

Dr Timothy Pearson

Dr. Tim Pearson is the Technical Head for GreenCollar's International Programme. Tim has more than 20 years of experience in accounting greenhouse gases associated with forests and agriculture. Tim has worked across scales supporting national governments, commodity producers and mitigation projects in greenhouse gas accounting.

Publications

1. Simon, S, Bhanti, M, O'Sullivan, R, Sohngen, B., Dyck, M, Pearson, T. 2021. Options for Conserving Stable Forests. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/>
2. World Bank. 2021. Soil organic carbon MRV sourcebook for agricultural landscapes. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/35923>
3. Pearson T. 11/1/2021. Unavoidable Consumption: Escaping “The Bad Place” – While We Still Can. [Winrock International » Unavoidable Consumption: Escaping “The Bad Place” – While We Still Can](#)
4. Pearson T. 2021. On Forest Conservation and Restoration. Climate 1.5 by Winrock International (available on Apple Music or Spotify) [Episode 1: Dr. Timothy Pearson on forest conservation and restoration - Climate 1.5 by Winrock International | Podcast on Spotify](#)
5. Pearson, TRH. 2020. Editor Special Issue [Forests](#) (ISSN 1999-4907) "REDD+: Protecting Climate, Forests and Livelihoods". https://www.mdpi.com/journal/forests/special_issues/REDD_forests
6. Brown, S, Mahmood, ARJ, Goslee, K, Pearson TRH, Sudhkeo, H., Donoghue, DNM, Watt, P. 2020. Accounting for greenhouse gas emissions from forest edge degradation: gold mining in Guyana as a case study. *Forests* 11: 1307. <https://doi.org/10.3390/f11121307>
7. Goslee, KM, Pearson, TRH, Bernal, B, Simon, SL, Sudhkeo, H. 2020. Comprehensive accounting for REDD+ programs: a pragmatic approach as exemplified by Guyana. *Forests* 11: 1265. <https://doi.org/10.3390/f11121265>
8. Pearson, T. 2/12/2020. How Chocolate can help save the planet. *Scientific American*. <https://blogs.scientificamerican.com/observations/how-chocolate-can-help-save-the-planet/>
9. Netzer, M., Sidman, G., Pearson TRH, Walker, SM, Srinivasan, R. 2019. Combining global remote sensing products with hydrological modeling to measure the impact of tropical forest loss on water-based ecosystem services. *Forests*,10.413; doi:10.3390/f10050413.
10. Bernal, B, Murray, L.T. Pearson T.R.H. 2018. Global carbon dioxide removal rates from forest landscape restoration activities. *Carbon Balance and Management* 13:22. <https://doi.org/10.1186/s13021-018-0110-8> .
11. Melo, J.B., Ziv, G., Baker, T.R., Carreiras, J.M.B., Pearson, T.R.H., Vasconcelos, M.J. 2018. Striking divergences in earth observation products can limit their use for REDD+. *Environmental Research Letters*. 13. 104020 <http://iopscience.iop.org/article/10.1088/1748-9326/aae3f8/pdf>
12. Ferraz, A., Saatchi, S., Xu, L., Hagen, S., Chave, J., Yu, Y., Meyer, V., Garcia, M., Silva, C., Roswintiar, O., Samboko, A., Sist, P., Walker, S., Pearson, T.R.H., Wijaya, A., Sullivan, F., Rutishauser, E., Hoekman, D., Ganguly, S. 2018. Carbon storage potential in degraded forests of Kalimantan, Indonesia. *Environmental Research Letters*: 13 095001. <http://iopscience.iop.org/article/10.1088/1748-9326/aad782/meta>
13. Pearson, T.R.H., Bernal, B., Hagen, S.C., Melendy, LK., Delgado, G. 2018. Remote assessment of extracted volumes and greenhouse gases from tropical timber harvest. *Environmental Research Letters*: 13 065010. <https://doi.org/10.1088/1748-9326/aac1fa>

