



CURRICULUM VITAE

FIONNUALA H. O'NEILL

B.Sc. (Hons.), Dip. Comp. Sc., H. Dip. Appl. Sc., Ph.D., MCIEEM

EDUCATION

- 1997 – 2003 University College Cork
Ph.D. Thesis title: "Regeneration of native oak woodland following *Rhododendron ponticum* L. clearance from Glengarriff Woods Nature Reserve, Co. Cork, Ireland"
- 1996 – 1997 University College Cork
H. Dip. in Applied Science (1st class Honours)
- 1989 – 1990 University College Cork
Dip. in Computer Science (1st class Honours)
- 1985 – 1989 University College Cork
B.Sc. in Plant Science (2.1 Honours Degree)

CAREER HISTORY

Principal Ecologist/Director of Ecology, BEC Consultants

Dec 2016-present

Consultant/Senior Ecologist, BEC Consultants

Apr 2007-Dec 2016

Contract Ecologist, BEC Consultants

Apr-Sep 2005, May-Sep 2006

Since joining BEC Consultants I have worked extensively on a number of high-profile national habitat surveys. As a Director of Ecology with BEC I have responsibility for company development and for managing team members and I sit on senior management team meetings. I have managed a range of projects and am a highly experienced botanist and bryologist, having worked in a wide variety of Irish habitats. I also have excellent report-writing and editing skills. I design and populate project databases, and have responsibility for compiling metadata to an agreed standard for projects in which I am involved. I have devised and taught botany/ecology courses for diverse groups of people. A selection of projects I have worked on with BEC is listed below:

- *Juniper Monitoring Survey, 2017* – Project manager/Senior Ecologist. Annex I habitat 5130 Juniper formations were monitored in this survey, which revisited a subset of sites first surveyed in 2010. Assessment criteria were reviewed and revised where necessary before surveys commenced. During each site survey, changes to the habitat boundary were mapped, data for assessing the habitat were recorded, juniper populations were estimated and any impacts were noted.
- *LUCAS, 2016 & 2018* – External grassland expert/Senior Ecologist. The LUCAS survey is carried out every three years by EUROSTAT to determine the state and dynamics of changes in land use and cover in the European Union. I participate in this project as an external grassland consultant and attended the European grassland expert workshop to discuss and finalise data inputs and criteria required for the LUCAS grassland pilot, to be incorporated into the 2018 LUCAS survey, including lists of indicator species for the Atlantic biogeographic region, structural parameters for assessing the grassland, and recommended timing of the survey. In 2018 I will carry out grassland surveys using the criteria developed for the pilot in sites in Ireland and the UK.

- *SAMFHIREs 2016-2018* – Senior Ecologist. This 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 will link anthropogenic pressures to changes in saltmarsh communities and investigate the ecosystems services and ecological functions of saltmarshes in Ireland. By integrating the outputs of this research, it will refine the tool developed by the recent SMAATIE (Saltmarsh Angiosperm Assessment Tool for Ireland) project for the purposes of the Water Framework Directive. The tool, which assesses ecological status for part of the angiosperm Biological Quality Element in coastal and transitional waters, will be tested in the field and applied to a selection of water bodies.
- *Grassland Monitoring Survey, 2015-2018* – Senior Ecologist. This nationwide survey monitors up to 100 grassland sites, first surveyed during the Irish Semi-natural Grasslands Survey (see below), which contain the Annex I habitats 6210 Calcareous grassland, 6410 *Molinia* meadows and 6510 Lowland hay meadows. I have been involved with field surveys and site assessments.
- *Monitoring of Rare Plants, 2015-2018* – Project manager/Senior Ecologist. The target species of this ongoing project require specialist surveys to be carried out to assess the state of their populations and the condition of, and threats to, their habitats. The results of the project will feed directly into international reporting required under Article 17 of the EU Habitats Directive. A range of habitats are being surveyed, ranging from coastal to upland.
- *Survey of Potential Turlough Sites, 2015* – Project manager/Senior Ecologist. Turloughs are a distinctive feature of the landscape of the west of Ireland. This project involved visiting 180 potential turloughs and assessing whether or not they were turloughs based on the presence (or absence) of characteristic features and vegetation.
- *Irish Semi-natural Grasslands Survey (ISGS), 2008-2013* – Lead Ecologist. During this major nationwide survey completed on behalf of the National Parks & Wildlife Service (NPWS), I comprehensively surveyed more than 250 grassland sites over five years. I undertook pre-survey site selection, which involved aerial photograph interpretation and consultation with landowners, NPWS conservation staff and local authority staff. Site surveys entailed landowner liaison, as well as recording vascular plant and bryophyte species, mapping habitats (Annex I and non-Annex), recording relevés and details of ongoing management / impacts on the habitats. I helped to devise the assessment criteria and indicator species lists used to assess the condition of the Annex I habitats, and carried out these condition assessments in the field. I trained new field staff on the field methodology and grassland plant species as necessary. I also redesigned the MS Access database for the project and managed its data population. I was lead author of the final project report, which is available online as an Irish Wildlife Manual (see publications section below).
- *Great Island Channel SAC survey, 2014* – Senior Ecologist. This project required the survey and assessment of Annex I habitats in the Great Island Channel SAC, Cork. I undertook the field survey and mapping of the saltmarsh habitats, and was lead author on the final report.
- *Galway City Transport Project, 2014* – Senior Ecologist. This second phase of the Galway City Outer Bypass project involved a number of tasks. These included the identification of potential petrifying springs in the study area using GIS and aerial photograph interpretation, followed by the survey, mapping and description of the petrifying spring habitats found; the detailed description and assessment of Annex I and non-Annex habitats within the study area, which covered 4 km²; and the recording of almost 300 relevés in a range of habitats such as limestone pavement, transition mire, fen, *Cladium* swamps, wet and dry woodland, and calcareous grassland. I also contributed significantly to the considerable GIS component of this project, in which over 1600 polygons were individually digitised and characterised to vegetation community.
- *Galway City Outer Bypass, 2013* – Senior Ecologist. During this scoping project for a proposed road development, I recorded relevés and mapped and assessed the Annex I habitats *8240 Limestone pavement and 6210 Calcareous grassland.

