

# Fisheries And Wildlife (F\_W)

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**F\_W 1012: Introduction to Captive Wild Animal Management**

(same as AN\_SCI 1012). General introduction to housing, husbandry, behavior, genetics, nutrition, reproduction, animal health, and disease control of native and exotic species in zoological parks and other animal conservation facilities; emphasizes the role of captive animals in wildlife conservation. Graded on A-F basis only.

**Credit Hours:** 3

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**F\_W 1100: Introductory Zoology with Laboratory**

(same as BIO\_SC 1100). Introduces important principles and concepts of zoology. Emphasizes cell biology; evolution; genetics; ecology; structure, function, development of the organism.

**Credit Hours:** 5

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**F\_W 2500: Introduction to Genetics and Evolution for Conservation**

Basic principles and processes of genetics and evolution and their importance for management and conservation. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** MATH 1100, F\_W 1100 or BIO\_SC 1500

**Recommended:** NAT\_R 1070, CHEM 1320

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**F\_W 2600: Ornithology**

Structure, identification, habits, importance of regional birds. Field work, lectures, lab.

**Credit Hours:** 5

**Prerequisites:** F\_W 1100 or BIO\_SC 1500. Restricted to SNR Students only during early registration

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**F\_W 2700: Ichthyology**

A broad introduction to the biology and ecology of fishes. Emphasis will be placed on understanding the adaptations fishes exhibit to aspects of their environment.

**Credit Hours:** 4

**Prerequisites:** F\_W 1100 or BIO\_SC 1500. Restricted to SNR students only during early registration

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**F\_W 2900: Principles of Wildlife Management**

Expose students to the principles of wildlife management with emphasis on current issues faced by wildlife researchers and managers in the field. Graded on A-F basis only.

**Credit Hours:** 4

**Recommended:** NAT\_R 1070 and one other course in biological or environmental science; sophomore standing or higher

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**F\_W 3085: Problems in Fisheries and Wildlife**

Individual problems studies to supplement regularly organized undergraduate courses in Fisheries and Wildlife. Proposal for problems study must be arranged by student and supervising faculty member prior to registration.

**Credit Hour:** 1-99

**Prerequisites:** consent of supervising faculty member

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**F\_W 3600: Introduction to Conservation Biology**

Introduction to principles of conservation biology. Application of ecological concepts and conservation biology principles to management of endangered species, biodiversity and threatened ecosystems.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 or BIO\_SC 3400

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**F\_W 3660: Mammalogy**

Taxonomy, distribution, structure, habits, importance of mammals; emphasizes those of central United States.

**Credit Hours:** 4

**Prerequisites:** F\_W 1100 or BIO\_SC 1500. Restricted to SNR students during early registration

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**F\_W 3700: Animal Behavior**

Behavior allows animals to react promptly to environmental changes, and is how they interact with others and their surroundings. Because behaving is central to an animal's life, knowing about behavior is fundamental to understanding animal ecology and to conservation efforts. Graded on A-F basis only.

**Credit Hours:** 3

**Recommended:** F\_W 1100

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**F\_W 3900: Ecology of Fishes**

This course considers fishes' interactions with their environments in relation to survival, growth and population processes. The course is for mid- to upper-level undergraduates interested in fisheries science, management and fish conservation. May be repeated once for credit. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 1500 or F\_W 1100; sophomore standing

**Recommended:** STAT 2500

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**F\_W 4002: Topics in Fisheries and Wildlife - Biological**

Organized study of selected topics intended primarily for senior-level students in Fisheries and Wildlife Sciences.

**Credit Hour:** 1-99

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**F\_W 4200: Urban Wildlife Conservation**

(cross-leveled with F\_W 7200). Reviewing the theory and practice of applying ecological concepts to the management of wildlife species in urban areas.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 or FOREST 4320

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**F\_W 4200W: Urban Wildlife Conservation - Writing Intensive**

(cross-leveled with F\_W 7200). Reviewing the theory and practice of applying ecological concepts to the management of wildlife species in urban areas.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 or FOREST 4320

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**F\_W 4220: Human Dimensions of Fish and Wildlife Conservation**

Overview of human dimensions approaches and methods as they are applied to issues in fish and wildlife conservation.

