

## Publications

### 2015

**Black K.** (2015) Description, calibration and validation of the CARBWARE single tree-based stand simulator. *Forestry* In press.

**Black K.,** Carbral-Harper, R., Ryan, S., O'Reilly, C. (2015) Rapid assessments of cold hardiness and quality deterioration during storage of bare root conifer transplants. *Irish Forestry* In press

### 2014

**Black K,** Green S, Mullooley S and Poveda A (2014) Towards a National Hedgerow Biomass Inventory for the LULUCF Sector Using LiDAR Remote Sensing CCRP Report Prepared for the Environmental Protection Agency (EPA, Dublin ISBN: 978-1-84095-529-3

**Black, K,** Creamer, R.E., Xenakis G., and Cook, S. (2014) Improving the YASSO forest soil carbon model using spatial data and geostatistical approaches. *Geoderma* 232-234:487-499

Grassi et al. Methods for estimation, Measurement, monitoring and reporting of LULUCF activities under Articles 3.3 and 3.4. (**Black K ed**). In: *IPCC 2014, 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*, Hiraishi, T., Krug, T., Tanabe, K., Srivastava, N., Baasansuren, J., Fukuda, M. and Troxler, T.G. (eds) Published: IPCC, Switzerland.

### 2013

Groen, T.A. ; Pieter J Verkerk, ; Hannes Böttcher, ; Giacomo Grassi, Cienciala Emil, **Black, K,** Mathieu Fortin, Margret Kötke, Alekski Lehtonen, ; Gert-Jan Nabuurs, Lora Petrova; Viorel Blujdea (2013) What causes the differences between national estimates of Carbon emissions from forest management and large-scale models? *Environmental Science & Policy* pp. 222-232 DOI information: 10.1016/j.envsci.2013.06.005

Donlan J **Black, K** Hendrick, E, O'Driscoll, E, Byrne (2013) Future change in carbon in harvested wood products from Irish forests established prior to 1990. *Carbon Management* (2013) 4(4), 377–386.

### 2012

Saunders, M, Tobin, B, **Black, K,** Gioria, M, Nieuwenhuis, M, Osborne, B.; (2012) 'Thinning effects on the net ecosystem carbon exchange of a Sitka spruce forest are temperature-dependent'. *Agricultural and Forest Meteorology* 157 1-10.

**Black, K.,** Hendrick, E., Gallagher., G., Farrington, P. (2012). Establishment of Irelands projected reference level for Forest Management for the period 2013-2020 under Article 3.4 of the Kyoto Protocol. *Irish Forestry* 69: 7-32

Hawkins M and **Black K** (2012) Single tree growth models for Irish Forestry. *Irish Forestry* 69:33-49.

Duffy, B. Hyde, E. Hanley, P. O'Brien, J. Ponzi and **K. Black** (2012) National inventory report Greenhouse gas emissions 1990 – 2010 Reported to the united nations Framework convention On climate change, EPA, Dublin

## 2011

Tene A, Tobin B, Dyckmans, J, Ray D, **Black K** And Nieuwenhuis M (2011) Assessment Of Tree Response To Drought: Validation Of A Methodology To Identify And Test Tree Proxies For Monitoring Past Environmental Changes. *Tree Physiology* 45:787-990

P. Duffy, B. Hyde, E. Hanley, P. O'Brien, J. Ponzi and **K. Black** (2011) National inventory report Greenhouse gas emissions 1990 – 2009 Reported to the united nations Framework convention On climate change, EPA, Dublin

## 2010

**Black, K**, Xenakis, G, and Ray, D. (2010). Climate Change Impacts and Adaptive Strategies. *Journal of Irish Forestry*.67 125:139

Ray, D., Xenakis, G., Tene, A. and **Black, K.**, (2010). Developing a site classification system to assess the impact of climate change on species selection in Ireland. *Irish Forestry*. 66: 101-122

Tene, A., Tobin, B., Ray, D., **Black, K.** and Nieuwenhuis, M., submitted. Adaptability of forest species to climate change, Association of Tree Ring Research, Annual meeting Slovenia.

P. Duffy, B. Hyde, E. Hanley, P. O'Brien, J. Ponzi and **K. Black** (2010) National inventory report Greenhouse gas emissions 1990 – 2008 Reported to the united nations Framework convention On climate change, EPA, Dublin.

**Black K** and Gallagher (2010) Greenhouse gas balance of peatland forests COFORD Connects, Environment No 11, COFORD Dublin.

