

**University of Guelph**  
**Learning Outcomes for the B.Sc. Honours Major in**  
**Wildlife Biology & Conservation (BSCH.WBC)**

The Wildlife Biology and Conservation (WBC) major will allow students to study three disciplines necessary to understand the origins, interactions and protection of biological diversity: evolution, ecology and conservation biology. They will have the opportunity to take a wide variety of electives to meet their specific interests within one or two of these disciplines. The program offers a sound scientific background in preparation for careers in resource management, conservation, ecological consulting, teaching and government service. This major also qualifies students for post-graduate work in ecology, evolutionary biology, environmental sciences or wildlife management.

**A. GENERAL SKILLS**

**1. Problem Solving & Critical Thinking**

- Critically evaluate ideas and arguments by gathering and integrating relevant information, assessing its credibility, and synthesizing evidence to formulate a position.
- Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and depth and breadth of knowledge/expertise.
- Accurately interpret and use numerical information to evaluate and formulate position.

**2. Communication**

- Accurately and effectively communicate ideas, arguments and analyses, to a range of audiences, in graphic, oral and written form.

**3. Professional and Ethical Behaviour**

- Demonstrate personal and professional integrity by respectfully considering diverse points of view and the intellectual contribution of others, and by demonstrating commitment to honesty and equity, and awareness of sustainability, in scientific practice and society at large.
- Collaborate effectively as part of a team by demonstrating mutual respect, leadership, and an ability to set goals and manage tasks and timelines.
- Plan for professional growth and personal development within and beyond the undergraduate program.

**B. DEGREE RELATED SKILLS & KNOWLEDGE**

**1. Scientific Method**

- Apply scientific methods and processes by formulating questions, designing investigations and synthesizing data to draw conclusions and make scientifically-based decisions.
- Generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.

**2. Breadth & Depth of Understanding in a Particular Scientific Discipline**

- Apply the core concepts of math, physics, chemistry and biology to a chosen scientific discipline.
- Demonstrate knowledge of the ethical, economic, commercial and social implications of scientific discovery and technological innovation.

- Interpret current scientific concepts and gaps in knowledge (and methods) in light of the historical development of a chosen discipline.
- *Demonstrate a broad understanding of ecology, evolution and conservation biology.*
- *Recognize the origins and current methods of protection of plant and animal diversity.*
- *Develop detailed knowledge of ecological and evolutionary factors that influence the persistence of species and communities.*
- *Understand how to manage natural and impacted systems (e.g., invasive species, species at risk) and apply scientific approaches to adaptive management strategies in wildlife conservation.*
- *Assess the complex interplay between science, socio-economic factors and public opinion in the forging of public policy decisions and the value of interdisciplinary approaches to understanding complex problems in wildlife biology.*

### **3. Scientific Technology & Techniques in a Scientific Discipline**

- Apply contemporary research methods, skills and techniques to conduct independent inquiry in a chosen scientific discipline.
- *Gain “hands on” experience in the field working with plants and animals in a variety of ecosystems.*
- *Develop written and oral communication skills for a variety of stakeholders (e.g., public, private sector, policy makers, scientists).*
- *Assemble, analyze and evaluate biological data for development and execution of a research project that integrates methods from evolutionary biology, ecology, and conservation biology within wider global contexts.*

Note: Italics indicates major-specific outcomes; non-italics indicates BSc learning outcomes.