

Supplementary File S1 – References for figures 10 to 17 and calibration range (2-sigma cal. BP) of the radiocarbon dates.

Figure 10 *Juniperus maximum*

S1 Llyn Gwernan : Lowe, J.J.; Lowe, S.; Fowler, A.J.; Hedges, R.E.M.; Austin, T.J.F. Comparison of accelerator and radiometric radiocarbon measurements obtained from Late Devensian Lateglacial lake sediments from Llyn Gwernan, North Wales, UK. *Boreas* **1988**, 17, 355–369. (11,266–11,958)

S2 Llyn Lydaw : Ince, J. Two postglacial pollen profiles from the uplands of Snowdonia, Gwynedd, North Wales. *New Phytol.* **1983**, 95, 159–172. (11,165–11,963)

S3 Nant Ffrancon : Hibbert, F.A.; Switsur, V.R. Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytol.* **1976**, 77, 793–807. (10,706–12,371)

S4 Cwm Cywion : Ince, J. Two postglacial pollen profiles from the uplands of Snowdonia, Gwynedd, North Wales. *New Phytol.* **1983**, 95, 159–172. (10,730–11,394)

S5 Llyn Cororion : Watkins, R.; Scourse, J.D.; Allen, J.R.M. The Holocene vegetation history of the Arfon Platform, North Wales, UK. *Boreas* **2007**, 36, 170–181. (10,784–11,226)

S6 Knowsley Park : Cowell, R.; Innes, J.B. *The Wetlands of Merseyside*. North West Wetlands Survey 1, Lancaster Imprints 2. English Heritage & Lancaster University: Lancaster, UK, 1994. (10,282–10,670)

S7 Haweswater : Jones, R.T.; Marshall, J.D.; Crowley, S.F.; Bedford, A.; Richardson, N.; Bloemendal, J.; Oldfield, F. A high resolution, multiproxy Late-glacial record of climate change and intrasystem responses in northwest England. *J. Quat. Sci.* **2002**, 17, 329–340. (11,221–12,529)

S8 Blelham Bog : Pennington, W. A chronostratigraphic comparison of Late-Weichselian and Late-Devensian subdivisions, illustrated by two radiocarbon-dated profiles from western Britain. *Boreas* **1975**, 4, 157–171. (11,822–12,684)

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S10 Red Sike Moss : Turner, J.; Hewetson, V.P.; Hibbert, F.A.; Lowry, K.H.; Chambers, C. The history of the vegetation and flora of Widdybank Fell and the Cow Green Reservoir Basin, Upper Teesdale. *Phil. Trans. R. Soc. B* **1973**, 265, 327–408. (10,762–12,045)

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S12 Scaleby Moss : Godwin, H.; Walker, D.; Willis, E.H. Radiocarbon dating and post-glacial vegetation history: Scaleby Moss. *Proc. R. Soc. Lond. B.* **1957**, 147, 352–366. (11,236–12,515)

S13 Bigholm Burn : Moar, N.T. Late Weichselian and Flandrian pollen diagrams from south-west Scotland. *New Phytol.* **1969**, 68, 433–467. (10,407–11,326)

- S14 Sluggan Bog : Smith, A.G.; Goddard, I.C. A 12 500 year record of vegetational history at Sluggan Bog, Co. Antrim, N. Ireland (incorporating a pollen zone scheme for the non-specialist). *New Phytol.* **1991**, 119, 167–187. (10,587–11,236)
- S15 Slieve Gallion : Pilcher, J.R. Pollen analysis and radiocarbon dating of a peat on Slieve Gallion, Co. Tyrone, N. Ireland. *New Phytol.* **1973**, 72, 681–689. (10,712–11,240)
- S16 Roddans Port : Morrison, M.E.S.; Stephens, N. A submerged late-Quaternary deposit at Roddans Port, on the north-east coast of Ireland. *Phil. Trans. R. Soc. B* **1965**, 249, 221–255. (11,242–12,384)
- S17 Preece, R.C.; Coxon, P; Robinson, J.E. New biostratigraphic evidence for the post-glacial colonisation of Ireland and for Mesolithic forest disturbance. *J. Biogeogr.* **1986**, 13, 487–509. (10,252–12,071)
- S18 Kelly's Lough : Leira, M.; Cole, E.E.; Mitchell, F.J.G. Peat erosion and atmospheric deposition impacts on an oligotrophic lake in eastern Ireland. *J. Paleolimnol.* **2007**, 38, 49–71. (10,774–11,161)
- S19 Glendalough : Mitchell, F.J.G.; Maldonado-Ruiz, J. Vegetation development in the Glendalough Valley, eastern Ireland over the last 15,000 years. *Biol. Env.: Proc. Roy. Irish Acad.* **2018**, 118B, 55–68. (11,110–11,383)

