

# Guidelines for Specializations in Fisheries and Wildlife

Updated 03/15

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## Introduction

The specialization in the Department of Fisheries and Wildlife gives responsibility to students to design an educational program of upper division courses tailored to each student's professional goals, dreams, and aspirations. Designing the specialization should be creative and personal, but the final outcome is a contract between you and the Department that says completion of the specialization is needed to earn your degree. As a contract, it must be approved by you and the Department, but it can be modified if needed. This document provides *guidelines* to help you:

- 1) Define your *career goals and objectives*.
- 2) Articulate a specialization *title* that best encompasses your career aspirations.

You should not consider this a 'cookbook'. We do not know the "right" recipe for you, so talk to your advisor, other professors, professionals in the field, and other students. We do list a few careers available in Fisheries and Wildlife, *but this list is not all-inclusive*. We also list several areas and titles previous students have chosen, *but again this is not a complete list, and may better reflect past than future opportunities!*

To help you design your *program of coursework* we have compiled a list of courses offered at OSU that might be relevant to specializations in Fisheries and Wildlife. This list is also incomplete. Please examine the OSU General Catalog *every year* as classes are added and dropped regularly. If changes affect your specialization, you may need to modify the specialization.

## Defining Career Goals and Objectives

Defining your career goals and objectives may be frustrating at this point in your career; it is not easy or simple, but it is the first step in designing your specialization. Even if you think you have a clear idea after reading this document and checking web sites (below), talk to your advisor, other professors, professionals in the field, and other students.

## Careers within Specializations

Below are examples of fields in which previous graduates with a BS degree in Fisheries and Wildlife are employed. Typically, positions are as technicians or biologists with tribal, state, or federal agencies/parks/refugia, private companies, consulting firms, hatcheries, non-profits, zoos, or universities. Some students have also become self-employed as professional fishing/hunting guides or commercial fishermen, and others have gone on to graduate school. The direction you wish to take or the suite of options you wish to leave open will determine the courses you should have in your specialization.

### *Aquatic Organisms and Ecosystems*

1. **Fisheries Biology:** Study of life history, undertake surveys, collect data used to determine regulations; raise fish in aquaculture facilities; compile data bases, perform stock assessment with computer programs.
2. **Biology of Marine Mammals:** Determination of critical habitat, migration routes, feeding ecology and dive behavior for marine mammals. Also, population assessment, human conflicts and resolution
3. **Aquatic Ecosystem Management including Marine Fisheries Resources:** Aquatic habitat restoration or development; document and study food web dynamics; document community

changes due to human disturbances; study changes in aquatic ecosystem for mitigation purposes.

4. **Invertebrate Ecology:** Survey and identify stream, riparian, or terrestrial invertebrates; determine diets of fish, birds, or wildlife species; define and describe invertebrate communities and their dynamics; work with fisheries and wildlife biologists to understand the dynamics of invertebrate vectors in the spread of fish and wildlife diseases; control of introduced (and pest) species.
5. **Stream and Riparian Ecology:** Survey stream and riparian areas to document community structure. Examine impact of human activities in terrestrial and aquatic systems.

### ***Terrestrial Animals***

1. **Wildlife or Avian Biology:** Conduct surveys to determine species assemblage and make estimates of abundance to set harvest quotas; control of pest, exotic, or feral species; management of threatened / endangered or game species; interaction with ranchers, farmers; life history studies of behavior, growth, habitat requirements.
2. **Large Mammal Ecology:** Conduct surveys to determine species assemblage and make estimates of abundance to set harvest quotas; control of 'pest' species; management of threatened / endangered or game species; interaction with ranchers, farmers (livestock or crop predation); life history studies of behavior, growth, habitat requirements.

### ***Conservation of Organisms and Habitat***

1. **Conservation Biology:** Survey animals or plants of particular interest. Rehabilitation of injured or orphaned wild animals. Develop landscape distribution maps and models. Computer simulations of survival probabilities.
2. **Ecosystems Management:** Habitat restoration or management for system function or for targeted species.

### ***Managing Humans to Manage Resources***

1. **Human Dimensions in Natural Resources:** Interpreter, public outreach or education extension service; public relations, lobbying; develop natural resource policy.
2. **Law Enforcement:** Enforcing rules and regulations, especially pertaining to use of fish and wildlife resources. Requires good interpersonal skills.

### ***Education***

1. **Teach Natural Resources:** Teach in schools; interpret natural resources in outreach programs; naturalist, summer camp guide.
2. **Outreach / Public Education:** Extension service; design and implement workshops, develop educational displays.

## **Job finding resources**

1. The Fisheries and Wildlife Job and Internship Resources webpage, under the tab: Internships, Jobs & Professional Societies has a full list of websites organized by category  
<http://fw.oregonstate.edu/content/job-and-internship-resources>
2. Science Magazine On-line – full listing of classified section and other resources  
<http://recruit.sciencemag.org/>
3. Chronicle of Higher Education <http://chronicle.com/>
4. Washington State Dept. of Personnel (for DNR jobs) <http://www.dop.wa.gov/>

## **Choosing a Specialization**

The following list contains sample specialization areas. A separate list contains courses in the OSU catalog that may be appropriate for your option. Use these lists, consultations with your advisor, other professors, and students to create your course program. Plan out how your program will look by outlining a schedule according to when courses will be offered. Pay attention to potential timing conflicts; many courses are offered only one quarter per academic year, or in alternate years.

