WILDLIFE, FISH & CONSERVATION BIOLOGY, BACHELOR OF SCIENCE

College of Agricultural & Environmental Sciences

The Major Program

The Wildlife, Fish & Conservation Biology major deals with the relationships between the requirements of wildlife and the needs of people. Understanding these relationships is vital for the maintenance of ecological diversity, recreational resources, and food supplies. Students completing the major possess a broad knowledge of ecology and natural history, but with the quantitative skills to use this knowledge in critical thinking and decision-making.

The Program

The major emphasizes broad training in biological sciences, with specialization in one of four areas. The major is designed primarily for students interested in becoming professionals in the diverse fields of wildlife, fish, & conservation biology, including veterinary & wildlife health sciences. The breadth of course requirements, when combined with electives, also make this an excellent preparatory major for secondary school teaching. Certification by professional societies such as The Wildlife Society, American Fisheries Society, or the Ecological Society of America, or preparation for graduate studies may also be achieved by careful planning of electives with a faculty advisor.

Lead Faculty Advisor
Douglas Kelt

Wildlife, Fish, & Conservation Biology Major Advisor
Erica Cefalo

Students transferring to UC Davis from another institution or new students declaring the major of Wildlife, Fish & Conservation Biology must consult the major advisor so that their program can be evaluated and a faculty advisor assigned. Advising is located in 1086 Academic Surge and can be reached by email at wfcbadvising@ucdavis.edu.

Career Alternatives

The major prepares students to excel in the dynamic fields of environmental and conservation biology, emphasizing vertebrate animals—both native and invasive—in their natural environments, as well as resolution of conflicts between humans and wild animals. Positions now held by graduates of this major include wildlife biology, fisheries biology, wildlife damage management, and resource biologists and managers with local, state, and federal agencies, biologists or consultants with private industries such as environmental consulting firms, commercial fishing businesses, electrical utilities, sporting clubs or businesses, and aquaculture operations, as well as veterinarians, medical physicians, and professors/researchers who teach and/or conduct research in academic institutions.

### Code | Title | Units
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<thead>
<tr>
<th>Written/Oral Expression</th>
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<tr>
<td>Completing UWP 001 or UWP 001V or UWP 001Y and CMN 001 will simultaneously satisfy the College English Composition Requirement.</td>
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WFC 100 Field Methods in Wildlife, Fish, & Conservation Biology

OR
WFC 101 Field Research in Wildlife Ecology
& 101L Field Research in Wildlife Ecology: Laboratory

OR
WFC 102 Field Studies in Fish Biology
& 102L Field Studies in Fish Biology: Laboratory
WFC 121 Physiology of Fishes
or WFC 130 Physiological Ecology of Wildlife
WFC 122 Population Dynamics & Estimation
or WFC 124 Sampling Animal Populations

Conservation Biology
WFC 154 Conservation Biology

Choose three lecture courses and two laboratory (L) courses: 14-15
WFC 110 Biology & Conservation of Wild Mammals
WFC 110L Laboratory in Biology & Conservation of Wild Mammals
WFC 111 Biology & Conservation of Wild Birds
WFC 111L Laboratory in Biology & Conservation of Wild Birds
WFC 120 Biology & Conservation of Fishes
WFC 120L Laboratory in Biology & Conservation of Fishes
WFC 134 Herpetology
WFC 134L Herpetology Laboratory

Depth Subject Matter Subtotal 41-46

Strongly Recommended, But Not Required
Anatomy, Physiology & Cell Biology
APC 100/NPB 123 Comparative Vertebrate Organology
Landscape Architecture
LDA/ABT 150 Introduction to Geographic Information Systems
Statistics; choosing one is recommended:
STA 104 Applied Statistical Methods: Nonparametric Statistics
STA 106 Applied Statistical Methods: Analysis of Variance
STA 108 Applied Statistical Methods: Regression Analysis

