Fisheries, Wildlife & Conservation Biology
Additional Professional Experience

As part of the core FW curriculum, students in Fisheries, Wildlife, and Conservation Biology are required to complete a “second field experience.” This is in addition to the two summer session field courses taught at Cloquet, FW 4106 and 4108, which constitute the “first field experience” (but you needn’t take the Cloquet courses before you fulfill the 2nd Professional Experience, all that matters is that you complete both requirements). Students have three separate options for fulfilling their second professional experience:

1) Complete an approved study abroad program that includes a field component addressing fisheries, wildlife, or biodiversity conservation.
2) Complete an additional field course that involves “hands on” experiences with fisheries, wildlife, or conservation biology.
3) Complete an approved internship experience by working or volunteering on an appropriate project. To get academic credit using this option, you must also register for FW 4291 or FW 4391 (Independent Study: Fisheries; Independent Study: Wildlife).

Study Abroad Programs
The following UMN courses will automatically qualify (although you still need to file a petition with CFANS Student Services before it will appear on your APAS report). Many other study abroad experiences could qualify, but require pre-approval from your academic advisor. If you are planning to do an entire semester abroad, you should consult with your faculty advisor to try to identify at least one course that could qualify as your second professional experience.

**CFAN 3500-Section 4: Thailand - Mammal Survey Design and Techniques.** This course is taught between Christmas and the start of spring semester. It provides participants with a brief overview of Thailand's culture and conservation challenges. Students then work with Thai rangers to apply a set of field survey tools for assessing abundance of potential tiger prey.

**CFAN 3500-Section 2: Bahamas - Tropical Marine Biology & Shark Ecology.** This course takes students to the small island of Bimini, Bahamas in mid August to experience a hands-on introduction to marine field biology, with an emphasis on shark ecology. Students will learn about the ecosystems found on the island of Bimini through lectures, visits with local experts, and daily snorkeling experiences.

Approved Field Courses
The following field courses will fulfill the second professional experience. A wide variety of field courses taught at other institutions could also fulfill this requirement, but you must obtain prior approval.

**FW 3565: Fisheries and Wildlife Ecology and Management Field Trip; 2 credits.** Field trip to Yellowstone National Park, Wyoming. Students learn about and participate in carnivore research within the Park.

**FW 5625: Wildlife Handling and Immobilization for Research and Management; 2 credits.** Preparation procedures, legal responsibilities, capture drugs, delivery systems, safety measures, ethical issues, and basic veterinary procedures for handling wildlife. Taught in Forest Lake, MN.

The following summer courses taught at Itasca Biological Station & Laboratories can also qualify, with the caveat that they may not be double counted towards other major requirements:
- **Biol 3811: Introduction to Animal Behavior**
- **EEB 4825: Telemetry and Animal Behavior**
- **EEB 4839: Field Studies in Mammalogy**
- **EEB 4844: Field Ornithology**
Research or Internship Experiences

The final pathway for fulfilling the 2nd Professional Experience is to complete a guided research project or internship experience. Except in rare cases, these experiences must be pre-approved by a faculty advisor or mentor, and you will need to register for at least 1 credit of FW 4291: Independent Study Fisheries or FW 4391: Independent Study Wildlife in order for this experience to count towards your degree.

If you wish to use a research experience to fulfill the second professional experience, you should identify a faculty mentor by your junior year. Make an appointment with your faculty advisor to talk about your research interests and begin lining up a research project.

For internships, the onus of responsibility for finding an employment or volunteer opportunity is on you (this will be good training for when you graduate). The St. Paul Campus Career Center is an excellent resource, and your faculty advisor and fellow students can be a good source of ideas. Think of this as an opportunity to build your resume, and try to find an internship opportunity that makes you stand out from your fellow students.

Independent Study courses are designed to be flexible, and exact details of your arrangement will need to be worked out with your faculty mentor. The following points are offered as guidelines:

- The internship or research project should include a minimum of 50 hours of hands-on experience. For paid internships the minimum should exceed 100 hours.
- The subject matter must relate directly to fisheries, wildlife, or conservation biology. This can include work with organisms or their habitats. Students who are interested in pursuing graduate school should try to obtain research experience. Students interested in working with state or federal agencies should try to obtain an internship or volunteer opportunity with an appropriate organization.
- You may register for a variable number of credits (1-5, but most typically 1 -3). All you need is 1 credit to fulfill the requirement, but you might want to take more credits if you need to reach a certain number of credits for financial aid purposes (i.e. 6 credits during summer session). The number of hours worked does not influence the number of credits; rather the number of credits is based on the extent of your academic project.
- Academic requirements for independent study courses may vary from instructor to instructor. You should discuss requirements and expectations with your faculty mentor beforehand. As a general guideline, 1 credit would require documentation of your internship experience and a short paper (5-10 pages) placing your work experience in a larger context. Three credits might require you to conduct an independent research project and produce a scholarly paper intended for publication.