14. Melendy, L., Hagen, S.C., Sullivan, F.B., Pearson, T.R.H., Walker, S.M., Ellis, P., Kustiyo, Ari Katmoko Sambodao, Roswintarti, O, Hanson, M.A., Klassen, A.W., Palace, M.W., Braswell, B.H. and Delgado, G.M. 2018. Automated method for measuring the extent of selective logging damage with airborne LiDAR data. *ISPRS Journal of Photogrammetry and Remote Sensing*. 139: 228-240. <https://doi.org/10.1016/j.isprsjprs.2018.02.022>
15. Lee, D., Llopis, P., Waterworth, R., Roberts, G., Pearson, T. 2018. Approaches to REDD+ Nesting: Lessons Learned from Country Experiences. World Bank Working Paper. <https://openknowledge.worldbank.org/handle/10986/29720>
16. Pearson, TRH, Brown, S, Murray, L and Sidman, G. 2017. Greenhouse gas emissions from tropical forest degradation: an underestimated source. *Carbon Balance and Management* DOI: 10.1186/s13021-017-0072-2 <https://cbmjournal.biomedcentral.com/articles/10.1186/s13021-017-0072-2>
17. Harris, NL, Hagen, SC, Saatchi, SS, Pearson, TRH, Woodall, CW, Domke, G.M., Braswell, B.H., Walters, B.F., Brown, S., Salas, W., Fore, A. and Yu, Y. 2016. Attribution of net carbon changes by disturbance type across forest lands of the conterminous United States. *Carbon Balance and Management* 11:24 DOI 10.1186/s13021-016-0066-5 <https://cbmjournal.biomedcentral.com/articles/10.1186/s13021-016-0066-5>
18. Pearson, TRH, Brown, S. and Casarim, F. 2014. Carbon emissions from tropical forest degradation caused by logging. *Environmental Research Letters*. 9 034017 doi:10.1088/1748-9326/9/3/034017 [Carbon emissions from tropical forest degradation caused by logging - IOPscience](https://doi.org/10.1088/1748-9326/9/3/034017)
19. Vasconcelos, M.J., Cabral, A.I., Melo, J.B., Pearson, T., Pereira, H., Cassamá, V., and Yudelman, T. 2014. Can blue carbon contribute to clean development in West Africa? The case of Guinea-Bissau. *Mitigation and Adaptation Strategies for Global Change*. DOI 10.1007/s11027-014-9551-x <https://link.springer.com/article/10.1007/s11027-014-9551-x>
20. Pearson, TRH, Brown, S., Sohngen, B., Ohrel, S. and Henman, J. 2013. Transaction costs for carbon sequestration projects in the tropical forest sector. *Mitigation and Adaptation Strategies for Global Change*. DOI 10.1007/s11027-013-9469-8 <http://link.springer.com/article/10.1007%2Fs11027-013-9469-8>
21. Pearson, TRH and S. Brown. 2013. Opportunities and Challenges for Offsetting Greenhouse Gas Emissions with Forests. In: *Land Use and the Carbon Cycle: Science and Applications in Coupled Natural-Human Systems*. (Robinson, DT and Reed, B. Eds). Springer, NY, USA.
22. Milne, E., Neufeldt, H., Rosenstock, T., Smalligan, M., Cerri, C.E., Malin, D., Easter, M., Bernoux, M., Ogle, S., Casarim, F., Pearson, T., Bird, D.N., Steglich, E., Ostwald, M., Deneff, K. and Paustian, K. 2013. Methods for the quantification of GHG emissions at the landscape level for developing countries in smallholder contexts. *Environmental Research Letters* 8015019 doi:10.1088/1748-9326/8/1/015019
23. O'Sullivan R., Burns D., Pearson T and Chagas T. 2011. A New Frontier? How marine and coastal ecosystems offer new opportunities for reducing greenhouse gas emissions. *Trading Carbon*, Vol.5: Issue 7, 28-30
24. O'Sullivan R., Chagas T., Burns D., and Pearson T. 2011. Blue Carbon Policy Options Assessment, *Climate Focus*. Report to The Linden Trust.
25. Pearson, TRH, S. Brown, N.L. Harris and S.M. Walker. 2010. Methodological barriers to the development of REDD+ markets. In: *Pathways for Implementing REDD+: Experiences from carbon markets and communities* (Zhu, x., Moeller, L.R., De Lopez, T. and Romero, M.Z. Eds). UNEP-Risoe, Denmark. p 41-55.

