

# Prof Carlos Peres (University of East Anglia)

**Date/Place of Birth:**

5 May 1963 — Belém, Pará, Brazil

**Nationality:** Brazilian

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## EDUCATION

- 1991 PhD, Tropical Ecology and Conservation, University of Cambridge, Cambridge, UK
- 1986 MSc, Forest Ecology and Conservation, University of Florida, Gainesville, Florida, USA
- 1983 BSc, Biological Sciences, Universidade Federal do Pará, Belém, Brazil

## EMPLOYMENT HISTORY

- 1996- Professor Tropical Conservation Science, School of Environmental Sciences, Univ. of East Anglia, Norwich, UK
- 1993-96 Assistant Professor, Department of Ecology, University of São Paulo, SP, Brazil
- 1993 Senior Research Fellow, Center for Tropical Conservation, Duke University, NC, USA

Born in Belém, Brazil, **Carlos Peres** was exposed to Amazonian natural history from age seven and his family's ~5,000-ha primary forest landholding in Eastern Pará became a childhood playground. For the last 30 years he has been studying wildlife community ecology in Amazonian forests, the population ecology of key tropical forest resource populations, economic constraints of land-use planning; and the biological criteria for designing large nature reserves. He currently co-directs four ecology and conservation research programs in neotropical biomes, including the ecology of key timber and non-timber forest resources; patterns of vertebrate assemblage structure in Amazonian forests; the biological dynamics of hyper-disturbed and fragmented forest landscapes, and the biodiversity consequences of land-use change. He has published ~270 papers on neotropical forest ecology and conservation at population, landscape, regional continental scales. He has supervised the work and launched the career of 81 postgraduate students from 19 countries. In 1995, he received a "Biodiversity Conservation Leadership Award" from the Bay Foundation (USA), and in 2000 was elected an "Environmental Leader for the New Millennium" by Time Magazine and CNN network. He is a Professor in Tropical Conservation Ecology at University of East Anglia (UK) and divides his time between Norwich and fieldwork at multiple field sites in neotropical ecosystems.

## FIVE MOST RELEVANT PUBLICATIONS FOR THE BONDS PROPOSAL:

1. Michalski, F. Norris, D., **C.A. Peres**. 2010. No Return from Biodiversity Loss. *Science* 329:1282-83
2. Benchimol, M., & **Peres, C. A.** (2015). Widespread Forest Vertebrate Extinctions Induced by a Mega Hydroelectric Dam in Lowland Amazonia. *PloS ONE*, 10(7), e0129818.
3. Schneider, M., & **Peres, C. A.** (2015). Environmental Costs of Government-Sponsored Agrarian Settlements in Brazilian Amazonia. *PloS One*, 10(8), e0134016.
4. Campos-Silva, J.V. and **Peres, C.A.** 2016. Community-based management induces rapid recovery of a high-value tropical freshwater fishery. *Sci. Rep.* 6, 34745; doi: 10.1038/srep34745
5. Antunes, AP, R.M. Fewster, E.M. Venticinque, **C.A. Peres**, T. Levi, F. Rohe, G.H. Shepard. (2016) Empty forest or empty rivers? A century of commercial hunting in Amazonia. *Sci. Adv.* 2, e1600936

## RESEARCH ACTIVITIES MOST RELEVANT FOR THE BONDS PROPOSAL

Over the last 30 years my research has encompassed a wide range of topics in conservation biology and natural resource management in tropical forests, vertebrate behavioural and community ecology, tropical ecology, and design of nature reserves. At present I maintain field research programmes on the ecology and management of game vertebrates, Brazil-nuts, and other non-timber extractive products in Neotropical forests. I also co-manage four field stations in Brazilian Amazonia (Monte Dourado, Rio Jarí, Pará; Pinkaití Ecological Station, Kayapó Indian Reserve; Alta Floresta, Mato Grosso; and Médio Juruá Extractive Reserve Uauaçú, Juruá river), which are presently staffed by my post-graduate students. We also maintain continuity in other research projects in Manu National Park, southern Peru, and in the lower Rio Purús region of central Brazilian Amazonia.

