



Coláiste na Tríonóide, Baile Átha Cliath  
Trinity College Dublin

Ollscoil Átha Cliath | The University of Dublin

## TR060 – Biological and Biomedical Sciences

### Foundation Scholarship 2024/25

Contact: **Dr. Marcus Collier** ([colliema@tcd.ie](mailto:colliema@tcd.ie))

### Special General Paper (Paper 1)

#### Selected Theme:

#### **Rewilding: opportunities and concerns when restoring damaged or degraded ecosystems or species**

We are currently in the middle of the UN Decade on Restoration, but many people might say that they are unaware of what this means to them. In addition, The EU has recently passed a Nature Restoration Law which will compel countries to restore a percentage of their landscape back to nature by 2050. Again, many of those who own or manage land do not know what this will mean for them and their families. Restoring ecosystems is a complex task, and it is not without controversy. In recent years we have come to use the phrase ‘rewilding’ to mean many aspects of restoring nature – some focussing on reintroducing species that are locally extinct, others repairing damaged ecosystems at different scales, and still others seeing rewilding as removing human presence altogether. As Monbiot says: “rewilding... so young a word, yet so many meanings”.

Most people will agree that we need to do something to halt and reverse biodiversity loss, but few will agree on what the best way to achieve this is. Thus rewilding has become an umbrella concept for restoring ecosystems, as well as reconnecting people with nature. Students studying this area may also be preparing themselves for careers in restoration, and so it is a great time to dive into the concept and critically assess what rewilding may mean in the future.

Students should review the material on the reading list below, and seeking examples of rewilding for themselves they should gain a comprehensive understanding of the complexities of restoring ecosystems, reintroducing species, and rehabilitating damaged landscapes. They should pay attention to the possible unintended negative impacts of rewilding especially on lives and livelihoods or to nearby ecosystems. Students should become familiar with case studies, restoration standards and practices, and setting targets for restoration, especially in the real-world application of the practice or ecological restoration.

#### **Suggested Reading:**

Araujo, M. B., Alagador, D., 2024, Expanding European protected areas through rewilding, *Curr Biol.* <https://doi.org/10.1016/j.cub.2024.07.045>

C. Josh Donlan, Joel Berger, Carl E. Bock, Jane H. Bock, David A. Burney, James A. Estes, Dave Foreman, Paul S. Martin, Gary W. Roemer, Felisa A. Smith, Michael E. Soule, Greene, H. W., 2006,

Pleistocene Rewilding: An Optimistic Agenda for Twenty-First Century Conservation, *The American Naturalist* **168**(5):660-681. <https://www.jstor.org/stable/10.1086/508027>

Ceaușu, S., Hofmann, M., Navarro, L. M., Carver, S., Verburg, P. H., Pereira, H. M., 2015, Mapping opportunities and challenges for rewilding in Europe, *Conservation Biology*: <https://doi.org/10.1111/cobi.12533>

Cerqueira, Y., Navarro, L. M., Maes, J., Marta-Pedroso, C., Pradinho Honrado, J., Pereira, H. M., 2015, Ecosystem Services: The Opportunities of Rewilding in Europe, in: *Rewilding European Landscapes* (H. M. Pereira, L. M. Navarro, eds.), pp. 47-64. [https://link.springer.com/chapter/10.1007/978-3-319-12039-3\\_3](https://link.springer.com/chapter/10.1007/978-3-319-12039-3_3)

GLA (Greater London Authority), 2023, Rewilding London: Final Report of the London Rewilding Taskforce, Mayor of London, London, pp. 90. <https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/parks-green-spaces-and-biodiversity/london-rewilding-taskforce>

Jørgensen, D., 2015, Rethinking rewilding, *Geoforum* **65**:482-488. <https://doi.org/10.1016/j.geoforum.2014.11.016>

Klop-Toker, K., Clulow, S., Shuttleworth, C., Hayward, M. W., 2020, Are novel ecosystems the only novelty of rewilding?, *Restoration Ecology* **28**:1318–1320. <https://doi.org/10.1111/rec.13241>