26. O'Sullivan, R., Streck, C., Pearson, T., Brown, S. and Gilbert, A. 2010. Engaging the Private Sector in the Potential Generation of Carbon Credits from REDD+; an analysis of issues. Report to the UK Department for International Development (DFID).
27. Brown, S. and Pearson T. 2009. Forests and carbon markets: opportunities for sustainable development. In: Climate Change Policy: Recommendations to Reach Consensus. 2009 Brookings Blum Roundtable "Climate Crisis, Credit Crisis". Brookings Institution. P. 35-41 Available at: http://www.brookings.edu/~media/Files/rc/papers/2009/09_climate_change_poverty/09_climate_change_poverty_brown.ashx
28. Dalling, J.W., T.R.H. Pearson, J. Ballesteros, E. Sanchez and D.F.R.P. Burslem. 2009. Habitat partitioning among neotropical pioneers: a consequence of differential susceptibility to browsing herbivores?. *Oecologia* 161: 361-370.
29. Pearson, T, Harris N, Shoch D, and Brown S. 2009, Estimation of aboveground carbon stocks. In GOFC-GOLD, A sourcebook of methods and procedures for monitoring, measuring and reporting anthropogenic greenhouse gas emissions and removals caused by deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation. GOFC-GOLD Report version COP15-1, (GOFC-GOLD Project Office, Natural Resources Canada, Alberta, Canada); Ch. 2.2.
30. Pearson, TRH, Walker, SM and Brown, SL. 2008. Project-Based Mechanisms: Methodological Approaches for Measuring and Monitoring Carbon Credits. In: Climate Change and Forests: Emerging Policy and Market Opportunities. Streck, C., O'Sullivan, R., Janson-Smith, T. and Tarasofsky, R.G. (eds).Brooking Institution Press. Pp. 360.
31. Brown, S, Murray, B, Pearson, T. and Sohngen, B. 2008. Improved Forest Management. Chapter in Voluntary Carbon Standard Guidance for Agriculture, Forestry and Other Land Use Projects. K. Newcombe, B. Schlamadinger, T. Janson-Smith, T. Havemann (eds)
32. Brown, S. F. Achard, R. de Fries, G. Grassi, N. Harris, M. Herold, D. Mollicone, D. Pandey, T. Pearson, and D. Shoch, 2007. Reducing Greenhouse Gas Emissions from Deforestation and Degradation in Developing Countries: a Sourcebook of Methods and Procedures for Monitoring, Measuring and Reporting.
33. Pearson, T, Harris, N., Shoch, D., Pandey, D. and Brown, S. 2008. Estimation of Carbon Stocks. In: *GOFC-GOLD. Reducing greenhouse gas emission from deforestation and degradation in developing countries: a sourcebook of methods and procedures for monitoring, measuring and reporting.* GOFC-GOLD. Alberta: Natural Resources Canada.
34. Pearson, TRH, S. Brown, and K. Andrasko. 2008. Comparison of different registries and methodologies for reporting carbon credits for afforestation projects in the United States. *Environmental Science and Policy* 11: 490-504.
35. USAID. 2007 Adapting to Climate Variability and Change: a Guidance Manual for Development Planning. Prepared by Stratus Consulting, IRG and Winrock International for USAID.
36. Pearson, TRH, S.L. Brown and R.A. Birdsey. 2007. Measurement guidelines for the sequestration of forest carbon. Gen. Tech. Rep. NRS-18. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 42 p.
37. Dushku, A., S. Brown, T. Pearson, D. Shoch and B. Howley. 2007. Remote Sensing. In: S.J. Scherr and J.A. McNeely (eds) *Farming with Nature – The Science and Practice of Ecoagriculture.* Island Press, Washington DC. Pp. 250-264.
38. Pearson, T, S. Brown, N. Martin, S. Martinuzzi, S. Petrova, I. Monroe, S. Grimland, and A. Dushku. 2007. Baseline Greenhouse Gas Emissions and Removals for Forest and Agricultural Lands in Washington. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2007-026. 80pp. Available at: <http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2007-026>