**Black K** 2010. Reducing Greenhouse Emissions from Activities on the Land (Eds What Ireland needs to do before it can use remote sensing. Edited by Corinna Byrne and Richard Douthwaite. Carbon Cycles and Sinks Network p25-39

## 2009

Tene, A., Tobin, B., Ray, D., **Black, K.** and Nieuwenhuis, M., 2009. Adaptability of Forest Species to Climate Change, *Irish Timber and Forestry*, pp. 16-19.

**Black K**, Phillip O'Brien, John Redmond, Frank Barrett and Mark Twomey The extent of peatland afforestation in Ireland (2009). *Irish Forestry* 65.61-71.

**Black K**, Kenneth A. Byrne , Maurizio Mencuccini , Brian Tobin, Maarten Nieuwenhuis, Brian Reidy , Tom Bolger, Gustavo Saiz, Carly Green, Edward T. Farrell And Bruce Osborne (2009). Carbon stock and stock changes across a Sitka spruce chronosequence on surface water gley soils. *Forestry*, 85(3), 255-271

Hendrick, E., and **Black K.** (2009) Climate change and Irish forestry. COFORD Connects, Environment No 9, COFORD Dublin.

Tene, A., Tobin, B., Ray, D., **Black, K.**, and Nieuwenhuis, M. 2009 Adaptability of forest species to climate change TRACE (*Tree Rings in Archaeology, Climatology and Ecology*) 8

## 2008

- Black K**, Conor O'Reilly and Mick Keane The collective responsibility for seedling quality. **2008**. *Journal of Irish Forestry*, 64:72-78.
- Black, K.**, Gallagher, G., O' Brien, P., Redmond, J., Barrett F. and Twomey, M. 2008 Dispelling myths: the real extent of peatland afforestation in Ireland *COFORD Connects*, Environment No 8, COFORD, Dublin
- Black, K.** (2008) Ireland's forest carbon reporting system. In: Proceeding from COFORD conference on: *Forestry, Carbon and Climate Change - local and international perspectives*, Eds Hendrick and Black, COFORD, pp 14-20.
- Ray, D., Xenakis, G., Semmler, T, and **Black, K.** (2008). The impact of climate change on forests in Ireland and some options for adaptation. Proceeding from COFORD conference on: *Forestry, Carbon and Climate Change - local and international perspectives*, COFORD, pp 27-34.

## 2007

- Tobin B, **Black K**, McGurdey L, Nieuwenhuis. M. (2007). Towards a methodology for assessing carbon stock changes in coarse woody debris *Forestry* 80: 455-469; doi:10.1093/forestry/cpm024
- S. Luyssaert, I. Inglima, M. Jung, A.D. Richardson, M. Reichstein, D. Papale, S.L. Piao, E.-D. Schulze, L.Wingate, G. Matteucci, L. Aragao, M. Aubinet, C. Beer, C. Bernhofer, **K.G. Black**, D. Bonal, J.-M. Bonnefond, J.Chambers, P. Ciais, B. Cook, K.J. Davis, A.J. Dolman, B. Gielen, M. Goulden, J. Grace, A. Granier, A. Grelle, T. Griffis, T. Grünwald, G. Guidolotti, P.J. Hanson, R. Harding, D.Y. Hollinger, L.R. Hutya, P. Kolari, B. Kruijt, W. Kutsch, F. Lagergren, T. Laurila, B.E. Law, G. Le Maire, A. Lindroth, D. Loustau, Y. Malhi, J. Mateus, M. Migliavacca, L. Misson, L. Montagnani, J. Moncrieff, E. Moors, J.W. Munger, E. Nikinmaa, S.V. Ollinger, G. Pita, C. Rebmann, O. Roupsard, N. Saigusa, M.J. Sanz, G. Seufert, C. Sierra, M.-L. Smith, J. Tang, R. Valentini, T. Vesala and I.A. Janssens (2007). The CO<sub>2</sub>-balance of boreal, temperate and tropical forests derived from a global database. *Global Change Biology*, 13, 1–29, doi: 10.1111/j.1365-2486.2007.01439.x
- Kennedy, S., **Black, K.G.** and O'Reilly, C., Ni Dhubhain, A., (2007). The impact of shade on morphology, growth and biomass allocation in *Picea sitchensis*, *Larix x eurolepis* and *Thuja plicata*. *New Forests* 33: 139-153, doi 10.1007/s11056-006-9019-2
- Saiz G, **Black K**, Brian Reidy, Sandra Lopez, Edward P Farrell. (2007). Assessment of soil CO<sub>2</sub> efflux and its components using a process-based model in a young temperate forest site. *Goedermia* , 139: 79–89 doi: 10.1016/j.geoderma.2006.12.005
- Black, K**, T. Bolger, P. Davis, M. Nieuwenhuis , B. Reidy, G. Saiz, B. Tobin, B. Osborne. (2007) Inventory and Eddy Covariance Based Estimates of Annual Carbon Sequestration in a Sitka spruce (*Picea sitchensis* (Bong.) Carr.) Forest Ecosystem. *Journal of European Forest Research* 126: 167-178 doi 10.0007/sl0342-005-0092-4