Law, A., Gaywood, M. J., Jones, K. C., Ramsay, P., Willby, N. J., 2017, Using ecosystem engineers as tools in habitat restoration and rewilding: beaver and wetlands, *Sci Total Environ* **605-606**:1021-1030. <https://doi.org/10.1016/j.scitotenv.2017.06.173>

Lorimer, J., Sandom, C., Jepson, P., Doughty, C., Barua, M., Kirby, K. J., 2015, Rewilding: Science, Practice, and Politics, **40**(1):39-62. <https://doi.org/10.1146/annurev-environ-102014-021406>

Lyons, P. C., Okuda, K., Hamilton, M. T., Hinton, T. G., Beasley, J. C., 2020, Rewilding of Fukushima's human evacuation zone, *Frontiers in Ecology and the Environment* **18**(3):127-134. <https://doi.org/10.1002/fee.2149>

Monbiot, G., 2013, *Feral: searching for enchantment on the frontiers of rewilding*, Penguin, UK.

Mutillod, C., Buisson, E., Mahy, G., Jaunatre, R., Bullock, J. M., Tatin, L., Dutoit, T., 2024, Ecological restoration and rewilding: two approaches with complementary goals?, *Biol Rev Camb Philos Soc*. <https://doi.org/10.1111/brv.13046>

Navarro, L. M., Pereira, H. M., 2012, Rewilding abandoned landscapes in Europe, *Ecosystems* **15**(6):900-912. <https://doi.org/10.1007/s10021-012-9558-7>

Nogues-Bravo, D., Simberloff, D., Rahbek, C., Sanders, N. J., 2016, Rewilding is the new Pandora's box in conservation, *Curr Biol* **26**(3):R87-91. <https://doi.org/10.1016/j.cub.2015.12.044>

Pereira, H. M., Navarro, L. M. (eds.), 2015, *Rewilding European Landscapes*, SpringerOpen. <https://link.springer.com/book/10.1007/978-3-319-12039-3>

Sandom, C. J., Dempsey, B., Bullock, D., Ely, A., Jepson, P., Jimenez-Wisler, S., Newton, A., Pettorelli, N., Senior, R. A., Brudvig, L., 2018, Rewilding in the English uplands: Policy and practice, *Journal of Applied Ecology* **56**(2):266-273. <https://doi.org/10.1111/1365-2664.13276>

Schepers, F., Jepson, P., 2016, Rewilding in a European context, *International Journal of Wilderness* **22**(2):25-30. <https://ijw.org/rewilding-in-a-european-context/>

Smit, C., Ruifrok, J. L., van Klink, R., Olf, H., 2015, Rewilding with large herbivores: the importance of grazing refuges for sapling establishment and wood-pasture formation, *Biological Conservation* **182**(0):134-142. <https://doi.org/http://dx.doi.org/10.1016/j.biocon.2014.11.047>

Svenning, J. C., Buitenwerf, R., Le Roux, E., 2024, Trophic rewilding as a restoration approach under emerging novel biosphere conditions, *Curr Biol* **34**(9):R435-R451. <https://doi.org/10.1016/j.cub.2024.02.044>

Wang, L., Pedersen, P. B. M., Svenning, J.-C., 2023, Rewilding abandoned farmland has greater sustainability benefits than afforestation, *npj Biodiversity* **2**(1). <https://doi.org/10.1038/s44185-022-00009-9>

Wolf, C., Ripple, W. J., 2018, Rewilding the world's large carnivores, *R Soc Open Sci* **5**(3):172235. <https://doi.org/10.1098/rsos.172235>

**Other sources:**

Rewilding Europe: <https://rewildingeurope.com>

Rewilding Britain: <https://www.rewildingbritain.org.uk/>

Yellowstone wolf reintroduction: <https://www.yellowstonepark.com/things-to-do/wildlife/wolf-reintroduction-changes-ecosystem/>

UN Decade on Restoration: <https://www.decadeonrestoration.org/>