- *Waterford Habitat Corridors Map, 2013* – Project Manager/Senior Ecologist. This project was aimed at assessing the occurrence and connectivity of mammal habitat in Co Waterford. My main duties were tendering for the project, liaising with the client, compiling existing mammal records and habitat data, conducting fieldwork and writing the final report.
- *National Conservation Assessments (NCAs), 2013* – Senior Ecologist. I was responsible for compiling reports for two EU Annex I woodland habitats: *91A0 Sessile oak woods* and *91E0 Alluvial forests*. I also assisted in the compilation of NCA reports for four Annex I grassland habitats. My work involved the analysis of large-scale ecological datasets to compile 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 impacts, and calculating the national range and area of the habitats using GIS.
- *Ecological Survey of the Royal Canal, 2013* – Field Ecologist. This project entailed an ecological survey of the Royal Canal between Talbot Bridge, Dublin and Maynooth train station, Kildare. I was primarily involved with the collection of vascular plant and bryophyte data and with the field survey and digital mapping of all habitats within a section of the survey area.
- *Woodland Monitoring Survey (WMS), 2011-2012* – Project Manager/Lead Ecologist. I had overall responsibility for this two-year project for National Parks & Wildlife Service (NPWS), which involved monitoring over 100 sites with the Annex I habitats *91E0 Alluvial forests* and *91A0 Sessile oak woods*. I proposed amendments to the assessment criteria for both habitats, which were later adopted, and I co-wrote the methodology for the survey. In addition, I organised field teams, conducted a significant number of the field surveys, conducted data analysis for the assessments and was lead author on the final report.
- *National Survey of Native Woodlands (NSNW), 2005-2008* – Field Ecologist/Team Leader. I was a key contributor to this major nationwide ecological survey for NPWS, undertaking a large number of woodland surveys over several years. I was also responsible for bryophyte identification, data analysis and MS Access database management, and was a co-author on the final report.
- *Digitisation of the National Survey of Native Woodland sites, 2010* – Project Leader. I had overall responsibility for this project for NPWS which involved the review and digitisation of site/habitat maps and relevés from the NSNW using ArcGIS.
- *Ballyseedy Wood Management Plan, 2008* – Project Manager/Lead Ecologist. This project for Kerry County Council required the writing of a management plan for a cSAC near Tralee that contained substantial areas of the Annex I habitat *91E0 Alluvial forests*. My work involved a detailed survey of the site, meetings with the local committee, formulating management recommendations and writing the management plan.
- *Botany Courses, ongoing since 2007* – Training provider. I have devised and run a number of courses on botany and plant chemistry for private groups and members of the public. I also deliver plant identification courses (grasses, sedges and rushes) for the Chartered Institute of Ecology and Environmental Management (CIEEM), the professional body of which I am a member.

