Population Assignment Grading Rubric **BMSC MPED 2020**

Written assignment (60 points)

Component	Breakdown
Long-term population history /10	• shows evidence of careful research by including information from a diversity of sources (properly cited) on species' biology, long-term population trend, and threats (6) • presents information simply and effectively and contains no errors in reporting information and trends. (2) • clearly describe sources of uncertainty associated with each piece of evidence about the population (2)
Recent population History /10	• shows recent trend in population size based on careful research of available quantitative evidence; sources of information are clear & cited (2) • trend is presented simply and effectively in a near-publication-quality figure, caption, and accompanying text (2) • Figure includes a legend and caption that allows the reader to understand the figure without reading the accompanying text (2) • Figure includes visual measure of uncertainty associated with each piece of evidence on graph (e.g. 95% CIs if available, or descriptions of possible sources of error in censuses) (2)
Matrix Model /14	• Includes a succinct one paragraph description of model, with appropriate citations for data and model structure (2) • life-cycle diagram is clear and contains all appropriate transitions (2) • transition matrix contains appropriately transcribed probabilities from life cycle diagram (2) • contains a simple table showing the stable age distribution as proportions (2) • Lambda and elasticity values for the population ages/stage are reported and interpreted clearly and accurately (2) • Includes a copy of a working model that correctly incorporates transition probabilities and results in stable age distribution shown in preceding table: can be an attached Excel sheet showing model runs; if using R, it should include a well-annotated copy of the script necessary to perform your analysis that includes any parameter values and starting population vector as part of the script). (4)
Model Analysis /10	• figure, caption, and accompanying text clearly presents the results of an analysis that asks and answers a question of your matrix model (5) • analysis is based on careful research linking key vital rates for the population to management/conservation challenge(s). (2) • interpretation of results is logical (what was done, what was found, and what it means in relation to the conservation question asked using the model) and contains a clear recommendation for action to manage/conserve the population, including next steps for research or monitoring (3)
References /4	• follows a consistent style throughout using any standard reference style (e.g. Ecology, APA, etc) (2) • all appropriate references cited in the text and presented without errors in formatting (2)
Clarity and Style /12	• does not exceed maximum word counts (2) • presents concise work free of typos and errors (3) • methods and results are easy to discern from text (2) • each paragraph has a topic sentence that summarizes the main point of the paragraph, followed by sentences that present and analyze the evidence supporting each main point (2) • the tone is appropriate for a formal scientific report (see COSEWIC species assessment and status reports for examples of appropriate tone) (2)

Presentation (30 mark)

- Introduction section provides a concise summary of your species' biology and ecology, and historic population trends, citing key literature where appropriate (4)
- Quantitative evidence for the current trend and status of the population is clearly presented in graphical form (3)
- The threats and drivers of change in your population are clearly presented, citing relevant literature where appropriate (3)
- The structure of your demographic model for the population, including life cycle diagram and estimates for the vital rates in your model, are simply and clearly presented and described (3)
- Figure elements (axes, data types, scales, legends) are clearly described for all visuals (3)
- Clearly describe the analysis you conducted with your population model linking vital rates for the population to management/conservation challenge(s). (3)
- Logical display and interpretation of model analysis results (what was done, what was found, and what it means in relation to the conservation question asked using the model) (3)
- Contains a clear recommendation for action to manage/conserve the population based on your analysis, including next steps for research or monitoring (2)
- Effective use of visuals (minimal text on graphs, images are clear and of sufficient resolution), including the use headers to guide the audience through sections of the presentation (3)
- Reference slide at the end contains all citations used in the presentation (1)
- Both of partners have asked at least one question of another group's project during the class presentation session (2)