39. Pearson, T, S. Brown, N. Martin, S. Martinuzzi, S. Petrova, I. Monroe, S. Grimland, and A. Dushku. 2007. Baseline Greenhouse Gas Emissions and Removals for Forest and Agricultural Lands in Oregon. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2007-025. 82pp. Available at:
<http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2007-025>
40. Pearson, T, S. Brown, N. Martin, S. Martinuzzi, S. Petrova, I. Monroe, S. Grimland, and A. Dushku. 2007. Baseline Greenhouse Gas Emissions and Removals for Forest and Agricultural Lands in Arizona. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2007-024. 72pp. Available at:
<http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2007-024>
41. Daws, M.I., Ballard, C. Mullins, C.E. , Garwood, N.C., Murray, B., Pearson, T.R.H. and Burslem D.F.R.P. 2007. Allometric relationships between seed mass and seedling characteristics reveal trade-offs for neotropical gap-dependent species. *Oecologia*. 154: 445-454.
42. Pearson, T., S. Walker and S. Brown. 2006. Guidebook for the Formulation of Afforestation and Reforestation Projects under the Clean Development Mechanism. Prepared for International Tropical Timber Organization.
43. Pearson, T. R. H., S. Brown, S. Petrova, N. Martin, A. Dushku, and J. Kadyszewski. 2006. Baseline Greenhouse Gas Emissions and Removals for Forest and Rangelands in Shasta County, California. Winrock International for the California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2006-070.
44. Brown, S., T. Pearson et al. (2006) Measurement protocols for forest carbon sequestration. Department of Energy 1605b guidelines. Forestry Appendix Section 3.. Available at:
<http://www.pi.energy.gov/pdf/library/Forestryappendix.pdf>
45. Engelbrecht, B.M.J., J.W. Dalling, T.R.H. Pearson, R.L. Wolf, D.A. Galvez, T. Koehler, M.T. Tyree and T.A. Kursar. 2006. Short dry spells in the wet season increase mortality of tropical pioneer seedlings. *Oecologia* 148, 258-269.
46. Pearson, T., S. Walker and S. Brown (2005) Sourcebook for Land Use, Land-Use Change and Forestry Projects. Prepared for BioCarbon Fund of World Bank.
47. Brown S, Pearson T, Slaymaker D, Ambagis S, Moore N, Novelo D, and Sabido W (2005) Creating a virtual tropical forest from three dimensional aerial imagery: application for estimating carbon stocks. *Ecological Applications* 15: 1083-1095.
48. Pearson, T., S. Brown, R. N. Ravindranath. (2005) Integrating carbon benefit estimates into GEF projects. Methods manual prepared for the Global Environment Facility.
49. Daws M.I., Pearson T.R.H., Burslem D.F.R.P., Mullins C.E., Dalling J.W. 2005 Effects of topographic position, leaf litter and seed size on seedling demography in a semi-deciduous tropical forest in Panama. *Plant Ecology*, 179, 93-105.
50. Brown, S., T. Pearson, A. Dushku, J. Kadyszewski, Y. Qi. 2004. Baseline Greenhouse Gas Emissions for Forest, Range, and Agricultural Lands In California. Publication Number: 500-04-069. Winrock International, for the California Energy Commission, PIER Energy-Related Environmental Research, March 2004.
51. Brown, S., T. Pearson, D. Shoch, M. Delaney, and A. Dushku. 2004. Baseline Development and Estimation of Carbon Benefits for Extending Forested Riparian Buffer Zones In Two Regions In California: Blodgett Forest Research Station and Jackson State Demonstration Forest. Publication Number: 500-04-071F. Winrock International, for the California Energy Commission, PIER Energy-Related Environmental Research, March 2004
52. Brown, S., A. Dushku, T. Pearson, D. Shoch, J. Winsten, S. Sweet, and J. Kadyszewski. 2004. Carbon Supply From Changes In Management of Forest, Range, and Agricultural Lands of

