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.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<td>Written/Oral Expression</td>
<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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Wildlife, Fish & Conservation Biology, Bachelor of Science

WFC 100  Field Methods in Wildlife, Fish, & Conservation Biology

OR

WFC 101  Field Research in Wildlife Ecology and Field Research in Wildlife Ecology: Laboratory

OR

WFC 102 & 102L  Field Studies in Fish Biology and 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  4

Choose one:  2-5

PLB/PLS 102  California Floristics (Discontinued)
PLB/EVE 108  Systematics & Evolution of Angiosperms (Discontinued)
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: 9-13

(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>
<td>4</td>
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Choose BIS 102 & BIS 103 or ABI 102 & ABI 103: 6-10

- ABI 102 Animal Biochemistry & Metabolism
- ABI 103 and Animal Biochemistry & Metabolism

or

- BIS 102 Structure & Function of Biomolecules
- BIS 103 and Bioenergetics & Metabolism

Choose one: 3-5

- 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 141 Behavioral Ecology
- WFC 144 Marine Conservation Science
- WFC 152 Ecology of Human-Wildlife Conflicts
- WFC 168 Climate Change Ecology

Choose one: 3-5

- ANS 103 Animal Welfare
- ANS 104 Principles & Applications of Domestic Animal Behavior

- ANS 170 Ethics of Animal Use
- APC 100 Comparative Vertebrate Organology
- MCB 150 Developmental Biology
- MIC 101 Introductory Microbiology
- MIC 102 Introductory Microbiology
- MIC 103L Introductory Microbiology Laboratory
- NPB 101 Systemic Physiology
- NPB 140 Principles of Environmental Physiology
- VME 158 Infectious Disease in Ecology & Conservation

Additional Preparatory

Recommended, not required:

- BIS 101 Genes & Gene Expression
- CHE 002C General Chemistry
- CHE 118A Organic Chemistry for Health & Life Sciences
- CHE 118B Organic Chemistry for Health & Life Sciences
- CHE 118C Organic Chemistry for Health & Life Sciences
- PHY 007A General Physics
- PHY 007B General Physics
- PHY 007C General Physics

Total Units 16-24

(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.