Fisheries, Wildlife, and Conservation Biology (BS): Wildlife Science Concentration

To see more about what you will learn in this program, visit the Learning Outcomes website (https://apps.orip.ncsu.edu/pgas/).

Fisheries, Wildlife and Conservation Biology (FWCB) major prepares students to manage and conserve populations of fish and wildlife in their natural habitats. This STEM (Science, Technology, Engineering and Mathematics) major gives students the skills they need to observe, research, monitor and assess the impact of environmental change, human behavior and public policy on wild populations of animals. Using a combination of lab work, technology and field study, students develop conservation strategies that ensure the long-term health of fish and wildlife populations.

After sophomore year, students spend six weeks in summer field courses. During “summer camp” experience, students learn hands-on fish and wildlife management techniques in locations across the state. From plant and animal identification and bird mist netting to camera-trapping and radio telemetry, students gain experiences that prepare them for careers after graduation. FWCB students have the option to substitute the summer field course with approved internships or study abroad courses.

The wildlife concentration provides students with specific coursework necessary to apply for the Associate Wildlife Biologist (AWB) certification from the Wildlife Society upon graduation. The AWB coursework includes extra courses in plant biology, communication, and wildlife habitat management that are not required in the other FWCB concentrations.

For more information examine our website or contact one of the following:

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lara_pacifici@ncsu.edu
FWCB Undergraduate Coordinator
Turner House

Ms. Kimber Lunsford
ktlunsfo@ncsu.edu
Assistant Director of Undergraduate Programs
3236 Jordan Hall

Department of Forestry and Environmental Resources
Box 8008
North Carolina State University,
Raleigh, North Carolina 27695-8008

Plan Requirements

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
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<td>ENV 101 Exploring the Environment</td>
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<td>MA 131 Calculus for Life and Management Sciences A</td>
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<td>BIO 181 Introductory Biology: Ecology, Evolution, and Biodiversity</td>
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<td>BIO 183 Introductory Biology: Cellular and Molecular Biology</td>
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<td>CH 101 Chemistry - A Molecular Science and General Chemistry Laboratory</td>
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<td>PB 200 Plant Life</td>
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<td>FW 373 Vertebrate Natural History</td>
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<td>FW 411 Human Dimensions of Wildlife and Fisheries</td>
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<td>FOR 339 Dendrology</td>
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<td>GN 301 or GN 311 Genetics in Human Affairs or Principles of Genetics</td>
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<td>ST 311 Introduction to Statistics</td>
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<td>&amp; CH 222 and Organic Chemistry I Lab</td>
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<td>FW 415 Professional Development in Fisheries, Wildlife, and Conservation Biology</td>
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<td>FW 453 Principles of Wildlife Science</td>
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<td>GEP Additional Breadth (<a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/</a>) (Humanities/Social Sciences/Visual and Performing Arts)</td>
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<td>GEP U.S. Diversity (<a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-us-diversity/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-us-diversity/</a>) (verify Requirement)</td>
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<td>GEP Global Knowledge (<a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/</a>) (verify requirement)</td>
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<td>Argumentation and Advocacy</td>
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<td>ARE 201</td>
<td>Introduction to Agricultural &amp; Resource Economics</td>
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<td>Principles of Microeconomics</td>
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<td>EC 205</td>
<td>Fundamentals of Economics</td>
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<td>ARE 309</td>
<td>Environmental Law &amp; Economic Policy</td>
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<tr>
<td>FOR 472</td>
<td>Forest Soils</td>
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<td>NR 460</td>
<td>Renewable Natural Resource Management and Policy</td>
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1 A grade of C- or better is required.
### Physical Science Electives

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<th>Counts towards</th>
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<tbody>
<tr>
<td>CH 201</td>
<td>Chemistry - A Quantitative Science</td>
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<td>Quantitative Chemistry Laboratory</td>
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<td>Organic Chemistry II</td>
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<td>Earth System Science: Exploring the Connections</td>
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<td>Introduction to Weather and Climate</td>
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<td>Introduction to Oceanography</td>
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<td>MEA 323</td>
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### Wildlife Electives

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<td>Forest Entomology</td>
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<td>ENT 425</td>
<td>General Entomology</td>
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<td>Forest Entomology</td>
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<tr>
<td>FW 333</td>
<td>Conservation Biology in Practice</td>
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<td>FW 403</td>
<td>Urban Wildlife Management</td>
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<td>FW 405</td>
<td>Tropical Wildlife Ecology</td>
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<td>FW 444</td>
<td>Mammalogy</td>
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<td>FW 460</td>
<td>International Wildlife Management and Conservation</td>
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<td>FW 465</td>
<td>African Ecology and Conservation</td>
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<td>FW 544</td>
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<td>Animal Anatomy and Physiology</td>
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<td>Introduction to Animal Behavior</td>
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<td>ZO 542</td>
<td>Herpetology</td>
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### Semester Sequence

This is a sample.

**Critical Path Courses** – Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

#### First Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
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#### Spring Semester

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<th>Hours</th>
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<td>Chemistry - A Molecular Science</td>
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<td>General Chemistry Laboratory</td>
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<td>BIO 183</td>
<td>Introductory Biology: Cellular and Molecular Biology</td>
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<td>COM 110 or COM 112</td>
<td>Public Speaking or Interpersonal Communication</td>
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### Second Year

#### Fall Semester

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<td>Conservation of Natural Resources</td>
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<td>Conceptual Physics</td>
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### Summer

Summer Camp courses may be substituted by a combination of two approved FWCB internship\(^5\) or FWCB study abroad experiences.

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<td>Piedmont Wildlife Ecology and Management</td>
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<td>FW 312</td>
<td>Fisheries Techniques and Management</td>
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<td>FW 313</td>
<td>Mountain Wildlife Ecology and Management</td>
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<td>Coastal Ecology and Management</td>
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### Third Year

#### Fall Semester

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<td>FOR 339</td>
<td>Dendrology</td>
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<td>FW 353</td>
<td>Wildlife Management (CP)</td>
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<td>GN 301 or GN 311</td>
<td>Genetics in Human Affairs or Principles of Genetics</td>
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<td>ST 311</td>
<td>Introduction to Statistics</td>
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#### Spring Semester

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<td>Introductory Organic Chemistry and Organic Chemistry I Lab</td>
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<td>CH 221 &amp; CH 222</td>
<td>Organic Chemistry I and Organic Chemistry I Lab</td>
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<td>Vertebrate Natural History (CP)</td>
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<td>FW 411</td>
<td>Human Dimensions of Wildlife and Fisheries (CP)</td>
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<td>ENG 333</td>
<td>Communication for Science and Research</td>
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<td><strong>Total Hours</strong></td>
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1. A grade of C- or better is required.
2. FW 492 External Learning Experience

### Career Opportunities

Graduates are prepared for graduate school and entry-level professional positions in state and federal government agencies, non-profit organizations and private industry. Upon graduation, students are qualified to seek certification from The Wildlife Society or the American Fisheries Society.