

Liverpool John Moores University

Title: WILDLIFE AND ECOSYSTEM MANAGEMENT
Status: Definitive
Code: **5207NATSCI** (122067)
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences
Teaching School/Faculty: Biological and Environmental Sciences

Team	Leader
Lucia Galvez Bravo	Y
Lochran Traill	
Christopher Williams	
David Bourke	
Sheelagh Conlan	

Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 48
Total Learning Hours: 200 **Private Study:** 152

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	19
Off Site	21
Workshop	8

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Sci Report	Scientific Report	60	
Essay	Essay	Essay Questions	40	

Aims

a) To provide an advanced course in general ecology and wildlife population management.

- b) Illustrate the inter-linkages between flora and fauna populations and biogeochemical cycles on different spatial and temporal scales.
- c) Relate key wildlife population, ecology and ecosystem theories to the applied management of populations, habitats and ecosystems.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe complex interrelationships occurring within biological populations and ecological systems and explain how these might vary spatially and temporally.
- 2 Explain how biotic and abiotic interactions may influence ecosystem functioning.
- 3 Critically evaluate the value of understanding population, community, and ecosystem dynamics in the management of wildlife and ecosystems.
- 4 Adopt a practical analytical approach to the study of habitats managed and restored for nature conservation or ecosystem functioning.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Scientific Report	4		
Essay Questions	1	2	3

Outline Syllabus

Summary of relevant ecological, ecosystem, and wildlife population theories.

Large scale patterns: biogeography, historical and evolutionary contexts for plant and animal distributions, macroecology, classical island biogeography, colonization and extinction. Island endemism and its conservation management implications.

Smaller scale patterns: sources versus sink populations, metapopulations and their structure and dynamics. Conservation implications of metapopulations.

Applications of population ecology to wildlife management. For example, game management and/or fisheries management.

Species abundance, diversity, analysis of diversity. Niche concept, competition, displacement or co-existence and maintenance of diversity. Trophic interactions.

Conservation and management implications of these factors.

Role of species in ecosystem structure and function, maintenance and restoration of ecosystem function.

Vegetation change, community assembly and succession. the historical perspective and timescales. primary and secondary community assembly, climax versus nonclimax

communities. Community change during succession, implications for revegetation and implications for management.

Energy flow and cycling, biomass production, nutrient circulation, decomposition, biogeochemical cycles.

Global scale biotic and abiotic interactions, biogeochemical cycles and Gaia theory.

Learning Activities

This module will comprise a series of lectures, supported by workshops and interactive sessions. Students will be able to analyse data and examine the impact of management on conservation. There will also be workshops looking at linking together the theories covered with conservation case-studies and to revise the module material.

Notes

This module is an advanced course in general ecology and wildlife population management and seeks to draw linkages between populations and biogeochemical cycles. This is placed within the context of applied wildlife and ecosystem management by using a mix of case studies, workshops, and fieldtrips to a site managed and restored for wildlife or wider ecosystem functioning.