



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

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

I have over 23 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. A selection of the projects are listed below:

- *iHabiMAP: Habitat mapping, assessment and monitoring with high resolution imagery (2019-2022)*: Project partner/Senior Ecologist. I am currently working on an EPA funded project to investigate habitat mapping in grassland, upland, and sand dune habitats using high resolution satellite data, such as Sentinel-2 and data collected with unmanned aerial vehicles. During the project analytical approaches will be developed to determine if these high resolution data and machine learning can be utilised to effectively map and monitor a range of semi-natural habitats.
- *The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats (2015-18)*: Project Manager/Senior Ecologist. I was the lead ecologist for this National Parks and Wildlife Service (NPWS) funded project that collected botanical and habitat data at 110 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 for each of the three Annex I grassland habitat was also undertaken as part of the project.
- *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.

- *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 SSCOs 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.

- *Appropriate Assessment and preparing Natura Impact Statements (2014-18)*: Project Manager/Senior Ecologist. Over the last five years I have conducted 19 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. Six of the AAs have assessed the impacts of upgrading waste water treatment plants on Natura 2000 sites. Two of the AAs have been taken to Stage 2 of the process and involved writing a Natura Impact Statement and proposing mitigation to reduce impacts on qualifying interests.
- *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.

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, 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 Irish Environmental Law Association.

Editorial Boards

- I am a member of the editorial board for two journals, Phytocoenologia and Palearctic Grasslands.

SELECTED PUBLICATIONS & REPORTS

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.

Martin, J.R. and O'Neill, F.H. (2011). High nature value meadows: results from a national grassland survey. In Teagasc Biodiversity Conference Proceedings. *Conserving Farmland Biodiversity: Lessons Learned and Future Prospects*. 25-26 May 2011. Eds. Ó hUallacháin, D. and Finn, J. Teagasc, Carlow: 28-29.

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.