I have designed, initiated and maintained (1987-2007) the largest standardized series of wildlife population surveys ever conducted in any region of tropical forest. This research program has matured into the largest data set of its kind, and will yield crucial information to conservation planning and management of Amazonian forests. On the conservation policy and advocacy front, over the last 8 years I have advised the Brazilian Government (Ministry of Environment and Ministry of Science and Technology) on a number of Amazonian conservation planning and biodiversity conservation legislation issues and I have designed and co-initiated a successful land purchase programme using grants from the private sector for setting aside large conservation areas in the Brazilian Amazon as Natural Heritage Sites (RPPNs). Our first reserve and research station, managed by our own non-profit conservation NGO based in Manaus, Brazil, has completed the acquisition of 50,000 ha of legitimate land titles, and this reserve creation model will now be emulated by two international conservation NGOs with annual turnovers exceeding US\$100 million.

In 1996 I was granted the prestigious "World Biodiversity Conservation Leadership Award" by the Josephine Bay & Michael Paul Foundation, New York, USA (total value: US\$180,000), which funded several of our research projects in the Amazon (1994 – 1999). In 1999, I was elected as one of 10 "Environmental Leaders for the New Millennium" by Time-Warner and CNN Network in recognition for the policy applications of my conservation research work in Brazilian Amazonia, and this work was subsequently profiled in Time magazine and CNN ([www.time.com](http://www.time.com) 24 May 1999). In Sept. 2000, I represented Brazil at the UN State of the World Affairs meeting coinciding with the largest ever gathering of world leaders at the UN World Summit in New York City. Some components of our research work have become increasingly visible internationally (e.g. Newsweek, 13 Nov. 2000; and Time Magazine, 24 May 1999 and 8 Jan 2001). Finally, I have been a Research Fellow with the Zoological Society of London and the Center for Applied Biodiversity Science of Conservation International.

**POST-GRADUATE STUDENTS** As a primary supervisor, I have guided to completion the ecology & conservation work of 94 graduate students [25 PhD and 69 MSc] from 18 countries, 92 of whom are currently active in these fields.

#### **EDITORIAL SERVICES FOR REFEREED PERIODICALS**

PLoS Biology: Academic Editor (2006 -)

Biotropica (Journal of the Association for Tropical Biology and Conservation): editorial board member (2006 - 2010).

Animal Conservation: sub-editor (2003 – 2006)

Primates: editorial board member (2004 - )

Brazilian Journal of Nature Conservation: editorial board member (2005 - )

Conservation Biology: Assigning Editor (from August 2011)

#### **PROFESSIONAL SOCIETIES**

I am an active member of the following professional societies: Society for Conservation Biology (SCB), Association for Tropical Biology and Conservation (ATBC), Institute of Tropical Biology, Fauna and Flora International (FFI), American Institute of Biological Sciences, Zoological Society of London (ZSL), IUCN Primate Specialist Group, International Primatological Society, American Society of Primatology, and Brazilian Society of Primatology.

**OTHER RELEVANT PUBLICATIONS** (only 54 papers in chronological order, from ~270 papers; ~42 book chapters and 2 books)

6. **Peres, C.A.** 1990. Effects of hunting on western Amazonian primate communities. *Biological Conservation* 54:47–59.
7. **Peres, C.A.** 1993. Structure and spatial organization of an Amazonian terra firme forest primate community. *Journal of Tropical Ecology* 9:259–276.
8. **Peres, C.A.** and J.W. Terborgh. 1995. Amazonian nature reserves: an analysis of the defensibility status of existing conservation units and design criteria for the future. *Conservation Biology* 9:34-46.
9. **Peres, C.A.** 1996. Population status of white-lipped and collared peccaries in hunted and unhunted Amazonian forests. *Biological Conservation* 77:115-123.
10. **Peres, C.A.** 1997. Primate community structure at twenty Amazonian flooded and unflooded forests. *Journal of Tropical Ecology* 13:381-405.
11. **Peres, C.A.** 2000. Effects of subsistence hunting on vertebrate community structure in Amazonian forests. *Conservation Biology* 14:240-253.
12. **Peres, C.A.** & B. Zimmerman. 2001. Perils in Parks or Parks in Peril? Reconciling conservation in Amazonian reserves with and without use. *Conservation Biology* 15(3):793-797.
13. **Peres, C.A.** 2001. Synergistic effects of subsistence hunting and habitat fragmentation on Amazonian forest vertebrates. *Conservation Biology* 15:1490-1505.