Figure 11 *Betula* rise

- S1 Llyn Lydaw : Ince, J. Two postglacial pollen profiles from the uplands of Snowdonia, Gwynedd, North Wales. *New Phytol.* **1983**, 95, 159–172. (11,130–11,974)
- S2 Nant Ffrancon : Hibbert, F.A.; Switsur, V.R. Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytol.* **1976**, 77, 793–807. (10,610–11,982)
- S3 Cwm Cywion : Ince, J. Two postglacial pollen profiles from the uplands of Snowdonia, Gwynedd, North Wales. *New Phytol.* **1983**, 95, 159–172. (10,730–11,394)
- S4 Crose Mere : Beales, P.W. The Late Devensian and Flandrian vegetational history of Crose Mere, Shropshire. *New Phytol.* **1980**, 85, 133–161. (11,347–12,595)
- S5 Red Moss : Hibbert, F.A.; Switsur, V.R.; West, R.G. Radiocarbon dating of Flandrian pollen zones at Red Moss, Lancashire. *Proc. R. Soc. Lond. B* **1971**, 177, 161–176. (10,788–11,606)
- S6 Windermere : Mackereth, F.J.H. Magnetic studies of freshwater sediments from northwest England and northern Ireland of the Earth's magnetic field as recorded in the sediments of lake Windermere. *Earth Plan. Sci. Lett.* **1971**, 12, 332–356. (10,734–12,646)
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- S8 Scaleby Moss : Godwin, H.; Walker, D.; Willis, E.H. Radiocarbon dating and post-glacial vegetation history: Scaleby Moss. *Proc. R. Soc. Lond. B.* **1957**, 147, 352–366. (10,305–11,708)
- S9 Din Moss : Hibbert, F.A.; Switsur, V.R. Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytol.* **1976**, 77, 793–807. (11,399–12,607)

- S10 The Dod : Innes, J.B.; Shennan, I. Palynology of archaeological and mire sediments from Dod, Borders Region, Scotland. *Archaeol. J.* **1991**, *148*, 1–45. (11,409–12,604)
- S11 Bigholm Burn : Moar, N.T. Late Weichselian and Flandrian pollen diagrams from south-west Scotland. *New Phytol.* **1969**, *68*, 433–467. (10,407–11,326)
- S12 Altnahinch : Smith, A.G.; Pilcher, J.R. Radiocarbon dates and vegetational history of the British Isles. *New Phytol.* **1973**, *72*, 903–914. (10,519–11,216)
- S13 Sluggan Bog : Smith, A.G.; Goddard, I.C. A 12 500 year record of vegetational history at Sluggan Bog, Co. Antrim, N. Ireland (incorporating a pollen zone scheme for the non-specialist). *New Phytol.* **1991**, *119*, 167–187. (10,445–11,160)
- S14 Slieve Gallion : Pilcher, J.R. Pollen analysis and radiocarbon dating of a peat on Slieve Gallion, Co. Tyrone, N. Ireland. *New Phytol.* **1973**, *72*, 681–689. (10,712–11,240)
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Figure 12 *Corylus* rise