### ***Aquatic Organisms and Ecosystems***

- Fisheries Biology
- Biology of Marine Mammals
- Marine Fisheries Resources
- Aquatic Ecosystem Management
- Stream Ecology
- Invertebrate Ecology
- Stream and Riparian Ecology

### ***Terrestrial Animals***

- Wildlife Biology
- Avian Biology
- Large Mammal Ecology
- Herpetology

### ***Conservation of Organisms and Habitat***

- Conservation Biology
- Rehabilitation
- Ecosystems Management
- Wildlife Ecosystem Management

### ***Managing Humans to Manage Resources***

- Human Dimensions in Natural Resources
- Law Enforcement

### ***Education***

- Education in Natural Resources
- Outreach / Public Education

Titles may contain management, system and organism emphasis:

Watershed and Riparian Restoration, Wildlife Law Enforcement, Riparian Restoration, Wetland Management for Waterfowl. Note the concise titles.

## General Requirements for Specializations

Specializations are generally approved quickly if they meet all general requirements. Make sure of the following before you turn your Specialization in to your advisor.

1. Identify the courses that you wish to propose for your Specialization in Fisheries and Wildlife based on your knowledge of the content of each course, your individual career interests and your knowledge from Assignments 1 and 2 in FW 307. This may take some investigation or consultation with some instructors or your advisor. Enter these courses into the specialization form.
2. Write a one page proposal that: (1) describes your career goals, and (2) outlines the special training you will gain from your area of specialization by describing **each** course in your specialization. For example, “I will gain specialized training in plant ecology, wildlife ecology and policy. My plant ecology training will include two courses: Plant Systematics which will enable me to identify most vascular plants; and Plant Ecology, which will focus on plant population and community ecology.”
3. Do the courses listed in your Specialization Course List pertain to the title of the Specialization, and will they help prepare you to fulfill your career goals?
4. Does your specialization course list meet all these criteria?
  - Minimum of 24 credit hours
  - Transfer courses you have included were pre-approved by Nancy Allen or academic advisor
  - No courses included in your Specialization may be taken S/U
  - Courses may not double count with Fisheries and Wildlife Core or Baccalaureate Core requirements, except for Writing Intensive Course (WIC)
  - Maximum of two courses completed prior to approval of specialization by Advisor
  - Maximum of four lower division (100-200 level) credits
  - If this is your first BS degree, you may use a maximum of 12 credit hours that are also being used to fulfill requirements towards a minor (rules established by the minor supersede this, please check with an advisor in your minor department to see if double counting is allowed)
  - Maximum of 12 credit hours, in any combination, of FW 401 (research) and FW 410 (International Internship)
  - If you are a Post Baccalaureate student, you may use a maximum of 12 credits from your first degree towards your specialization. These courses must be approved by your Advisor.
5. After you have completed both sides of the specialization form and completed your proposal you need to submit your 24 credit specialization plan in MyDegrees.

### ***Submitting your Specialization in MyDegrees***

[Submitting your Specialization in MyDegrees](#) (video)

1. In MyDegrees, select the Planner tab (2<sup>nd</sup> from top left). The Planner Worksheet will appear on the right side of your screen, the Student Educational Planner on the right.
2. Under the Planner tab select “Add New Plan” from the drop down menu. Click “Load.”
3. In the Student Educational Planner, in the box to the right of “Description” type in **Specialization**.

4. For “Select term,” choose the 2<sup>nd</sup> to last term in the drop-down list (e.g. Winter 2017). Put your selected courses in the rows below the term. If you have more courses than fit in the rows for one term put the overflow courses into the last term in the drop-down list (e.g. Spring 2017).
5. List any transfer courses that your advisor preapproved for inclusion in your specialization in the notes section of the planner. You are allowed to use a total of four lower division credits in your Specialization. You can use up to two courses you’ve already completed (either at OSU or another institution) in your specialization.
6. **Enter only your specialization courses and credits** (the 24 credit plan on the front of the specialization form).
7. Make sure you have at least 24 credits total including any transfer courses. Add notes for you and your advisor in the Notes box to the right.
8. Click on “Save Plan” at the bottom of the page. It’s OK if it says this plan is inactive.
9. After your Specialization is entered and saved in MyDegrees, contact your *faculty advisor* (Corvallis Campus) or *academic advisor* (E-campus) to make an appointment to review your plan.

### ***Specialization review, approval and upload into MyDegrees***

#### **Corvallis Campus Students**

10. Bring a hard copy of your proposal and specialization form to your appointment with your *faculty advisor*. Your *faculty advisor* will review the plan and either approve it or make recommendations for revision.
11. After your *faculty advisor* has approved (signed) your specialization (and you have made any needed updates in MyDegrees), give the form and proposal to the *Department Head Advisor*, Nancy Allen.
12. Your specialization will be uploaded and the courses will appear below the Major Block under “Student Program of Study.” Your plan will be locked so that no changes can be made without talking to a *faculty advisor*.
13. **Need to make changes?** Small changes can be made during an advising session or in consultation with Nancy Allen. Multiple (3+) changes to your plan require that you submit a new specialization form and statement of reasons for the change to your *faculty advisor*. After it has been approved (signed)

#### **E-Campus Students**

- Prior to your appointment with your *academic advisor*, email them a copy of your proposal and specialization form. Your *academic advisor* will review the plan and either approve it or make recommendations for revision.
- After approval, make sure your *academic advisor* has final (updated and corrected) versions of both your specialization form and proposal and that your Plan in MyDegrees has been updated, if needed.
- Your specialization will be uploaded and the courses will appear below the Major Block under “Student Program of Study.” Your plan will be locked so that no changes can be made without talking to your *academic advisor*.
- Need to make changes?** Small changes can be made during an advising session with your *academic advisor*. Multiple (3+) changes to your plan require that you submit a new specialization form and statement of reasons for the change to your *academic advisor*. After the changes are reviewed and approved your

submit it to Nancy Allen; she will update your specialization in MyDegrees.

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***Keep a copy of your specialization for your records.  
It is your responsibility to make sure it gets to the right people  
and is not misplaced.***