SPRING 2015

University of Victoria
Department of Geography

GEOG103 Introduction to Physical Geography

LABORATORY 5: INVASIVE PLANT SPECIES

As you will learn in class, there are many aspects to the sub-field of Biogeography. In this lab, you will study some of the invasive plant species on and around the campus. The objectives of this lab are to:

- Learn plant identification both indigenous and invasive.
- Learn the origins of local invasive plant species and how they are spread.
- Learn the relationship between invasive species and the environment where they are found.
- Learn about the effects that invasive plant species have on indigenous plant species and the ecosystem as a whole.

At the beginning of your lab, your lab instructor will show you four invasive species commonly found on and around the campus. You will be taken into the field for a first-hand look at these plants and where they are commonly found.

Over a one week period, you and your team (3 to 4 people) will perform the field assignment outlined below. Then you and your team will write a **team report** for submission and **presentation**. Participation in the presentation is **mandatory**.

Field Assignment

1. Your lab instructor will be assigning you two separate locations on or near the campus where you are to locate and identify the four invasive plant species you were shown. Use the GPS provided to mark and record their locations.

2. While at each location, note the following environmental factors:

    a. slope (flat, gentle, steep, really steep, etc.)
    b. aspect - north facing, south-facing, etc. (a compass will be provided)
    c. the geology or soils
    d. surface types or leave litter
    e. surface moisture
    f. tree canopies (open or % closed)
    g. surrounding indigenous and invasive plant species (approximate 5 meter radius)
    h. human activities

You should have eight sets of observations…four species at two separate locations. **Take lots of pictures** (camera or smart phone NOT provided). Keep track of them and use them generously within your report and presentation. Remember to title and caption them, and refer to them in your report and presentation.

Report (**NOTE:** initial each part of the report that you personally worked on)

1. **Title Page (2 mark)**
    - Provide a title page for your lab report including your name, course title, lab section, and date.
2. **Introduction (18 marks)**
    - Describe the overall purpose and objectives for this lab. Be specific. (3 marks)
    - Introduce the four invasive plant species. Discuss why each is considered invasive. (4 marks)
    - Describe where each specie originated from, how they got here (i.e. Greater Victoria), and how they are being spread. (11 marks)
3. **Data Presentation (40 marks)**
    - In four tables, one for each species, consolidate and present your field observations. You may combine the observations from the two locations for each species in order to create the four tables. Remember to clearly title your tables and refer to them in your report. (32 marks)
    - Using the CRD's Natural Areas Atlas and your eight GPS coordinates, place the coordinates onto a map, title and subtitle it, and print off as a pdf for submission. Refer to the map in your report. (8 marks)
4. **Analysis (40 marks)**
    - Referring to your tables and images, describe any patterns or associations between each invasive specie and its surrounding environmental factors. (32 marks)
    - Discuss which indigenous plant species appear to be most affected by the presence of the invasive plant species. (8 marks)
5. **Conclusions (10 marks)**
    - Provide a final concluding paragraph that offers some insight into the overall effects from invasive plant species on or around the campus. (4 marks)
    - Based upon your personal observations and opinions, discuss whether invasive plant species are destroying the present campus ecosystems or just evolving them. (6 marks)

MARKS = 110

Presentation

MARKS = 30

TOTAL MARKS = 140

DUE DATE: Submitted during your scheduled lab in the week of March 27th.
LATE PENALTY: 25% per day.