14. **Peres, C.A.** & Lake, I.R. 2003. Extent of nontimber resource extraction in tropical forests: accessibility to game vertebrates by hunters in the Amazon basin. *Conservation Biology* 17:521-535.
15. Jerozolinski, A. & **C.A. Peres**. 2003. Bringing home the biggest bacon: a cross-site analysis of the structure of hunter-kill profiles in Neotropical forests. *Biological Conservation* 111: 415-425.
16. Barlow, J., **C.A. Peres**, B. Lagan & T. Hugaasen. 2003. Forest biomass collapse following Amazonian wildfires. *Ecology Letters* 6:6-8.
17. Barlow, J., B.O. Lagan, & **C.A. Peres**. 2003. Morphological correlates of tree mortality induced by surface fires in a central Amazonian forest. *Journal of Tropical Ecology* 19:291-299.
18. **Peres, C.A.** et al. 2003. Demographic Threats to the Sustainability of Brazil Nut Exploitation. *Science* 302: 2112-2114.
19. Barlow, J. and **C.A. Peres**. 2004. Ecological responses to El Niño-induced surface fires in central Amazonia: management implications for flammable tropical forests. *Phil. Trans. R. Soc. Lond. B.* 359:367-380.
20. Barlow, J and **C.A. Peres**. 2004. Avifaunal responses to single and recurrent wildfires in Amazonian forests. *Ecological Applications* 14:1358–1373.
21. Hugaasen, T. and **C.A. Peres**. 2005. Mammal assemblage structure in Amazonian flooded and unflooded forests. *Journal of Tropical Ecology* 21:133–145.
22. **Peres, C.A.** 2005. Why we need mega-reserves in Amazonian forests. *Conservation Biology* 19:728-733.
23. **Peres, C.A.**, J. Barlow and W. Laurance. 2006. Detecting anthropogenic disturbance in tropical forests. *Trends in Ecology and Evolution* 21: 227-229
24. **Peres C.A.** & E. Palacios (2007) Basin-Wide Effects of Game Harvest on Vertebrate Population Densities in Amazonian Forests: Implications for Animal-Mediated Seed Dispersal. *Biotropica* 39: 304-315.
25. Barlow, J., L. A. M. Mestre, T. A. Gardner, and **C.A. Peres**. 2007. The value of primary, secondary and plantation forests for Amazonian birds. *Biological Conservation* 136:212-231.
26. Michalski, F. & **C.A. Peres**. (2007). Disturbance-Mediated Mammal Abundance-Area Relationships in Amazonian Forest Fragments. *Conservation Biology* 21: 1626-1640
27. Barlow, J., W. L. Overal, I. S. Araujo, T. A. Gardner, and **C. A. Peres**. 2007. The value of primary, secondary and plantation forests for fruit-feeding butterflies in the Brazilian Amazon. *Journal of Applied Ecology* 44:1001-1012
28. Michalski, F., Nishi, I. & **Peres, C.A.** (2007). Disturbance-mediated drift in tree functional groups in Amazonian forest fragments. *Biotropica* 39(6): 691–701
29. Urquiza-Haas, T.; **C.A. Peres**; PM. Dolman (2007) Regional scale variation in forest structure and biomass in the Yucatan Peninsula, Mexico: effects of forest disturbance. *Forest Ecology and Management* 247:80-90
30. Ohl-Schacherer, J., G.H. Shepard Jr., H. Kaplan, **C.A. Peres**, T. Levi & D.W. Yu. (2007) The sustainability of hunting by Matsigenka native communities in Manu National Park, Peru. *Conservation Biology* 21:1174–1185
31. Barlow, J.... and **C.A. Peres**. (2007). Quantifying the biodiversity value of tropical primary, secondary and plantation forests. *Proceedings of the National Academy of Sciences of the United States of America* 47: 18555–18560.
32. Santos, B.A. **C.A. Peres**, M.A. Oliveira, A. Grillo, C.P. Alves-Costa, M. Tabarelli. 2007. Drastic functional erosion of tree assemblage attributes in Atlantic forest fragments of northeastern Brazil. *Biological Conservation* 141: 249-260
33. Lees, A. & **C.A. Peres**. (2008). Conservation value of remnant riparian forest corridors of varying quality for Amazonian birds and mammals. *Conservation Biology* 22:439–449.
34. Barlow, J., and **C.A. Peres**. (2008) Fire-mediated dieback and a compositional cascade in Amazonian forests. *Phil. Trans. R. Soc. B* 363: 1787–1794.
35. Gardner, T. A., ... **C.A. Peres**. 2008. The cost-effectiveness of biodiversity surveys in tropical forests. *Ecology Letters* 11:139–150
36. Michalski, F., **C.A. Peres** and I.R. Lake. 2008. Deforestation dynamics in a fragmented region of southern Amazonia: evaluation and future scenarios. *Environmental Conservation* 35:93-103
37. Nichols, E., Gardner, T.A., **Peres, C.A.** 2009. Co-declining mammals and dung beetles: An impending ecological cascade. *Oikos* 118:481-87.
38. Chazdon, R.L., **C.A. Peres**, et al. 2009. Where are the wild things? Assessing the potential for species conservation in tropical secondary forests. *Conservation Biology* 23:1406-1417.
39. Parry, L., J. Barlow and **C.A. Peres**. 2009. Hunting for sustainability in tropical secondary forests. *Conservation Biol.* 23: 1270-1280.
40. Levi, T., Shepard Jr, G.H., Ohl-Schacherer, J., **Peres, C.A.**, Yu, D.W. 2009. Modelling the long-term sustainability of indigenous hunting in Manu National Park, Peru: Landscape-scale management implications for Amazonia. *J. of Applied Ecology*: 46 804-814.
41. **Peres, C.A.** 2009. Overexploitation. In *Conservation Biology for All* (eds. N. S. Sodhi & P. R. Ehrlich), pages 107-130. Oxford University Press, Oxford.