Ecologist, WS Atkins

Jan-Mar 2006, Oct 2006-Mar 2007

My work here included habitat survey, mapping, site evaluation, impact assessment and recommendation of mitigation measures, report-writing and preparation of habitat/botanical sections of Environmental Impact Statements, route selection reports and constraints studies. The projects I worked on include:

- Amenity Area at Cardiffsbridge Park/Tolka River
- Saggart-Rathcoole-Newcastle Drainage Scheme
- Youghal Housing Development
- R132 Malahide Road Upgrade/By-pass

- Mountmellick By-pass
- Watergrasshill By-pass
- Bottlehill Landfill Site

Course Co-ordinator, University College Cork

Sep 2004-Jan 2005

I co-ordinated distance-learning courses in Field Ecology (Diploma) and Biodiversity Components of Forestry (Certificate); other duties included project supervision and assessment.

Occasional/Part-time lecturer, various employers

Oct 1999-Apr 2007

I participated in teaching on university degree and diploma courses (primarily night programmes for mature students), including modules in biodiversity and conservation, factors affecting distribution of organisms, plant structure/evolution, and a varied range of habitats such as bogs, fens, turloughs and woodlands. I have conducted field trips, and assisted other lecturers with theirs, in a variety of habitats, including woodlands, sea shore and bogs. In addition I lectured on botany and plant chemistry and taught plant identification skills to student medical herbalists, many of whom were beginners to the field of botany.

Computer Instructor, Nyumba ya Sanaa, Dar es Salaam, Tanzania

Apr 1995-Jul 1996

This was a volunteer overseas posting under the auspices of Agency for Personal Services Overseas (APSO). I instructed staff (mostly beginners) in the use of computers and computer applications such as WordPerfect and Lotus 1-2-3, and facilitated the transfer of their manual accounts to computer.

Computer Programmer/Analyst, Kerry Group, Tralee

Aug 1990-Jan 1995

My duties included maintenance and support of existing in-house software (COBOL and SQL/Oracle database, Unix shell script programming, DOS/Unix-based operating systems), programming of new modules, network administration (1994-95), provision of technical support to staff on all aspects of IT, including word processing (WordPerfect) and spreadsheet (Lotus 1-2-3) packages.

SKILLS & ADDITIONAL INFORMATION

Communication and interpersonal skills

- Excellent report-writing skills.
- Public speaking experience through presentation of papers at national and international conferences.
- Teaching skills acquired in the course of lecturing both to mature students and to younger undergraduates. Most of my lectures are to those with little or no knowledge of botany or ecology, where it is particularly important to explain basic concepts and put information across in an understandable format.
- I work successfully as an individual and as a leader, and have trained a number of ecologists in woodland and grassland surveying and plant species identification.
- I work well within a team, having worked on major team-driven projects during my time as a computer programmer, and latterly in the course of my time with BEC Consultants.

Computer skills

- I am highly experienced and proficient in the use of MS Word, Excel, PowerPoint and Access, and ArcMap GIS software. I am also familiar with MapInfo and Quantum GIS.
- I have a high level of proficiency in database design and population, data analysis, accurate data entry and GIS mapping.
- My former work as a computer programmer/analyst has trained me in logical skills that can be carried forward to newer computer applications.

Driving

- Full, clean driving licence; own vehicle.

Species and habitat identification skills

- Excellent plant identification skills, including vascular and bryophyte species.
- Experience in identifying carabids (ground beetles) and butterflies to species; other invertebrate groups, including spiders and non-carabid beetles, identified to family.
- In-depth knowledge of a range of EU Habitats Directive Annex I habitats in Ireland, including grassland and woodland habitats.

Conference/Workshop presentations

- *The Vascular Plant Red List*. Presentation given at the Irish BSBI Members' Conference, Dublin, March 2017.
- *The Irish Semi-natural Grasslands Survey: What have we learned?* Presentation given at the Irish BSBI Members' Conference, Dublin, March 2014.
- *A proposed new classification system for Irish grassland communities*. Presentation given at ESAI's ENVIRON Conference, Dublin, February 2014.
- *Classification of Irish semi-natural grasslands*. Workshop given at the National Biodiversity Data Centre, Waterford, June 2013.
- *High nature value meadows: results from a national grassland survey*. Presentation given at the Teagasc Biodiversity Conference *Conserving Farmland Biodiversity: Lessons learned & future prospects*, Wexford, May 2011.
- *An assessment of the conservation value of Irish woodlands*. Presentation given at the British Ecological Society Conference, London, June 2008.
- *Collateral damage to native woody species arising from the control of Rhododendron ponticum*. Presentation given at the seventh Regional Biodiversity Conference and International Conference: *The Ecology and Management of Rhododendron ponticum - an invasive alien or a neglected native?*, Sheffield, June 2004.

