

Module code: MOD011358	Version: 1 Date Amended: 11/Apr/2025
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1. Module Title
Practical Ecology and Conservation

2a. Module Leader
Steven Allain

2b. School
Writtle School of Agriculture, Animal and Environmental Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
7

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	MSc Animal Welfare and Conservation and MSc Conservation Education and Engagement		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module provides hands-on experience in ecological principles and conservation practices, with a strong emphasis on applying theory to real-world environmental challenges. You'll explore key topics such as ecosystem dynamics, biodiversity assessments, habitat management, environmental legislation and biodiversity net gain.

Through fieldwork on our Writtle campus and engagement with real-world case studies, you'll develop practical skills in ecological data collection, species monitoring and the creation of conservation management plans. By the end of this module, you'll have gained a deeper understanding of ecological relationships and the vital role of conservation in sustaining biodiversity in the face of global environmental change.

6b. Outline Content

The following topics will be delivered as appropriate:

Fieldwork Sampling Techniques in Ecology

Advanced Practices in Field Ecology including ecological field sampling techniques (transect and quadrat sampling, pitfall traps, camera traps) etc, how they can be utilised within a temperate ecosystem and which species they are most appropriate for. Species identification methods for plants, invertebrates, birds, mammals, and reptiles. This will also include the field signs for them, as you can infer presence without having seen the organisms (e.g. through their droppings or burrows).

Biodiversity Assessment and Species Monitoring Techniques

This includes the theory for monitoring population dynamics and species diversity including the methods for assessing species abundance, distribution, and population health. Practical session on monitoring techniques within the field, using case studies in endangered species management.

Habitat Restoration and Management

The theories applied to habitat restoration (succession, resilience, disturbance) and the techniques utilised in habitat restoration: reforestation, wetland creation, soil remediation – including critical evaluation of the different techniques with a focus on research. Students will also learn about landscape ecology and spatial analysis for conservation, providing an introduction to GIS for mapping and managing large-scale ecosystems. These lectures are designed to help the students with assignment element 010.

Data Collection and Analysis in Ecology

A focus on the appropriate methods for ecological data collection and how to undertake them in a manageable and effective way based on your research question or the request of a potential client (mark-recapture, point counts, habitat scoring). This will also act as an introduction to statistical analysis and ecological software (e.g., R, SPSS) including how to interpret your data and visualise it.

Human Impacts on Ecosystems and Conservation Policy

Analysis and discussion of human influences on ecosystems through processes such as urbanisation, agriculture, pollution, climate change. Review of national and international conservation policies, treaties, and frameworks (e.g., CBD, CITES) and how these can be applied to different ecological scenarios. This will also include the ethical considerations in conservation: biodiversity vs. human needs, indigenous rights, animal welfare. Socioeconomic challenges in implementing conservation: funding, local engagement, and political issues/changes.

6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

6d. Specialist Learning Resources

None

7. Learning Outcomes (threshold standards)

No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Understand the ecological principles underlying habitat management and species conservation.
2	Knowledge and Understanding	Critically evaluate conservation strategies and policies across different ecological contexts.
3	Intellectual, practical, affective and transferrable skills	Develop practical skills for ecological fieldwork, data collection, and biodiversity monitoring.
4	Intellectual, practical, affective and transferrable skills	Formulate and present conservation management plans based on scientific data, ethical considerations and relevant legislation.

8a. Module Occurrence to which this MDF Refers

Year	Occurrence	Period	Location	Mode of Delivery
2026/7	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence

Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	27	1,2	Lectures, seminars, workshops, tutorials.
Other teacher managed learning	9	3	Timetabled practical surveys across campus
Student managed learning	114	1-4	Self-directed learning and additional practical survey time
TOTAL:	150		

9. Assessment for the above Module Occurrence

The assessment for some modules includes a presentation (see below for details on how this particular module is assessed). We recognise that presenting, especially to a large group, can cause significant anxiety or distress for some students. If this may affect you, please contact your Module Leader or the Disability and Neurodiversity Service as early as possible. We will work with you to consider appropriate reasonable adjustments. Depending on your individual needs, these might include, for example, presenting to a smaller group or presenting only to a member of academic staff.

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1-4	60 (%)	Fine Grade	40 (%)

The purpose of this report (2500 words) is to evaluate the student's ability to conduct an ecological survey at professional standards suitable for a client on the Writtle Estate, analyse ecological data they have collected themselves as well as sourcing from alternative data source (such as the NBN Atlas or Essex Field Club), to produce a professional report in the context of ecological practice. This report will demonstrate their understanding of ecological principles, field techniques, appropriate legislation, biodiversity net gain and the application of findings to real-world ecological issues. The focus will be on a protected species or important habitat of the student's choice from a list of predetermined outcomes.

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Practical	1-4	40 (%)	Fine Grade	40 (%)

This assignment requires students to deliver an oral presentation related to the report they previously completed (Element 010), to their peers as if they were delivering it to their client. Students will develop their ability to communicate ecological concepts, research findings, and conservation strategies effectively to a diverse audience. The presentations should be used to demonstrate a clear understanding of the subject, critical analysis of the methods used and conclusions drawn, and the ability to engage your audience with such a project.

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above
- (b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]