

Cullen Scholarship: Biodiversity conservation and restoration in the Wild Nephin Ballycroy National Park (PhD Award)

Background

In 2013, Coillte and the National Parks and Wildlife Service (NPWS) started the process of converting 11,000 hectares in the Nephin Beg mountain range into the Wild Nephin wilderness area. The plan includes taking 4,000 hectares of state owned forestry (lodgepole pine and spruce) out of commercial operation, and rewilding the plantation into a large-scale mosaic of mixed woods, bogland and aquatic habitats. In 2017, Coillte commenced the transfer of ownership of these forests to the National Park and Wildlife Service, enabling NPWS to expand the Wild Nephin Ballycroy (WNB) National Park south and east from its original footprint, and into the Burrishoole catchment. The National Park now encompasses ~15,600 hectares, and includes a conversion plan covering the period 2018-2033. The Marine Institute's research station on the southern end of the Burrishoole catchment has been a site for long-term ecological research since the 1950s. The data collected by the MI are primarily focussed on fish and aquatic ecosystems, particularly the native salmonids (salmon, trout, arctic char) and eel. The process of converting this expanse of north Mayo into one of the largest wilderness areas in Europe is complex and challenging, and requires evidence based research to inform and guide decision makers. The conversion also, however, represents a rare opportunity for ecologists to study how management decisions may impact the natural biodiversity and habitat connectivity in this unique landscape.

This project will further build research and advisory capacity on the ecosystems in Burrishoole, and anthropogenic impacts associated with land use, introduction (and removal) of invasive species, and climate change.

Proposal

We propose a structured four-year PhD project on a full-time basis to work in partnership with the MI and NPWS in areas including (but not restricted to):

- aquatic biodiversity (particularly native fish biology and distribution throughout the wilderness area)
- invasive species management (especially rhododendron control, mapping and impacts),
- habitat regeneration (particularly in riparian buffer zones),
- baseline biodiversity assessment, identification and prioritisation of biodiversity hotspots
- carbon sequestration and processing across the wilderness area.

These areas should be considered as indicative, and are not exclusive of any other suggestions. We seek to engage the academic community in novel and forward-thinking strategies for the development of the Nephin wilderness, as we seek to maximise the benefits of this conversion for the natural capital of Ireland.

Outcome

A PhD thesis, comprising at least three chapters (preferably published in peer review journals) focussed on the conversion and rewilding of the Wild Nephin area.

This project will establish baselines and management strategies early in the rewilding process against which future changes can be assessed.

Links to MI Strategy

This proposal falls principally under Strategic Focus Area 3 - Research & Innovation, and links with Strategic Focus Area 2 – Forecasting Ocean & Climate Change, particularly in terms of ecosystem change.

Specific Requirements

The scholar should have a primary degree in a natural science, wildlife management or similar, and a background interest in ecology / conservation / fish biology.

The scholar will be based the Marine Institute Newport facility under the direction of the Marine Institute supervisor, in collaboration with National Parks and Wildlife Service staff.

Financial Details

Scholarships will be up to €25,000 per annum (maximum funding of €100,000 over four years). This amount comprises a maintenance award of €16,000 (Irish Research Council rate) to the student as well as payment of fees to the host higher education institution (HEI). The maximum fees payable to the HEI will be €6,000 per annum. The scholarship award also includes a budget of up to €3,000 per annum for eligible research costs (travel & subsistence, publication costs, consumables and other costs e.g. laptop) for the sole use of the student, and are payable on a reimbursement basis direct to the host institution where the postgraduate student (scholar) is registered. There are no overheads payable on the scholarship. Publication costs are intended to cover publications on which the scholar is listed as first author and are published under Open Access.

Marine Institute Co-Supervisor(s)

Dr. Elvira de Eyto, Fisheries and Ecosystem Advisory Services (elvira.deeyto@marine.ie)