

Liverpool John Moores University

University Modular Framework

Module Code: XXX

Module Title: Restoration Ecology

School: NSP

Version No: Updated on: Authorisation: Validation Date: Date version starts: Archived Date: Dormant Date: FOR OFFICE USE ONLY
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Module Leader

Name: Dr JANE FISHER

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Level: 7

Credit Rating: 15

Indicative Time Allowances(hours):

Lec	Tut	Sem	Prt	Wrk	Fld	Other	Deliv. Tot	Exam	Private Study	Tot. Learning Hours
13	0	6	11	0	0	0	30	0	120	150

Semester Delivery: (Select one only)

Semester 1

Semester 2

Runs twice (S1 & S2)

Year Long

Summer

Other

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Pre-requisites: None

Recommended Prior Study: None

Co-requisites: None

Barred Combinations: None

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Aims:

- Study the role of ecosystems in sustainability with a focus on their role in biogeochemical cycling, as a sink for carbon and for providing other ecosystem functions.

- b) Investigate methods of restoration of habitats, including at landscape and global scales.
- c) Appreciate methods of setting restoration goals and assessing the success of restoration projects.
- d) Analyse the theoretical science and practical implications of species reintroductions, rewilding and invasive species control.
- e) Examine the value of policy, community involvement and public support, health and wellbeing, in habitat restoration and management.

### Learning Outcomes:

After completing the module the student should be able to:

- 1 Critically evaluate methods for restoring ecological functions and debate restoration goals at local, national and international scales and in natural, semi natural and peri-urban environments.
- 2 Undertake complex analyses of the theory, practical implications and complexities around restoring habitats with a focus on the effectiveness of rewilding projects, the reintroduction of species and removal of invasive species.
- 3 Evaluate real-world habitat and ecosystem scale restoration projects, taking into account conservation biology targets as well as social, political and economic implications to critically evaluate their success.

### Learning Activities:

This module will comprise a series of lectures, supported by interactive seminars and in-depth analysis of real-life potential restoration projects. Lectures will draw on a wide variety of theoretical and applied topics with a wide use of case studies throughout. Practicals based in local habitats for onsite learners and similarly directed field or desk based investigations for distance-learners.

### Outline Syllabus:

Ecosystem change over time and space, biodiversity and connectedness, stabilization wedges, land sparing v land sharing debate. The science behind rewilding, reintroduction and management of invasive species, phytoremediation and restoration of peri-urban spaces. The role of communities, impact of restoration on communities and economies, and the impact of national and international legislation.

### Indicative References:

Corlett, R.T., 2016. Restoration, reintroduction, and rewilding in a changing world. *Trends in ecology & evolution*, 31(6), pp.453-462.

Isbell, F., Craven, D., Connolly, J., Loreau, M., Schmid, B., Beierkuhnlein, C., Bezemer, T.M., Bonin, C., Bruelheide, H., De Luca, E. and Ebeling, A., 2015. Biodiversity

increases the resistance of ecosystem productivity to climate extremes. *Nature*, 526(7574), p.574.

Leitao, R.P., Zuanon, J., Villéger, S., Williams, S.E., Baraloto, C., Fortunel, C., Mendonça, F.P. and Mouillot, D., 2016. Rare species contribute disproportionately to the functional structure of species assemblages. *Proc. R. Soc. B*, 283(1828), p.20160084.

Miller, J.R. and Hobbs, R.J., 2007. Habitat restoration—Do we know what we're doing? *Restoration Ecology*, 15(3), pp.382-390.

POST (2016) Rewilding and Ecosystem Services, report  
<http://researchbriefings.files.parliament.uk/documents/POST-PN-0537/POST-PN-0537.pdf>

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Assessment Details:

- 1 Coursework: 60% Coursework: Management report (1800 words)
- 2 Coursework: 40% Coursework: Essay (1200 words)

Weighting between E and CW: 0% 100%

Relationship between learning outcomes and assessment tasks:

	1	2	3
Component 1	X	X	
Component 2			X

Minimum Pass Mark (%): 50

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Module Notes: