DALHOUSIE UNIVERSITY

Environmental Science | Fall 2019
ENVS2500 Field Methods in Environmental Science

LAB 1 | Species Sampling
PART A : Reptile & Amphibian Survey

---------- **EXERPT – NOT THE FULL ASSIGNMENT** ----------

This lab consists of three separate field exercises including:

A. Frog Pond Park Reptile & Amphibian Survey
B. Dalhousie Studley campus BioBlitz, and
C. Avian Point Count at Point Pleasant Park

Four weeks in total will be spent on this first lab assignment. Each subsection (Parts A-C are worth 6-7% each for a combined Lab 1 weight of 20%). Separate instructions are provided for each excursion.

Herpetofauna Sampling at Frog Pond Park

Objectives: We will use and compare THREE (3) sampling methods: dip netting, time constrained surveying (TCS) of ground cover, and coverboard sampling for measuring species presence. The purpose of this lab is to become familiar with each sampling method and to have the opportunity to identify some of Nova Scotia's herpetofauna. Success in finding herps is dependent on search effort, weather preceding the field trip and a variety of other factors. Do not be discouraged if you do not find as many animals as you had hoped for.

You will work in teams to collect the data. Each team will go to one of the designated sampling sites and execute each of the sampling methods. ***Before the lab begins create the tables under each method in your lab notebook***. It is best to allocate 1/2 page per table, just in case you are fruitful in your observations.

PRE-TRIP TASKS:

- Watch associated video lectures for week 2
- Familiarize yourself with the common native NS reptiles and amphibians
- Copy tables into your field notebooks
- Read the field activity instructions (you should not be reading the instructions in the park for the first time)

Method 1: Dip netting

Using dipnets to sweep through the water is a common form of sampling for amphibians like frogs. It requires very few supplies: Dip nets, chest waders, and white basins.

a) Two people can conduct this at the same time. Beginning in water about 1 foot deep, walk through the water sweeping your net 1m at a time. The bottom of the frame of the net should touch the bottom of the pond and you should target areas with some vegetation.

b) After each sweep remove the net from the water and look to see if you have collected anything. Even non-herps are worth recording.

c) If you have been successful, return back to the shore and place the contents of your net into one of the white basins to identify and count what you have collected, and to show the rest of your group. Take a clear photo of the specimen(s).

SAFETY NOTE:

1. **Use the net, or a long stick to probe in front of you before putting your full weight down. There are hidden rocks, logs, soft substrate, and thick vegetation at the shore of the pond. Walk slowly and carefully!**
2. **DO NOT go further once the water reaches your pelvis (waist-deep is too far).**
3. **Group members conducting the wading should stay close to each other (1-2m) in case one is in need of help.**
4. **Other group members stay close to shore to hand basins forward as needed, record observations, and take photographs.**

d) Record the contents of the net by recording how many of each species you found and during which sweep. Then return it to the area that you had collected it. If you have not detected an amphibian write zero and still record the habitat type.

e) Conduct at least FIVE (5) sweeps each at least 1m apart. Record or sketch your sampling locations relative to the shoreline. STOP sampling when the water reaches the level of your pelvis. Move parallel to the shore instead of further away from land, or resweep across the same area if space is tight.

Table 1: Data table for species encountered during dip netting.

Sweepers (names):

Total time sampling (each):

Site	Sweep	Contents		Habitat Type
		Species	Count	
1	1	0	n/a	Low shrub
1	2	green frog	1	Lilly pads
1	2	tadpole sp.	3	Lilly pads