CPD courses delivered

- *Vegetative Grass ID*: CIEEM training course delivered in May 2015.
- *Introduction to Grasses, Sedges & Rushes*: CIEEM training course delivered in July 2014.
- *Introduction to Botany*: Training course delivered in March 2013.

CPD courses attended

- Train the trainers (IEEM, 2013).
- Advanced bryophytes (FSC, 2012).
- *Sphagnum* species (Denyer Ecology, 2011).
- Sedge identification (IEEM, 2010).
- Vegetative grass identification (IEEM, 2008).

Membership of professional organisations

- Chartered Institute of Ecology and Environmental Management (CIEEM) (Full member). Membership requires adherence to a professional code of conduct and commitment to a programme of continuing professional development.
- Botanical Society of the British Isles (BSBI) (Ordinary member).
- British Bryological Society (Ordinary member).

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. XX. National Parks and Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Ireland.
- O'Neill, F.H.** (2017) Identifying grassland habitats of conservation interest in Ireland. *In Practice* **96**, 8-13.
- O'Neill, F.H.** and Martin, J.R. (2017) The Irish Juniper Monitoring Survey 2017. *Irish Wildlife Manuals*, No. XX. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, 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. and Wrbka, T. (2016) Multifunctional floodplain management and biodiversity effects: a knowledge synthesis for six European countries. *Biodiversity and Conservation* **25**, 1349-1382.
- O'Neill, F.H.** and Martin, J.R. (2015) Summary of findings from the Survey of Potential Turloughs 2015. Unpublished report for National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- O'Neill, F.H.** and Barron, S.J. (2014) Galway City Transport Project: Report on the presence of Annex I habitat *7220 Petrifying springs with tufa formation. Report for Scott Cawley.
- O'Neill, F.H.**, Brophy, J.T., Devaney, F.M., Nash, R. and Barron, S.J. (2014) Assessment of the Conservation Status of the Great Island Channel SAC (001058). Report for Cork County Council.
- Barron, S.J., **O'Neill, F.H.** and Martin, J.R. (2014) Galway City Transport Project – Habitat mapping and assessment of a section of Lough Corrib SAC and surrounding areas. Report for Scott Cawley.
- O'Neill, F.H.**, Martin, J.R., Devaney, F.M. and Perrin, P.M. (2013) *Irish Semi-natural Grasslands Survey 2007-2012*. *Irish Wildlife Manuals*, No. 78. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- O'Neill, F.H.** and Barron, S.J. (2013) Results of a monitoring survey of old sessile oak woods and alluvial forests. *Irish Wildlife Manuals*, No. 71. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- O'Neill, F.H.**, Barron, S.J., Smith, G.F. and Brophy, J.T. (2013) A preliminary habitat corridor map for Co. Waterford. Report for Waterford County Council.
- Martin, J.R. and **O'Neill, F.H.** (2011) High nature value meadows: results from a national grassland survey. In: (eds. D. Ó hUallacháin and J. Finn) Proceedings of the Biodiversity Conference *Conserving Farmland Biodiversity: Lessons learned and future prospects*, 25-26 May 2011, Wexford. pp. 28-29. Teagasc, Carlow.
- O'Neill, F.H.**, Martin, J.R., Devaney, F.M., McNutt, K.E., Perrin, P.M. and Delaney, A. (2010) *Irish Semi-natural Grasslands Survey Annual Report No. 3: Counties Donegal, Dublin, Kildare & Sligo*. Report for the National Parks and Wildlife Service.
- O'Neill, F.** (2009) *Calypstrochaeta apiculata* (Southern Hookeria): first Irish record confirmed in Co. Cork. *Field Bryology* **98**, 28-29.
- O'Neill, F.H.**, Martin, J.R., Perrin, P.M., Delaney, A., McNutt, K.E. and Devaney, F.M. (2009) *Irish Semi-natural Grasslands Survey Annual Report No. 2: Counties Cavan, Leitrim, Longford & Monaghan*. Report for the National Parks and Wildlife Service.
- O'Neill, F.H.**, Perrin, P.M. and Barron, S.J. (2008) *Ballyseedy Wood: A 50-year management plan*. Report for Kerry County Council.
- Perrin, P., Martin, J., Barron, S., **O'Neill, F.**, McNutt, K. and Delaney, A. (2008) *National Survey of Native Woodlands 2003-2008* (2 Volumes). Report for the National Parks and Wildlife Service.