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- S3 Nant Ffrancon : Hibbert, F.A.; Switsur, V.R. Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytol.* **1976**, *77*, 793–807. (9548–10,412)
- S3 Llyn Cororion : Watkins, R.; Scourse, J.D.; Allen, J.R.M. The Holocene vegetation history of the Arfon Platform, North Wales, UK. *Boreas* **2007**, *36*, 170–181. (10,242–10,554)
- S4 Crose Mere : Beales, P.W. The Late Devensian and Flandrian vegetational history of Crose Mere, Shropshire. *New Phytol.* **1980**, *85*, 133–161. (9937–10,483)
- S5 Knowsley Park : Cowell, R.; Innes, J.B. *The Wetlands of Merseyside*. North West Wetlands Survey 1, Lancaster Imprints 2. English Heritage & Lancaster University: Lancaster, UK, 1994. (10,197–10,545)
- S6 Red Moss : Hibbert, F.A.; Switsur, V.R.; West, R.G. Radiocarbon dating of Flandrian pollen zones at Red Moss, Lancashire. *Proc. R. Soc. Lond. B* **1971**, *177*, 161–176. (9535–10,374)
- S7 Threshfield Moor : Bartley, D.D.; Jones, I.P.; Smith, R.T. Studies in the Flandrian vegetational history of the Craven district of Yorkshire: the lowlands. *J. Ecol.* **1990**, *78*, 611–632. (10,309–11,102)
- S8 Blea Tarn : Harkness, D.D.; Wilson, H.W. Scottish Universities Research and Reactor Centre radiocarbon measurements I. *Radiocarbon* **1973**, *15*, 554–565. (9774–10,412)

- S9 Scaleby Moss : : Godwin, H.; Walker, D.; Willis, E.H. Radiocarbon dating and post-glacial vegetation history: Scaleby Moss. *Proc. R. Soc. Lond. B.* **1957**, 147, 352–366. (9557–10,574)
- S10 Bolton Fell Moss : Hughes, P.D.M.; Mauquoy, D.; Barber, K.E.; Langdon, P.G. Mire-development pathways and palaeoclimatic records from a full Holocene peat archive at Walton Moss, Cumbria, England. *Holocene* **2000**, 10, 465–479. (10,232–10,488)
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- S13 Burnfoothill Moss : Tipping, R. Holocene evolution of a lowland Scottish landscape: Kirkpatrick Fleming. Part I. Peat- and pollen-stratigraphic evidence for raised moss development and climatic change. *Holocene* **1995**, 5, 69–81. (9544–9886)
- S14 Rotten Bottom : Tipping, R.M. Holocene upland environments. In *The Quaternary of Dumfries & Galloway. Field Guide*. Tipping, R.M., Ed.; Quaternary Research Association: London, UK, 1999; pp. 171–181. (9524–9684)
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- S17 Girvan : Boyd, W.E.; Dickson, J.H. Patterns in the geographical distribution of the early Flandrian *Corylus* rise in southwest Scotland. *New Phytol.* **1986**, 102, 615–623. (9678–10,555)
- S18 Round Loch of Glenhead : Jones, V.J.; Stevenson, A.C. Round Loch of Glenhead. In *Quaternary of Scotland*; Gordon, J.E., Sutherland, D.G., Eds.; Chapman and Hall: London, UK, 1993; pp. 609–613. (10,250–10,661)
- S19 Altnahinch : Smith, A.G.; Pilcher, J.R. Radiocarbon dates and vegetational history of the British Isles. *New Phytol.* **1973**, 72, 903–914. (9612–10,230)
- S20 Sluggan Bog : Smith, A.G.; Goddard, I.C. A 12 500 year record of vegetational history at Sluggan Bog, Co. Antrim, N. Ireland (incorporating a pollen zone scheme for the non-specialist). *New Phytol.* **1991**, 119, 167–187. (10,239–11,090)
- S21 Roddans Port : Morrison, M.E.S.; Stephens, N. A submerged late-Quaternary deposit at Roddans Port, on the north-east coast of Ireland. *Phil. Trans. R. Soc. B* **1965**, 249, 221–255. (10,290–11,149)
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Figure 13 *Ulmus* rise

S1 Nant Ffrancon : Hibbert, F.A.; Switsur, V.R. Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytol.* **1976**, 77, 793–807. (8648–9403)

S2 Cwm Cywion : Ince, J. Two postglacial pollen profiles from the uplands of Snowdonia, Gwynedd, North Wales. *New Phytol.* **1983**, 95, 159–172. (8724–9886)