**Credit Hours:** 3

**Recommended:** One 3000-level or above professional Fisheries and Wildlife management or techniques course

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**F\_W 4300: Fisheries Management**

(cross-leveled with F\_W 7300). Introduction to the scientific principles and techniques of fishery management. Integrates ecological principles with social, economic and legal considerations.

**Credit Hours:** 3

**Recommended:** BIO\_SC 3650 and STAT 2500

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**F\_W 4400: Techniques for Fisheries Management and Conservation**

Introduction to techniques (field and analytical/quantitative) used by fisheries and conservation biologists. Fosters understanding of techniques uses, advantages, limitations biases, and data interpretation. Extended weekly field outings require chest waders and life jackets. Graded on A-F basis only.

**Credit Hours:** 4

**Recommended:** BIO\_SC 3650; STAT 2500 or NAT\_R 4110; F\_W 2700 or F\_W 4300

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**F\_W 4400W: Techniques for Fisheries Management and Conservation - Writing Intensive**

Introduction to techniques (field and analytical/quantitative) used by fisheries and conservation biologists. Fosters understanding of techniques uses, advantages, limitations biases, and data interpretation. Extended weekly field outings require chest waders and life jackets. Graded on A-F basis only.

**Credit Hours:** 4

**Recommended:** BIO\_SC 3650; STAT 2500 or NAT\_R 4110; F\_W 2700 or F\_W 4300

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**F\_W 4500: Animal Population Dynamics and Management**

(cross-leveled with F\_W 7500). Quantitative modeling approach to examining principles and analysis techniques of fish and wildlife population dynamics. Emphasis on approaches useful in the management of exploited species.

**Credit Hours:** 3

**Prerequisites:** MATH 1400; STAT 2500 or NAT\_R 4110; BIO\_SC 3650 or FOREST 4320

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**F\_W 4600: Ecosystem Management**

(cross-leveled with F\_W 7600). Explores the development and implementation of large-scale approaches to restoring and maintaining ecosystems for sustainability. Incorporates ecological, socio-economic, and institutional factors that influence natural management agencies. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 or FOREST 4320

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**F\_W 4600W: Ecosystem Management - Writing Intensive**

Explores the development and implementation of large-scale approaches to restoring and maintaining ecosystems for sustainability. Incorporates ecological, socio-economic, and institutional factors that influence natural management agencies. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650

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**F\_W 4650: Natural Resource Planning and Management**

Students will be exposed to various natural resource planning tools. Student teams will develop natural resource management plans with strategic and operational components for current conservation issues in Missouri. Plans will be critiqued by peers and outside professionals. Graded on A-F basis only.

**Credit Hours:** 4

**Prerequisites:** FOREST 4320 or BIO\_SC 3650 and senior standing

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**F\_W 4700: Wildlife Ecology Methods**

(cross-leveled with F\_W 7700). Techniques for conducting wildlife research. Graded on A-F basis only.

**Credit Hours:** 4

**Prerequisites:** BIO\_SC 3650 and STAT 2500

**Recommended:** F\_W 2900, NAT\_R 4110

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**F\_W 4700W: WILDLIFE METHODS - Writing Intensive**

(cross-leveled with F\_W 7700). Techniques for conducting wildlife research. Graded on A-F basis only.

**Credit Hours:** 4

**Prerequisites:** BIO\_SC 3650 and STAT 2500

**Recommended:** F\_W 2900, NAT\_R 4110

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**F\_W 4800: Environmental Toxicology**

(cross-leveled with F\_W 7800). Introduction to classes of chemicals, tools, methods, and approaches used in environmental toxicology. Emphasizes fundamentals of toxicology, dose-response relationships, evaluation of contaminant issues, strategies, and exposure analysis/toxicity assessment strategies in a risk assessment.

**Credit Hours:** 3

**Prerequisites:** CHEM 1320

**Recommended:** Junior standing

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**F\_W 4810: Wildlife Disease Ecology**

An introduction to the ecology of wildlife diseases. Topics include the definition of a disease, how to measure diseases, impacts on individuals and populations, and the role of disease in wildlife management and conservation.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650

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**F\_W 4880: Waterfowl Ecology and Management**

Ecology and management of North American waterfowl and their habitats. Laboratory exercises focus on identification, life histories, sex and age determination, and survey methods. Lectures cover taxonomy, ecology, behavior, population dynamics, harvest management, and habitat management and conservation. Graded on A-F basis only.

