



CURRICULUM VITAE

JAMES MARTIN

B.Sc. (Hons.), M.Sc., Ph.D., MCIEEM

EDUCATION

- 1994 – 1998 Trinity College Dublin
Ph.D. Thesis title: “A species-based approach to the conservation of Ireland's threatened vascular plant species, using complementary *in situ* and *ex situ* methodologies”
- 1993 – 1994 University of Birmingham
M.Sc. (Distinction). Course title “The Conservation and Utilisation of Plant Genetic Resources”
- 1990 – 1993 University of Birmingham
B.Sc. (Hons) in Biological Sciences (2:1 Degree)

CAREER HISTORY

Director of Ecology, BEC Consultants Ltd. (2003 – present)

I have over 25 years' experience as an ecologist and have been Managing Director of BEC Consultants since 2003. During my time with BEC Consultants I have led a number of large-scale national ecological projects. I have also completed projects within a number of ecological disciplines including habitat mapping using GIS, habitat monitoring and botanical surveys recording data using Turboveg, restoration ecology, mapping of ecosystem services, Appropriate Assessment (AA), Environmental Impact Statement (EIS), Ecological Impact Assessment (EclA), and Alien Invasive Species (AIS) surveys and management plans. A selection of the projects are listed below:

- *National Fen Survey: (2021-2025)*: Senior Ecologist. This five-year NPWS project is a national survey that utilises the survey and assessment methodology developed for fen habitats during the pilot survey. I am involved in undertaking the field surveys and the project reporting, including the national conservation assessments for the three Annex I fen habitats.
- *National Parks and Wildlife Service (NPWS) Farm Plan Schemes (2020-25)*: Project partner/Senior Ecologist. I am involved in 11 farm plan schemes, nine farms are within the northwest and two overlap with the River Moy Special Area of Conservation (SAC). The first year of the project involved meeting each of the farmers, undertaking a habitat survey of their farms, and in consultation with the farmers drafting a farm plan. The next four years of the scheme involve annual site visits and calculating the results-based payments due to each farmer.
- *The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats (2021-24)*: Project Manager/Senior Ecologist. I am the lead ecologist for this NPWS funded project that collected botanical and habitat data at 116 grassland monitoring sites. Data were collected on three Annex I grassland habitats, Species-rich calcareous grassland (EU codes *6210 and 6210), *Molinia* meadows (EU code 6410), and Lowland hay meadows (EU code 6510). A national conservation assessment is currently being undertaken for each of the three Annex I grassland habitats as part of the project.
- *Coillte Bioforest25 (2023-25)*: Senior ecologist. This project aims to map and assess additional areas within the Coillte estate that will be managed for biodiversity. I am one of a team of three

ecologists completing Biodiversity Area Assessment Forms for Coillte properties in the east of Ireland.

- *iHabiMAP: Habitat mapping, assessment and monitoring with high resolution imagery (2019-23)*: Project partner/Senior Ecologist. This was an EPA funded project to investigate habitat mapping in grassland, upland, and sand dune habitats using high resolution satellite data and data collected with unmanned aerial vehicles. During the project analytical approaches were developed to utilise machine learning so that these high resolution data could be used to produce accurate maps of the Fossitt and Annex I habitats across our five test sites.
- *Callows and floodplain grasslands: the collation and collection of habitat and management data (2020-21)*: Project Manager/Senior Ecologist. This NPWS funded project collected data on floodplain grasslands. The project used available data such as the OSI's PRIME2, the OPW's probability of river flood extents shapefiles, and the Irish Semi-natural Grasslands Survey dataset, to map all floodplain grasslands in Ireland using ArcGIS and to make an assessment of the conservation value of individual sites. Following on from this initial assessment 27 sites were surveyed in the field during 2021 and their habitats mapped. These 27 sites were then ranked using criteria (e.g. target Annex I habitat, hay meadows, area, rare floodplain species) developed during the project.
- *Pilot Fen Survey: (2019-2020)*: Senior Ecologist. This two-year NPWS pilot project was aimed at developing survey and assessment methodology for three Annex I fen habitats, using seven fens as test sites. I was involved in both the field surveys and the project reporting.
- *Rare Vascular Plant Survey (2019)*: Senior Ecologist. For this NPWS funded survey of 85 rare plant populations across Ireland, I undertook the field surveys and completed the associated reporting for 14 rare plant species across 30 sites.
- *National Conservation Assessments (NCAs) 2018*: Project Manager/Senior Ecologist. I was the lead ecologist responsible for compiling the NCAs for ten EU Annex I sand dune habitats. Tasks included the analysis of large-scale ecological and spatial datasets to produce an up-to-date distribution map for each of the habitats, assessing the condition of the habitats on a national scale, identifying the most significant pressures and threats, and calculating the national range and area of the habitats using GIS.
- *The Dún Laoghaire Rathdown (DLR) wildlife corridor plan (2018)*: Project Manager/Senior Ecologist. I was the lead ecologist for this desk based project undertaken for the DLR Biodiversity Officer. The project involved reviewing and validating the available biodiversity GIS datasets and then using these data to identify important wildlife areas and the corridors between them. In addition, Ecosystem Services Scores (ESS) were assigned to every habitat, allowing the ESS score for different areas to be calculated.
- *Appropriate Assessment and preparing Natura Impact Statements (2014-20)*: Project Manager/Senior Ecologist. I conducted over 20 Appropriate Assessments (AAs) throughout Ireland. All AAs have involved site visits which described the fauna and flora at the sites and reporting which followed the guidelines of the Department of the Environment, Heritage and Local Government.
- *Environmental Impact Statement (EIS) for the development of Blackcastle Demesne (2016-17)*: Project Manager/Senior Ecologist. This project involved preparing the flora and fauna chapter for the EIS. The ecological surveys included the survey and assessment of species and habitats that are Qualifying Interests for the River Boyne and River Blackwater SAC and SPA that are both adjacent to the development. The highly invasive species Japanese Knotweed (*Fallopia japonica*) and Himalayan Knotweed (*Persicaria wallichii*) were recorded at the site and I wrote a plan for the management of these Knotweed species.
- *Expert evaluator for research proposals submitted to the EU Horizon 2020 Programme (2017)*.