S3 Llyn Cororion : Watkins, R.; Scourse, J.D.; Allen, J.R.M. The Holocene vegetation history of the Arfon Platform, North Wales, UK. *Boreas* **2007**, 36, 170–181. (9683–10,182)

S4 Crose Mere : Beales, P.W. The Late Devensian and Flandrian vegetational history of Crose Mere, Shropshire. *New Phytol.* **1980**, 85, 133–161. (9308–10,252)

S5 Knowsley Park : Cowell, R.; Innes, J.B. *The Wetlands of Merseyside*. North West Wetlands Survey 1, Lancaster Imprints 2. English Heritage & Lancaster University: Lancaster, UK, 1994. (9791–10,488)

S6 Downholland Moss : Middleton, R.; Tooley, M.J.; Innes, J.B. *The Wetlands of South West Lancashire*. North West Wetlands Survey 7, Lancaster Imprints 20. English Heritage & Lancaster University: Lancaster, UK, 2013. (8562–9028)

S7 Red Moss : Hibbert, F.A.; Switsur, V.R.; West, R.G. Radiocarbon dating of Flandrian pollen zones at Red Moss, Lancashire. *Proc. R. Soc. Lond. B* **1971**, 177, 161–176. (9535–10,374)

S8 Langley Brook : Middleton, R.; Tooley, M.J.; Innes, J.B. *The Wetlands of South West Lancashire*. North West Wetlands Survey 7, Lancaster Imprints 20. English Heritage & Lancaster University: Lancaster, UK, 2013. (8589–9427)

S9 The Starr Hills, Lytham : Tooley, M.J. *Sea-Level Changes in North-West England during the Flandrian Stage*. Clarendon Press: Oxford, UK. (9093–9544)

S10 Thwaite Moss : Swindles, G. T.; Galloway, J.M.; Rushworth, G.; Wheeler, J.; Murphy, P.; Taylor, T.F. Natural to cultural: the vegetation history of the southern Yorkshire Dales, UK. *Rev. Palaeobot. Palynol.* **2020**, 284, 104328. (9094–9434)

S11 Blea Tarn : Harkness, D.D.; Wilson, H.W. Scottish Universities Research and Reactor Centre radiocarbon measurements I. *Radiocarbon* **1973**, 15, 554–565. (9305–9680)

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S13 Scaleby Moss : Godwin, H.; Walker, D.; Willis, E.H. Radiocarbon dating and post-glacial vegetation history: Scaleby Moss. *Proc. R. Soc. Lond. B.* **1957**, 147, 352–366. (9504–10,406)

S14 Bolton Fell Moss : Hughes, P.D.M.; Mauquoy, D.; Barber, K.E.; Langdon, P.G. Mire-development pathways and palaeoclimatic records from a full Holocene peat archive at Walton Moss, Cumbria, England. *Holocene* **2000**, 10, 465–479. (9707–10,157)

S15 Din Moss : Hibbert, F.A.; Switsur, V.R. Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytol.* **1976**, 77, 793–807. (9333–10,204)

S16 The Dod : Innes, J.B.; Shennan, I. Palynology of archaeological and mire sediments from Dod, Borders Region, Scotland. *Archaeol. J.* **1991**, 148, 1–45. (8587–9263)

