

**Faculty of Science and Technology**  
**Department of Life and Environmental Sciences**

<b>Unit Title: Ecosystems</b>	
<b>Assessment Title: Conceptual modelling of ecosystem change</b>	
<b>Unit Level: 5</b>	<b>Assessment Number: 1 of 2</b>
<b>Credit Value of Unit: 20</b>	<b>Date Issued: 01/09/2021 Time: 9.30am</b>
<b>Marker(s): Duncan Golicher</b>	<b>Submission Due Date: DD MM YY Time: 12.30pm</b>
<b>Quality Assessor: Rick Stafford</b>	<b>Submission Location: Brightspace</b>
<b>Feedback method: Brightspace</b>	

**This is an individual assignment which carries 50% of the total unit mark**

### ASSESSMENT TASK

Most ecosystems in the UK have been greatly modified as a result of historical and ongoing anthropogenic influences. Interventions such as rewilding have been proposed as a means of restoring the integrity of such altered ecosystems. However, there are many sources of uncertainty regarding the degree to which natural ecosystem dynamics and functions can be restored. Your task is to use a conceptual model to develop scenarios that could result as a consequence of interventions that may alter and/or restore natural ecosystem functions.

You should choose **one** from the following three case studies.

1. The possible future reintroduction of wolves to the Scottish Highlands
2. The accidental introduction of Wild Boar to the Forest of Dean and Wiltshire
3. The reintroduction of beavers to Scotland and Devon

Your report will consist of five sections.

1. Introduction. Set out the background to the study citing key papers and reports that provide contextual information regarding the ecosystem of interest and the species involved.
2. Model design. Draw a graphical model of the ecosystem showing the linkages between key components of the trophic web and elements of the abiotic environment. You will be given information on such models in taught sessions. Provide some quantitative estimates of key population parameters for the introduced species. You should pay particular attention on finding a credible upper and lower limit for the carrying capacity.
3. Model analysis. Discuss some of the most important interactions between elements of the system. Identify any important positive or negative feedback loops. Identify any important ecosystem services that may be affected by the change.
4. Scenario building. Use your analysis to suggest potential scenarios of change. Include best case and worst case scenarios. Discuss whether the carrying capacity might be reached or exceeded and how undesirable outcomes may occur.
5. Management options. Discuss how ongoing management may be used in order to increase the likelihood of positive consequences and/or mitigate any negative outcomes.

### SUBMISSION FORMAT

Your assignment should be submitted under the **Assignment Submission** area of the unit on Brightspace as a pdf or other suitable format.

## MARKING CRITERIA

Work will be assessed in line with the generic marking criteria in the student handbook. Key areas assessed will be:

- Detailed research on the ecosystem in question. You should cite *at least* five peer reviewed scientific papers in the introduction in addition to any reputable online sources and management reports. (20%)
- Identification of the most important ecosystem components. A well designed and well-presented ecosystem diagram should include the most relevant elements while excluding unnecessary and irrelevant details. (20%)
- Thoughtful analysis of ecosystem function, ecosystem dynamics and ecosystem services (20%)
- Clarity and relevance of the change scenarios (20%)
- Practicality and effectiveness of the proposed management options (20%)

## LEARNING OUTCOMES

The following Learning Outcomes from the unit will be assessed in this assignment:

1. Demonstrate a good understanding of the species composition, function and value of a range of ecosystems
2. Apply your knowledge of ecological principles and processes in the context of the conservation management of a range of terrestrial and aquatic systems
4. Demonstrate good awareness of the range of interactions between humans and ecosystems and how this knowledge may be applied in ecosystems conservation management
5. Evaluate the key factors that need to be considered by an effective conservation manager of a named ecosystem and be able to propose key management responses

## QUESTIONS ABOUT THE BRIEF

Questions should be sent to the Unit Leader via email. Please send your questions as soon as possible (do not leave them until the deadline approaches) as due to annual leave, and other commitments, response times may be slow. Please remember staff can take up to three working days to respond.

### Signature Marker

Duncan Golicher

## HELP AND SUPPORT

- If a piece of coursework is not submitted by the required deadline, the following will apply:
  1. If coursework is submitted within 72 hours after the deadline, the maximum mark that can be awarded is 40% (or for L7, 50%). If the assessment achieves a pass mark and subject to the overall performance of the unit and the student's profile for the level, it will be accepted by the Assessment Board as the reassessment piece. The unit will count towards the reassessment allowance for the level; This ruling will apply to written coursework and artefacts only; This ruling will apply to the first attempt only (including any subsequent attempt taken as a first attempt due to exceptional circumstances).

2. If a first attempt coursework is submitted more than 72 hours after the deadline, a mark of zero (0%) will be awarded.
3. Failure to submit/complete any other types of coursework (which includes resubmission coursework without exceptional circumstances) by the required deadline will result in a mark of zero (0%) being awarded.

The Standard Assessment Regulations can be found on **Brightspace**.

- If you have any valid **exceptional circumstances** which mean that you cannot meet an assignment submission deadline and you wish to request an extension, you will need to complete and submit the Exceptional Circumstances Form for consideration to your Programme Support Officer (based in C114) together with appropriate supporting evidence (e.g, GP note) normally **before the coursework deadline**. Further details on the procedure and the exceptional circumstances form can be found on **Brightspace**. Please make sure that you read these documents carefully before submitting anything for consideration. For further guidance on exceptional circumstances please see your Programme Leader. Further details may be found <https://www.bournemouth.ac.uk/students/help-advice/looking-support/exceptional-circumstances>
- It is the students responsibility to upload their work to Brightspace (where appropriate) with sufficient time before the deadline. If you are experiencing IT issues, please contact IT: <https://www.bournemouth.ac.uk/news/2019-03-04/contacting-it-service-desk> or 01202 965515
- You must acknowledge your source every time you refer to others' work, using the **BU Harvard Referencing** system (Author Date Method) (or APA style for Foundation Year Psychology students). Failure to do so amounts to plagiarism which is against University regulations. Please refer to <http://libguides.bournemouth.ac.uk/bu-referencing-harvard-style> for the University's guide to citation in the Harvard style. Also be aware of Self-plagiarism, this primarily occurs when a student submits a piece of work to fulfill the assessment requirement for a particular unit and all or part of the content has been previously submitted by that student for formal assessment on the same/a different unit. Further information on academic offences can be found on **Brightspace** and from <https://www1.bournemouth.ac.uk/discover/library/using-library/how-guides/how-avoid-academic-offences>
- Students with **Additional Learning Needs** may contact Learning Support on [www.bournemouth.ac.uk/als](http://www.bournemouth.ac.uk/als)
- For those in Foundation Year, L4, L5 and L6, you should not be conducting any primary research (i.e. carrying out an investigation to acquire data first-hand, for example, where it involves approaching participants to ask questions or to participate in surveys, questionnaires, interviews, observations, focus groups, etc.) unless otherwise specified in the brief. However, if there is a genuine requirement to collect primary research data you will require ethical approval before doing so. In the first instance, please discuss with the Unit Leader. The collection of primary data without appropriate ethical approval is a serious breach of Bournemouth University's Research Ethics Code of Practice and will be treated as Research Misconduct.

**Disclaimer:** The information provided in this assignment brief is correct at time of publication. In the unlikely event that any changes are deemed necessary, they will be communicated clearly via e-mail and Brightspace and a new version of this assignment brief will be circulated.