

## University of Alaska Fairbanks Intended Learning Outcomes for

### **Master of Science, Wildlife Biology and Conservation**

#### 1. Knowledge

Graduates in wildlife biology will demonstrate a broad knowledge of the biology of animals that includes an understanding of the structure and function of individual organisms, the interactions among populations and communities of animals, plants, people and their environment, and the principles of monitoring and managing animals and their habitats.

#### 2. Competency

**Communication:** Graduates in wildlife biology will effectively communicate scientific evidence in both oral and written form. They will be able to make cogent scientific arguments for specialist audiences in the sciences but will also be able to present their arguments and evidence to general audiences.

**Technical proficiency:** Graduates in wildlife biology will be competent in the collection of data with particular proficiency in studies of animals or their habitats or the thoughts and behaviors of humans related to wildlife. They will be able to record and maintain accurate data records and to summarize, graph, and interpret data sets using computer tools. They will be able to use computer software to produce a technical report that includes data sets, graphs, tables, and references for presentation to other scientists.

**Information literacy:** Graduates in wildlife biology will be able to recognize gaps in their own knowledge and appreciate the limits of scientific knowledge of natural systems. Graduates will be able to find, evaluate, interpret and apply scientific evidence to a problem. They will be able to access the technical literature in the natural sciences using online resources. Graduates will cite the work of other investigators responsibly and accurately.

**Quantitative approaches:** Graduates in wildlife biology will be able to apply quantitative approaches to test hypotheses and solve problems in understanding, monitoring and managing populations of wildlife. In particular, they will recognize bias in data collection and appreciate the role of stochasticity in biological processes. They will be able to distinguish discrete and continuous variation, summarize and analyze data using statistics, and create visual displays of information that effectively summarize data.

**Collaboration:** Graduates should be able to collaborate effectively with others on scientific projects, leading to a productive outcome.

### 3. Critical and creative thinking

Graduates in wildlife biology will be able to apply their knowledge of the principles of biology, chemistry, physics, and mathematics to solve problems of understanding, monitoring and managing populations of wildlife. Graduates will be able to formulate hypotheses and predictions, design a study, interpret the results logically, and communicate the results effectively.

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