

Spring 2020
Biol112 – Final Assignment (100pts)

Note: this assignment replaces the Lab Practical and Final Exam for the Spring 2020 Semester.

Due Date: **15 May 2020**

Directions

- a. Pick your “favorite” extant, wild plant or animal species.
- b. Email your species name (genus, species) to your TA **by 24 April 2020** – your TA must approve your species selection.
- c. Answer the following questions.
- d. You must use at least 5 references, including a minimum of 1 peer reviewed source, and a reference section.
- e. Your report will be submitted on Blackboard as either a word document or pdf.

**Note: most questions can be answered in 1-3 sentences. Your assignment is limited in length to 4 pages including all figures and reference section. Please use at least 11pt font and keep margins at least 0.5inches.

Goal: to utilize the different evolutionary and ecological principles you have learned about this semester to understand and describe an extant species.

Questions/Information to Include

1. Species – common name; genus and species. Remember both genus and species are italicized, and only genus is capitalized (e.g. *Homo sapiens*).
2. Create a Character Table and Phylogenetic Tree (5 species including yours, a minimum of 4 characters). Trees may be hand drawn and should reflect your independent work – do not simply cut/paste a tree you find. (20pts)
3. Habitat and Community (20pts)
 - a. What Biome does your species live in?
 - b. Describe 1 abiotic factor and how your species is adapted to it.
 - c. Describe 1 biotic factor and how your species is adapted to it.
 - d. Create a Food Web with species from 5 different trophic levels (including yours).
4. Distribution, Abundance and Population Structure/Status (30pts)
 - a. Include a map. Note: some species’ distributions are better understood than others, it’s ok if you can only provide a partial distribution.
 - b. Population status (increasing/decreasing/unknown).
 - c. Create a graph of population growth. Be sure to label your axes and provide information on the population shown– if data only exists for one area/subpopulation that is ok. You should create a graph from data you found – do not simply cut/paste a graph you find.
 - d. Does your species disperse or migrate? Describe briefly.

- e. What type of population structure exists?
 - f. Life history strategy – does your species mature slowly or quickly? How many offspring does it produce?
5. Conservation (20pts)
- a. What habitat does your species need/live in? Is the habitat intact?
 - b. What is one threat to this species' survival?
 - c. Propose one way to mitigate this threat.
6. Reference Section (10pts)
- a. Cite according to CSE format (Lab Manual – Intro page 8 or see below).
 - b. Include at least 5 references.
 - c. Include at least 1 peer-reviewed (primary literature) source.

Helpful Hints

- Phylogenetic tree – you may be able to use the Tree Builder software we used in Lab 3; if your species is not in that program you may use other resources, including taxonomy to create a tree. Trees may be drawn by hand and a photo included in your final assignment.
- Refer to Lab 5 for examples of what trophic levels you can include in your food web
- There are many websites that might be a good place to start your research:
 - <https://www.iucnredlist.org/>
 - <https://www.fws.gov/endangered/>
 - <http://tolweb.org/tree/>

Reference Section Formatting

1) Website

In-text citation: (Website Author/Agency, 2015)

Bibliography: Website Author/Agency, Website Title, URL address, Date you accessed the website.

2) Book

In-text citation: (Author(s), Year)

- for 2 authors, you use this format: (Author 1 & Author 2, Year)
- for 3+ authors, you use this format: (Author 1 et al., Year)
- Bibliography: Author1, Author 2, Author3, etc. YEAR. *Book Title*. Pages.

3) Journal

In-text citation: (Author(s), Year)

- for 2 authors, you use this format: (Author 1 & Author 2, Year)
- for 3+ authors, you use this format: (Author 1 et al., Year)
- Bibliography: Author1, Author 2, Author3, etc. YEAR. Article Title. Journal Name (volume): pages.