Restricted Electives
Choose one of the four Areas of Specialization: 12-24
No course may be used to simultaneously satisfy the Depth Subject Matter and the Area of Specialization.
No course may be used to simultaneously satisfy two Area of Specialization requirements.
Areas of Specialization
(1) Wildlife & Conservation Biology (p. 2)
(2) Fish Biology (p. 2)
(3) Wildlife Health (p. 3)
(4) Individualized (p. 3)

Restricted Electives Subtotal 12-24
Total Units 111-129

Areas of Specialization
(1) Wildlife & Conservation Biology
Code Title Units
WFC 151 Wildlife Ecology 4
or WFC 168 Climate Change Ecology
Choose one: 2-5
PLB/PLS 102 California Floristics
PLB/EVE 108 Systematics & Evolution of Angiosperms
PLB/EVE 117 Plant Ecology
PLB/EVE 119 Population Biology of Invasive Plants & Weeds
PLB/PLP 148 Introductory Mycology
PLS 131 (Discontinued)
PLS/ESM 144 Trees & Forests
PLS 147 & 147L California Plant Communities and California Plant Communities Field Study
PLS 178 Biology & Management of Aquatic Plants
Choose two: 6-9
WFC 110 Biology & Conservation of Wild Mammals
WFC 111 Biology & Conservation of Wild Birds
WFC 120 Biology & Conservation of Fishes
WFC 122 Population Dynamics & Estimation
WFC 124 Sampling Animal Populations
WFC 125 Tropical Ecology & Conservation
WFC 134 Herpetology
WFC 136 Ecology of Waterfowl & Game Birds
WFC 152 Ecology of Human-Wildlife Conflicts
WFC 156 Plant Geography
WFC 157 Coastal Ecosystems
WFC 160 Animal Coloration
WFC 168 Climate Change Ecology

Note: Students interested in certification as a Wildlife Biologist from The Wildlife Society should consider additional courses in plant sciences and statistics.

Total Units 12-18

(2) Fish Biology
Code Title Units
Fish Biology
WFC 120 Biology & Conservation of Fishes 3
WFC 120L Laboratory in Biology & Conservation of Fishes 2
Choose one: 3-5
ENT 116 (Discontinued)
EVE 112 & EVE 112L or EVE 114:
EVE 112 Biology of Invertebrates
& 112L and Biology of Invertebrates Laboratory
or EVE 114 Experimental Invertebrate Biology

Total Units 12-18
Choose three courses including at least one course from each of the following two groups:

(a) Aquatic Systems
- ANS 118 Fish Production
- ESM 100 Principles of Hydrologic Science
- ESP/GEL 116N Oceanography
- ESP/GEL 150C Biological Oceanography
- ESP 151 Limnology
- ESP 151L Limnology Laboratory
- ESP 152 Coastal Oceanography
- ESP 155 Wetland Ecology
- EVE 115 Marine Ecology
- HYD 143 Ecohydrology
- WFC 155 Wildlife Space Use & Habitat Conservation

(b) Water Policy/Law
- ESP 161 Environmental Law
- ESP 162 Environmental Policy
- ESP 166N (Discontinued)
- ESP 169 Water Policy & Politics
- HYD 150 Water Law

Total Units 17-23

(3) Wildlife Health

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<tr>
<td>WFC 151</td>
<td>Wildlife Ecology</td>
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Choose BIS 102 & BIS 103 or ABI 102 & ABI 103:

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<tr>
<td>ABI 102 &amp; ABI 103</td>
<td>Animal Biochemistry &amp; Metabolism and Animal Biochemistry &amp; Metabolism</td>
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or

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<tr>
<td>BIS 102 &amp; BIS 103</td>
<td>Structure &amp; Function of Biomolecules and Bioenergetics &amp; Metabolism</td>
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<td>Behavioral Ecology</td>
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<td>WFC 144</td>
<td>Marine Conservation Science</td>
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<td>ANS 103</td>
<td>Animal Welfare</td>
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<td>ANS 104</td>
<td>Principles &amp; Applications of Domestic Animal Behavior</td>
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(4) Individualized

Students may, with prior approval of their advisor and the curriculum committee, design their own individualized specialization within the major. The specialization will consist of at least four upper division courses with a coherent theme.