**

State the problem and major finding. Make it interesting and useful.

Convey an overall goal that is biological and meritorious, not technical and descriptive.

Avoid amateurishly vague and descriptive titles, such as ‘Effects of...’, ‘Evaluation of...’, ‘Comparison of...’, ‘Role of...’, ‘Measurements of...’, ‘Analysis of...’, ‘Susceptibility of...’, ‘Ecology of...’. Your title should communicate a specific point.

#### **AUTHORSHIP:**

Don’t worry about the order – misconceptions and contradictions abound about the significance of order of authors, suggesting it means little (or too much to some people). If you did the work and wrote it up, be first author. However be generous; it’s not worth fighting over.

Any genuine contributor should be offered co-authorship.

When you become faculty/senior scientist, be open-minded and let a student take the lead and learn the ropes.

**INTRODUCTION: (3 paragraphs)**

This section is the most important part of a scientific paper; it states your hypothesis, specifies your objective and outlines your plan. Start to construct it as soon as possible, even before you initiate the actual work. Revisit it as you progress and do not hesitate to re-design your study if necessary. Once the introduction is clear, the rest is simply filling in the blanks. If the paper becomes difficult to write, check the introduction. Re-write it if necessary.

Construct the introduction as a hypothetical syllogism (Hint: take a course in symbolic logic or read Chapters 1-5 of Symbolic Logic by I. M. Copi). Write the introduction in three parts (paragraphs), each corresponding to a proposition of the syllogism.

**IF**-paragraph: Present the general problem, the dogma in the field, a controversial model...

**BUT**-paragraph: State a paradoxical and specific finding (such as based on the literature or observation) that challenges (or validates) the generality

**ACCORDINGLY**-paragraph: Elucidate the experimental plan that yields a resolution (“we determined whether or not...”).

**MATERIALS AND METHODS:**

Write this part last. Only add what is absolutely necessary to replicate the experiment, and address it to a highly qualified reader, such as a reviewer. Add references rather than rewrite any M&M that have been published. Insert minimally required M&M in the Results section, with the assumption that one should not have to read the M&M, other than to verify particular point. Most readers should not be expected to read this section, but it should answer all the questions of a hypercritical albeit knowledgeable reader/reviewer.

**RESULTS: (1 paragraph per experiment)**

Each paragraph represents an experiment and must have 4 parts (sentences):

- an introductory sentence stating the question,
- a brief but sufficient description of the technique used to answer it,
- a presentation of the results (referring to a figure or table if necessary), and
- a final sentence stating the conclusion reached.

Each succeeding paragraph should follow up on the preceding one.

Tables and Figures should be kept to a minimum. Captions should be complete and self-sufficient.

**DISCUSSION: (4 paragraphs)**

First: State your main conclusion and how you reached it from the experiments above.

Second: Discuss your conclusion in a current context and how your study differs from or supports the literature.

Third: Delineate the limitations of the work.

Fourth: Outline a new model (modified dogma) and what needs to be done to verify it.

**BEFORE SUBMISSION:**

Read the final version aloud to a colleague. Part of the difficulty of writing in English is that it is an aurally-oriented language more than a written one. Many errors and awkward constructions will be identified from this practice. Only experienced professional writers can skip this step.

Be self-critical – do not underestimate your ego’s tendency to assume that your writing is perfect and your ideas flawless. This unfortunate human characteristic can lead you to submit flawed work. Alternatively, have a knowledgeable and critical individual review the paper, swallow your pride and welcome criticism.

Be neat. Most reviewers automatically will reject manuscripts with careless formatting or poor orthography.

**DEALING WITH REVIEWS:**

Whether accepted or not, be grateful to the reviewers and editor. Be flexible and consider their comments carefully and gracefully. Negative criticism is all too easily interpreted as personal, but rarely is meant to be.

If rejected, decide whether or not the criticisms of the science are correct. If correct, rewrite extensively (cutting it down generally helps) or discard the work (we've all done it). If the reviews are incorrect scientifically speaking, there likely is a serious communication problem. Edit (again, cutting it down generally helps) and consider submitting to a better journal, since criticism should have improved the manuscript.

If accepted, write a letter addressing every point raised by reviewers, indicating how you have changed the text or why not.

Don't ever start a war of words with editors or reviewers.

When you become a reviewer, be constructive, prompt, respectful and fair.

An example for analysis (attached):

Rossignol, P. A., J. M. C. Ribeiro, M. Jungery, M. J. Turell, A. Spielman and C. L. Bailey. 1985. Enhanced mosquito blood-feeding success on parasitemic hosts: Evidence for vector-parasite mutualism. **Proceedings of the National Academy of Science (USA)** 82: 7725-7727

A hard but eventually worthwhile lesson in cutting down text:

Dambacher, J. M., H-K. Luh, H. W. Li and P. A. Rossignol. 2003. Qualitative stability and ambiguity in model ecosystems. **American Naturalist** 161: 876-888

This paper was first returned with a request to divide the work into two papers (one half went to **Ecological Modelling** 2003). Following the second review, the editor still requested that the text be trimmed by another 60% !