- *SAMFHIREs: Saltmarsh Function and Human Impacts Related to Ecological Status (2016-2019)*: Senior Ecologist. This EPA funded project is a three-year collaboration between BEC Consultants and the Department of Botany, Trinity College Dublin. Through field survey, collation of existing data, modelling and analysis, the project links anthropogenic pressures to changes in saltmarsh communities and investigates the ecosystem services and ecological functions of saltmarshes in Ireland. I was involved with the field surveys for this project, in particular the location and recording of paired plots that could be used to assess the impact of grazing pressure on saltmarsh communities.
- *Survey and assessment of vegetated shingle and associated habitats at 30 coastal sites in Ireland (2016)*: Project Manager/Senior Ecologist. This project involved monitoring 30 sites which contained the Annex I habitat Perennial vegetation of stony banks (EU code 1220), nine of the 30 sites were also surveyed for an additional seven sand dune habitats. Duties involved surveying all of the selected sites, data analysis and writing the individual site reports and the Irish Wildlife Manual.
- *Provision of site-specific conservation objectives for a suite of Annex I habitats within SACs (2015)*: Project Manager/Senior Ecologist. I was responsible for the preparation of site-specific conservation objectives (SSCOs) for a range of Annex I habitats, predominantly upland, in eight SACs. This involved the review of all data sources relating to the SACs, setting targets for habitat area and distribution, and preparing supporting documents for each SAC for the habitats for which SSCO were prepared.
- *National Survey of Upland Habitats (2014)*: Field Ecologist. Participated in the survey of the Slieve Mish and Caha Mountains. Duties included mapping polygons of upland habitats and recording the cover of all vegetation types, including wet heath, blanket bog and flush communities that corresponded to EU Annex I habitats. Relevés were also recorded within different examples of each vegetation community.
- *Galway City Transport Project (2013-2014)*: Senior Ecologist. Conducted mapping and assessment in the field of a range of vegetation communities including limestone pavement, heath, scrub, woodland, fen, swamp, blanket bog, transition mire, wet grassland and calcareous grassland. Analysed all data to confirm the classification of each relevé and polygon to a Fossitt habitat and vegetation community, all relevés were also assessed for Annex I status and where relevant were classified as such.
- *KNEU: Knowledge network for European expertise on biodiversity and ecosystem services (2010-2014)*: Project Partner. BEC Consultants were a partner in this European scale FP7 project. I wrote a review of multifunctional floodplain management in Ireland that contributed to one of the final project publications (see reference list below).
- *Irish Semi-natural Grasslands Survey (2007-2013)*: Project Manager/Senior Ecologist. I was one of the senior field ecologists that collected the botanical and habitat data for this NPWS funded project. I led the team that analysed the data and co-wrote the annual/regional project reports and I am co-author on the national report that summarised the data collected from the 1,192 semi-natural grassland sites. I reviewed the assessment criteria for the Annex I grassland habitats and refined the methodology, criteria and indicator species. I presented the results from the project at the 2012 European Vegetation Scientist's conference.
- *National Survey of Native Woodland (2003-2008)*: Project Manager/Senior Ecologist. The project involved field ecology, GIS, soil analysis and statistical data analysis. I was a member of the team of ecologists that collected the field data on vascular plants, bryophytes and lichens along with important structural and regeneration data for the 1,320 woodland sites that were surveyed. As part of an extension of the project I helped devise the monitoring criteria and protocols for the four Annex I woodland habitats found in Ireland.