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**Credit Hours:** 3

**Prerequisites:** F\_W 2600; BIO\_SC 3650; instructor's consent

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**F\_W 4910: Senior Seminar in Captive Wild Animal Management** (same as AN\_SCI 4910). Investigates key issues in captive wild animal management, focusing on the role of animal caretakers in addressing the issues. Students are required to formulate informed opinions regarding these topics and communicate effectively about the subject matter. Graded on A-F basis only.

**Credit Hour:** 1

**Prerequisites:** AN\_SCI 1012 or F\_W 1012; junior or senior standing

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**F\_W 4945: Experiential Learning in Industry Internship in Fisheries and Wildlife**

Learning experience combining observation, application, and reflection in a discipline-based industry internship. Course appears on transcript for zero credit and does not count toward full-time enrollment. No tuition or fees are charged. Graded on S/U basis only.

**Credit Hours:** 0

**Prerequisites:** instructor's consent

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**F\_W 4950: Undergraduate Research in Fisheries and Wildlife**

Individually directed field or laboratory research for students under faculty supervision. Project must be arranged by student and faculty member prior to registration.

**Credit Hour:** 1-99

**Prerequisites:** consent of supervising faculty member

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**F\_W 4955: Experiential Learning in Research in Fisheries and Wildlife**

A supervised learning experience contributing to faculty research. Course appears on transcript for zero credit and does not count toward full-time enrollment. No tuition or fees are charged. Graded on S/U basis only.

**Credit Hours:** 0

**Prerequisites:** instructor's consent

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**F\_W 7002: Graduate Topics in Fisheries and Wildlife**

Organized study of selected topics intended primarily for graduate students in Fisheries and Wildlife Sciences. Graded on A-F basis only.

**Credit Hour:** 1-99

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**F\_W 7200: Urban Wildlife Conservation**

(cross-leveled with F\_W 4200). Reviewing the theory and practice of applying ecological concepts to the management of wildlife species in urban areas.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 or FOREST 4320

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**F\_W 7220: Human Dimensions of Fish and Wildlife Conservation**

Overview of human dimensions approaches and methods as they are applied to issues in fish and wildlife conservation.

**Credit Hours:** 3

**Prerequisites:** One 3000-level or above professional management or techniques course or instructor consent

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**F\_W 7300: Fisheries Management**

(cross-leveled with F\_W 4300). Introduction to the scientific principles and techniques of fishery management. Integrates ecological principles with social, economic and legal considerations.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 and STAT 2500

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**F\_W 7500: Animal Population Dynamics and Management**

(cross-leveled with F\_W 7500). Quantitative modeling approach to examining principles and analysis techniques of fish and wildlife population dynamics. Emphasis on approaches useful in the management of exploited species. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** MATH 1400; STAT 2500 or NAT\_R 4110; BIO\_SC 3650 or FOREST 4320

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**F\_W 7600: Ecosystem Management**

(cross-leveled with F\_W 4600). Explores the development and implementation of large-scale approaches to restoring and maintaining ecosystems for sustainability. Incorporates ecological, social-economic, and institutional factors that influence natural resource management agencies. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** BIO\_SC 3650 or FOREST 4320

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**F\_W 7700: Wildlife Ecology Methods**

(cross-leveled with F\_W 4700). Techniques for conducting wildlife research. Graded on an A-F basis only.

**Credit Hours:** 4

**Recommended:** Ecology and basic statistics course

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**F\_W 7800: Environmental Toxicology**

(cross-leveled with F\_W 4800). Introduction to classes of chemicals, tools, methods, and approaches used in environmental toxicology. Emphasizes fundamentals of toxicology, dose-response relationships, evaluation of contaminant issues, strategies, and exposure analysis/toxicity assessment strategies in a risk assessment.