- California. Publication Number: 500-04-068F. Winrock International, for the California Energy Commission, PIER Energy-Related Environmental Research, March 2004.
53. Brown, S. T. Pearson, D. Shoch, M. Delaney, A. Dushku, J. Kadyzewski. 2004. Measuring and Monitoring Plans for Baseline Development and Estimation of Carbon Benefits for Change In Forest Management In Two Regions: Changing from Even-Age Management with Clearcuts To Uneven-Age Management with Group Selection Harvests. Winrock International, for EPRI, Palo Alto, CA and California Energy Commission, Sacramento, CA. EPRI Product ID. EP – P9656/CA4889. PIER Publication Number: 500-04-070.
 54. Brown, S., D. Shoch, T. Pearson, and M. Delaney. 2004. Methods for Measuring and Monitoring Forestry Carbon Projects in California. Winrock International, for the California Energy Commission, PIER Energy-Related Environmental Research. Publication Number: 500-04-072F.
 55. Pearson, T.R.H., D.F.R.P. Burslem, C.E. Mullins and J.W. Dalling (2003) Functional significance of photoblastic germination in neotropical pioneer species: a seed's eye view. *Functional Ecology*, 17, 394-402.
 56. Pearson, T.R.H., D.F.R.P. Burslem, R.E. Goeriz and J.W. Dalling (2003) Interactions of gap size and herbivory on establishment, growth and survival of three species of neotropical pioneer trees. *Journal of Ecology*, 91,785-796.
 57. Pearson, T.R.H., D.F.R.P. Burslem, R.E. Goeriz and J.W. Dalling (2003) Regeneration niche partitioning in neotropical pioneers: effects of gap size, seasonal drought and herbivory on growth and survival. *Oecologia*, 137, 456-465.
 58. Pearson, T.R.H., D.F.R.P. Burslem, C.E. Mullins and J.W. Dalling (2002) Germination ecology of neotropical pioneers: interacting effects of environmental conditions and seed size. *Ecology*, 83, 2798-2807.

Methods

1. VM0003. Methodology for Improved Forest Management through Extension of Rotation Age. <https://verra.org/methodology/vm0003-methodology-for-improved-forest-management-through-extension-of-rotation-age-v1-2/>
2. VM0007. REDD+ Methodology Framework (REDD+MF) <https://verra.org/methodology/vm0007-redd-methodology-framework-redd-mf-v1-6/>
3. VM0010. Methodology for Improved Forest Management: Conversion from Logged to Protected Forest. <https://verra.org/methodology/vm0010-methodology-for-improved-forest-management-conversion-from-logged-to-protected-forest-v1-3/>
4. Verra Jurisdictional and Nested REDD+ Standard v1 <https://verra.org/project/jurisdictional-and-nested-redd-framework/rules-requirements/>
5. Verra Standard for Improved Forest Management v1
6. ACR Methodology for N2O emission reductions from changes in fertilizer management (inactive) <https://americancarbonregistry.org/carbon-accounting/standards-methodologies/INACTIVE-emissions-reductions-through-changes-in-fertilizer-management>
7. ACR Grazing Land and Livestock Management (GLLM) (inactive) <https://americancarbonregistry.org/carbon-accounting/standards-methodologies/INACTIVE-grazing-land-and-livestock-management-gllm-ghg-methodology>
8. ART The REDD+ Environmental Excellence Standard (TREES) <https://www.artredd.org/trees/>
9. Climate Action Reserve. Forest Protocol. https://www.climateactionreserve.org/wp-content/uploads/2021/04/Forest_Protocol_V5.0_Package_040921.pdf

10. CDM AR-AM0004 Reforestation or afforestation of land currently under agricultural use
<https://cdm.unfccc.int/methodologies/DB/S2OMSUTOWYOMLW75MPR0CG6SAKNG4Y>
11. CDM AR-ACM0001 Afforestation and reforestation of degraded land
<https://cdm.unfccc.int/methodologies/DB/X4VOLW3Y7IJCH9WXSXBC2Q0JG9UZ>