Ecologist, Dúchas

(May 2002 – Dec 2002)

I was part of a team compiling Natura 2000 forms and preparing technical information for the designation of raised bog NHAs.

National Agricultural Research Institute, Guyana (2000 – 2002)

Instigating research projects that would contribute to biological research and development in Guyana.

Post-doctoral Researcher, Teagasc, Kinsealy Research Station (1999 – 2000)

This position involved investigating the use of molecular markers to map oak diversity in Ireland.

SKILLS & ADDITIONAL INFORMATION

Technical skills

- Highly experienced in field survey techniques and botanical identification, particularly producing Fossitt (2000) habitat maps, vegetation community mapping and the mapping and assessment of EU Annex I habitats. Excellent data analysis and report-writing skills.

Computer skills

- High level of computer proficiency including ArcGIS, QGIS, Microsoft Word, Excel, Access, Power Point and the R statistical package.

Membership of Professional Organisations

- A member of the Chartered Institute of Ecology and Environmental Management (CIEEM), the British Ecological Society and the Society for Ecological Restoration. I am also on the DAFM approved list of Native Woodland Scheme Ecologists.

Editorial Boards

- I am a member of the editorial board for two journals, *Vegetation Classification and Survey* (formerly *Phytocoenologia*) and *Palaearctic Grasslands*.

SELECTED PUBLICATIONS & REPORTS

Martin, J.R., O'Neill, F.H., Daly, O.H. and Woods, K.M.S (in press) The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats 2021-2023. *Irish Wildlife Manuals*, No. 1xx. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

Cruz, C., O'Connell, J., McGuinness, K., **Martin, J.R.**, Perrin, P.M. & Connolly, J. (2023) Assessing the effectiveness of UAV data for accurate coastal dune habitat mapping, *European Journal of Remote Sensing*, 56:1.

Martin, J.R., O'Neill, F.H. & Daly, O.H. (2023). Floodplain and Callows Grasslands in Ireland. *Irish Wildlife Manuals*, No. 144. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

O'Neill, F.H., Perrin, P.M., Denyer, J., **Martin, J.R.**, Brophy, J.T. & Daly, O.H. (2023). Scoping study and pilot survey of fens. *Irish Wildlife Manuals*, No. 143. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

Martin, J.R., O'Neill, F.H. and Daly, O.H. (2018) The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats. *Irish Wildlife Manuals*, No. 102. National Parks and Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Ireland.

Martin, J.R., Daly, O.H. and Devaney F.M. (2017) Survey and assessment of vegetated shingle and associated habitats at 30 coastal sites in Ireland. *Irish Wildlife Manuals*, No. 98. National Parks

and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Ireland.

Schindler, S., O'Neill, F.H., Biró, M., Damm, C., Gasso, V., Kanka, R., van der Sluis, T., Krug, A., Lauwaars, S.G., Sebesvari, Z., Pusch, M., Baranovsky, B., Ehlert, T., Neukirchen, B., **Martin, J.R.**, Euller, K., Mauerhofer, V. & Wrbka, T. (2016) Multifunctional floodplain management and biodiversity effects: a knowledge synthesis for six European countries. *Biodiversity and Conservation* 25, 1349-1382.

Martin, J.R., O'Neill, F.H. and P.M Perrin (2015) The relationship between biodiversity and soil organic matter in the context of ecosystem services in Irish grasslands. *Farmland Conservation with 2020 Vision*. 21-22 October 2015. Eds. Ó hUallacháin, D. and Finn, J. Teagasc, Wexford: 62-63.

O'Neill, F.H., **Martin, J.R.**, Devaney, F.M. and Perrin, P.M. (2013) The Irish semi-natural grasslands survey 2007-2012. *Irish Wildlife Manuals*, No. 78. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.

Perrin, P., **Martin, J.**, Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) *National Survey of Native Woodlands 2003-2008* (2 Volumes). Report for the National Parks and Wildlife Service, Ireland.

Martin, J.R., Waldren, S., O'Sullivan, A. & Curtis, T.G.F. (2001). The establishment of the threatened Irish Plant Seedbank. In *Biological Collections & Biodiversity*. Eds. B.S. Rushton, P. Hackney, & C.R. Tyrie, Linnean Society of London Special Publication No.3: 112-119.