**Credit Hours:** 3

**Prerequisites:** CHEM 1320

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**F\_W 7810: Wildlife Disease Ecology**

(cross-leveled with F\_W 7810). An introduction to the ecology of wildlife diseases. Topics include the definition of a disease, how to measure diseases, impacts on individuals and populations, and the role of disease in wildlife management and conservation.

**Credit Hours:** 3

**Prerequisites:** instructor's consent

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**F\_W 7880: Waterfowl Ecology and Management**

(cross-leveled with F\_W 4880). Ecology and Management of North American waterfowl and their habitats. Laboratory exercises focuses on identification, life histories, sex and age determination, and survey methods. Lectures cover taxonomy, ecology, behavior, population

dynamics, harvest management, and habitat management and conservation. Graded on A-F basis only.

**Credit Hours:** 3

**Prerequisites:** F\_W 2600; BIO\_SC 3650; instructor's consent

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**F\_W 8001: Topics in Fisheries and Wildlife**

Organized study of selected topics. Subjects and credit may vary from semester to semester.

**Credit Hour:** 1-99

**Prerequisites:** instructor's consent

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**F\_W 8050: Non-Thesis Research in Fisheries and Wildlife**

Independent research not leading to a thesis.

**Credit Hour:** 1-99

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**F\_W 8085: Graduate Problems in Fisheries and Wildlife**

Individualized problems studies to supplement regularly organized graduate courses in Fisheries and Wildlife.

**Credit Hour:** 1-5

**Prerequisites:** consent of supervising faculty member

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**F\_W 8087: Masters Seminar in Fisheries and Wildlife**

Discussions of current developments in forestry, fisheries and wildlife, and critical study of research programs.

**Credit Hour:** 1

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**F\_W 8090: Masters Thesis Research in Fisheries and Wildlife**

Research leading to a thesis or dissertation. Graded on a S/U basis only.

**Credit Hour:** 1-99

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**F\_W 8300: Professional Development and Communications**

Intended to foster professional growth and development of graduate students. The course will present a rigorous introduction to professionalism, ethics, career development, and professional communications skills and techniques. Graded on A-F basis only.

**Credit Hour:** 1-3

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**F\_W 8460: Wetland Ecology**

A survey of the wetlands of North America; emphasis on nutrient dynamics, habitat structure, management, legislation and regulations, and man's impacts.

**Credit Hours:** 3

**Prerequisites:** NAT\_R 4100, BIO\_SC 3650 and instructor's consent

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**F\_W 8510: Ecology, Conservation, and Environmental Justice**

The goal of this course is to introduce graduate students in natural resource management and conservation biology to the ecological and management concepts that underlie environmental justice issues, and to explain how broader environmental justice concepts are relevant to natural resource and conservation fields. Graded on A-F basis only.  
Prerequisites: one undergraduate course from the following list of disciplines: ecology, natural resource management, conservation biology, sociology or equivalent.

**Credit Hours:** 2

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**F\_W 8520: Stream Ecology**

Ecological principles applied to flowing waters. Emphasis on ecological processes within algal, invertebrate and fish communities. The influence of geomorphic processes, hydrologic principles and physical-chemical factors on the biota.

**Credit Hours:** 3

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**F\_W 8530: Quantitative Ecology**

Methods to assess space use patterns, animal abundance and population status are drawn into quantitative framework for making ecological inferences. Practical application and limitations of techniques are emphasized through analysis and interpretation of field and simulated data.

**Credit Hours:** 4

**Recommended:** F\_W 4500 or equivalent

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**F\_W 9001: Selected Topics in Fisheries and Wildlife Sciences for Doctoral Students**

Organized study of selected topics for PhD students in Fisheries and Wildlife Sciences. Subjects and credits may vary from semester to semester. Graded on A-F basis only.

**Credit Hour:** 1-4

**Prerequisites:** PhD standing and instructor consent

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**F\_W 9087: PhD Seminar in Fisheries and Wildlife**

Discussions of current developments in forestry, fisheries and wildlife, and critical study of research programs.

**Credit Hour:** 1

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**F\_W 9090: Ph. D. Dissertation Research in Fisheries and Wildlife**

Research leading to a thesis or dissertation. Graded on a S/U basis only.

**Credit Hour:** 1-99

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