**BIOLOGY 380.3
Project Proposal Form**

**Student’s name:**  **Signature:**

**Student number:** **NSID**:

**Proposed Supervisor:**  **Signature:**

**Course & CRN#:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Term:**

**Proposed Project Title:** **Bioacoustics in the Boreal: putting nocturnal birds on the map**

**Project Outline:** Please provide a brief outline of the proposed research project. Include any relevant methodology and explain what the student will learn over the course of the project (attach additional pages if necessary).

The project seeks up to 6 students who will learn basic bioacoustic methods in ecology and help to build and assess automated sound recognizers for a number of nocturnally active bird species inhabiting the boreal forest of northern Saskatchewan. Automated Recording Units (ARUs) can collect many hours of recordings, but manually processing the recordings to survey data is time consuming and can be inefficient. Several software packages can be trained to automate species identification of acoustic signals and thus economize the processing of large volumes of data; however, digital recognizers need to be validated for good performance. Data processed by students will contribute to the Saskatchewan Breeding Bird Atlas and long term monitoring in the boreal forest by the Canadian Wildlife Service. Each student will learn to:

* Prepare, map, and deploy bioacoustics recording equipment at select sites (2 days of winter fieldwork, snowshoeing off trail near Beauval SK)
* Identify owls and other nocturnal species by sound
* Use spectrogram software to manually transcribe sound recordings in the lab
* Apply automated "recognizers" to screen recordings for target bird calls
* Validate recognizer results for each species
* Conduct preliminary analyses with the data produced as a class

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| **Assessment Metric:** | **Date(s) Grade is to be Assigned:** |
| Practical Research Performance (25%) | Field work (15%; Feb.15) Lab/Desk work (10%; April 3) |
| Research Notebook (25%) | March 20 |
| Oral Presentation (10%) | April 3 |
| Literature Review (40%) | Annotated bibliography due Feb 15; final literature review due April 7 |
| Total (100%) |  |

**Evaluation:** Grades will be assigned by the Birds Studies Canada lead Janine McManus and Dr. Christy Morrissey

**A copy of the final literature review is to be provided to the Department. The original Research Notebook may be retained by the Course Supervisor depending on intellectual property requirements.**

Approved: Date:
 (Department Head)