- S17 Bigholm Burn : Moar, N.T. Late Weichselian and Flandrian pollen diagrams from south-west Scotland. *New Phytol.* **1969**, 68, 433–467. (8056–8978)
- S18 Burnfoothill Moss : Tipping, R. Holocene evolution of a lowland Scottish landscape: Kirkpatrick Fleming. Part I. Peat- and pollen-stratigraphic evidence for raised moss development and climatic change. *Holocene* **1995**, 5, 69–81. (8009–8180)
- S19 Rotten Bottom : Tipping, R.M. Holocene upland environments. In *The Quaternary of Dumfries & Galloway. Field Guide*. Tipping, R.M., Ed.; Quaternary Research Association: London, UK, 1999; pp. 171–181. (9094–9427)
- S20 Pict's Knowe : Milburn, P; Tipping, R.M. Pict's Knowe: early-mid Holocene vegetation history and groundwater fluctuations. In *The Quaternary of Dumfries and Galloway. Field Guide*; Tipping, R.M., Ed.; Quaternary Research Association: London, UK, 1999; pp. 75–80. (9000–9367)
- S21 Cooran Lane : Birks H.H. 1975. Studies in the vegetational history of Scotland IV. Pine stumps in Scottish blanket peats. *Phil. Trans. Roy. Soc. Lond. B* **1975**, 270, 182–226. (8053–8588)
- S22 Altnahinch : Smith, A.G.; Pilcher, J.R. Radiocarbon dates and vegetational history of the British Isles. *New Phytol.* **1973**, 72, 903–914. (9094–9557)
- S23 Sluggan Bog : Smith, A.G.; Goddard, I.C. A 12 500 year record of vegetational history at Sluggan Bog, Co. Antrim, N. Ireland (incorporating a pollen zone scheme for the non-specialist). *New Phytol.* **1991**, 119, 167–187. (9256–9906)
- S24 Slieve Gallion : Pilcher, J.R. Pollen analysis and radiocarbon dating of a peat on Slieve Gallion, Co. Tyrone, N. Ireland. *New Phytol.* **1973**, 72, 681–689. (9546–10,152)
- S25 Ballynagilly : Pilcher, J.R.; Smith A.G. Palaeoecological investigations at Ballynagilly, a Neolithic and Bronze Age settlement in County Tyrone, Northern Ireland. *Phil. Trans. R. Soc. London B* **1979**, 286, 345–369. (8718–9280)
- S26 Roddams Port : Morrison, M.E.S.; Stephens, N. A submerged late-Quaternary deposit at Roddams Port, on the north-east coast of Ireland. *Phil. Trans. R. Soc. B* **1965**, 249, 221–255. (9743–10,651)
- S27 Thomastown Bog : Turner, J.N.; Holmes, N.; Davis, S.R.; Leng, M.J.; Langdon, C.; Scaife, R.G. A multiproxy (micro-XRF, pollen, chironomid and stable isotope) lake sediment record for the Lateglacial to Holocene from Thomastown Bog, Ireland. *J. Quat. Sci.* **2015**, 30, 514–528. (9443–9544)
- S28 Kelly's Lough : Leira, M.; Cole, E.E.; Mitchell, F.J.G. Peat erosion and atmospheric deposition impacts on an oligotrophic lake in eastern Ireland. *J. Paleolimnol.* **2007**, 38, 49–71. (9912–10,236)

Figure 14 *Quercus* rise

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- S2 Cwm Cywion : Ince, J. Two postglacial pollen profiles from the uplands of Snowdonia, Gwynedd, North Wales. *New Phytol.* **1983**, 95, 159–172. (8724–9886)
- S3 Llyn Cororion : Watkins, R.; Scourse, J.D.; Allen, J.R.M. The Holocene vegetation history of the Arfon Platform, North Wales, UK. *Boreas* **2007**, 36, 170–181. (9527–9887)

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- S5 Knowsley Park : Cowell, R.; Innes, J.B. *The Wetlands of Merseyside*. North West Wetlands Survey 1, Lancaster Imprints 2. English Heritage & Lancaster University: Lancaster, UK, 1994. (9498–9890)
- S6 Downholland Moss : Middleton, R.; Tooley, M.J.; Innes, J.B. *The Wetlands of South West Lancashire*. North West Wetlands Survey 7, Lancaster Imprints 20. English Heritage & Lancaster University: Lancaster, UK, 2013. (8562–9028)
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- S9 Morecambe Bay C6 : Huddart, D.; Tooley, M.J.; Carter, P.A. The coasts of northwest England. In *The Quaternary History of the Irish Sea*; Kidson, C., Tooley, M.J. Eds.; Seel House Press: Liverpool, UK, 1977; pp. 119–154. (9029–9527)
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- S18 Gortcorbies : Smith, A.G.; Pearson, G.W.; Pilcher, J.R. Belfast radiocarbon dates IV. *Radiocarbon* **1971**, 13, 450–467. (8378–8947)
- S19 Altnahinch : Smith, A.G.; Pilcher, J.R. Radiocarbon dates and vegetational history of the British Isles. *New Phytol.* **1973**, 72, 903–914. (8455–9000)

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Figure 15 *Pinus* rise

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