## 2006

- Black K**, Phill Davis, Peter Lynch, Mike Jones, Michael McGettigan, Bruce Osborne. (2006) Long-term changes in solar irradiance in Ireland and their potential

effects on gross primary productivity. *Agricultural Forest Meteorology* 141: 118-132, doi:10.1016/j.agrformet.2006.09.005

Kennedy S, Aine Ní Dhubháin, Olaf Schmidt, Jens Dykmans, Bruce Osborne and **Black K.** (2006) Potential use of leaf carbon isotope discrimination for the selection of shade tolerant species. *Forest Ecology and Management* 237: 394-403 ( doi:10.1016/j.foreco.2006.09.062)

Tobin, **Black, K** Bruce Osborne, Brian Reidy, Tom Bolger, Maarten Nieuwenhuis (2006). Assessment of allometric algorithms for estimating leaf biomass, leaf area index and litter fall in different aged *Sitka spruce* forests. *Forestry* 79(4) 453-465, doi 10.1093/forestry/cpl030

## 2005

Hemming, D, C Besson, **K Black**, JMoncrieff, E. Moors, *et al* & DYakir. (2005). Pan-European  $\delta^{13}\text{C}$  values of air and organic matter from forest ecosystems. *Global Change Biology* 11:1065-1101.

**Black K**, Phill Davis, Joseph Mc Grath, Pat Doherty & Bruce Osborne (2005). Interactive effects of irradiance and water availability on the photosynthetic performance of *Picea sitchensis* seedlings: implications for seedling establishment under different management practices. *Annals of Forest Science* 62(5): 413-422

## 2004

**Black K.G** and Osborne B.A. (2004) Assessment of Photosynthetic Down Regulation in Cyanobacteria from the *Gunnera-Nostoc* Symbiosis. *New Phytologist* 162: 125-132.

**Black K.**, Tobin B., Saiz G., Byrne K. & Osborne B. (2004). Improved estimates of biomass expansion factors for Sitka spruce. *Journal of Irish Forestry* 61: 50 – 65.

## 2003

Schmidt O., Dyckmans J. and **Black K.** (2003). Bodenalgeln als C-Quelle für Bodentiere (Soil algae as a carbon source for soil animals). *Mitteilungen der Deutschen Bodenkundlichen Gesellschaft* 102: 397-398.

Osborne B.A, **Black K.G.**, Lanigan G.J., Perks M. and Clabby G. (2003). Survival on the Exposed Limestone Pavement in the Burren: Photosynthesis and Water Relations of Three Co-Occurring Plant Species. *Biology and Environment* 103B(3): 125-137.

Tobin B, **Black K**, McGurdey L, Nieuwenhuis. M. (2007). Towards a methodology for assessing carbon stock changes in coarse woody debris *Forestry* 80: 455-469; doi:10.1093/forestry/cpm024

## 2002

**Black K.G**, Parsons R. and Osborne B.A (2002) The Uptake and Metabolism of Glucose in the *Gunnera-Nostoc* Symbiosis. *New Phytologist* 153, 297-305.

## 2001

**Black K.G.**, Osborne B.A and Mitchell D.T. (2001) Photosynthetic Water-Use and Phosphorus-Use Efficiencies of Mycorrhizal Cucumber Plants. *Aspects of Applied Biology* 63, 195-202.

## **2000**

Botha, F.C. and **Black K.G.** (2000) Sucrose Phosphate Synthase and Sucrose Synthase Activity During Maturation of Internodal Tissue in Sugarcane. *Australian. J. Plant Physiology* 27, 81-85.

**Black, K.G, Mitchell, D.T. and Osborne B.A** (2000). Effect of Mycorrhizal-Enhanced Leaf Phosphate Status on Carbon Partitioning, Photosynthesis and Translocation in Cucumber. *Plant Cell and Environment* **23**, 797-809.