42. **Peres, C.A.**, Gardner, T.A., Barlow, J., Zuanon, J., Michalski, F., Lees, A.C., Vieira, I.C.G., Moreira, F.M.D., Feeley, K., 2010. Biodiversity conservation in human-modified Amazonian forest landscapes. *Biological Conservation* 143:2314-28.
43. Barlow J, TA Gardner, J Louzada, **C.A. Peres**. 2010. Measuring the Conservation Value of Tropical Primary Forests: The Effect of Occasional Species on Estimates of Biodiversity Uniqueness. *PLoS ONE* 5(3):1-8.
44. Wilkie, D.S., E.L. Bennett, **C.A. Peres**, Cunningham, A.A. 2011. The empty forest revisited. *Annual Reviews of the New York Academy of Sciences* 1223 :120–128
45. Levi T, GH Shepard Jr, J Ohi-Schacherer, CC Wilmers, **C.A. Peres**, DW Yu. 2011. Spatial tools for modelling the sustainability of subsistence hunting in tropical forests. *Ecological Applications* 21:1802–1818
46. **Peres, C.A.** 2011. Conservation in Sustainable Use Tropical Forest Reserves. *Conservation Biology* 25: 1124–1129.
47. Gibson, L. T.M. Lee, L.P. Koh, B.W. Brook, T.A. Gardner, J. Barlow, **C.A. Peres**, C.J.A. Bradshaw, W.F. Laurance, T.E. Lovejoy, N.S. Sodhi. 2011. Primary forests are irreplaceable for sustaining tropical biodiversity *Nature* 478: 378–381.
48. Canale, G., **C.A. Peres**, Guidorizzi, Gatto and M.C. Kierulff. 2012. Pervasive defaunation of forest remnants in a tropical biodiversity hotspot. *PLoS ONE* 7(8) | e41671
49. Benchimol, M., & **Peres, C. A.** (2015). Edge-mediated compositional and functional decay of tree assemblages in Amazonian forest islands after 26 years of isolation. *Journal of Ecology* 103, 408–420
50. Lapola, D., L.A. Martinelli, **C.A. Peres**, et al. 2014. Pervasive transitions in the Brazilian land-use system. *Nature Climate Change* 4(1): 27-35.
51. Richardson VA, **Peres CA** (2016) Temporal Decay in Timber Species Composition and Value in Amazonian Logging Concessions. *PLoS ONE* 11: e0159035.
52. Bello, C., Galetti, M., Pizo, M.A., Magnago, L.F.S., Rocha, M.F., Lima, R.A., **Peres, C.A.**, Ovaskainen, O. and Jordano, P., 2015. Defaunation affects carbon storage in tropical forests. *Science Advances* 1, p.e1501105.
53. **Peres, C.A.** et al. 2016. Dispersal limitation induces long-term biomass collapse in overhunted Amazonian forests. *Proceedings of the National Academy of Sciences*, 113:892-897.
54. M. Pfeifer, V. Lefebvre, **C.A. Peres** et al. (2017) Creation of forest edges has a global impact on forest vertebrates. *Nature* 551, 187–191 doi:10.1038/nature24457

#### **PUBLICATION IMPACT SUMMARY**

*As of September 2017, my work had been cited ~25,000 times according to Google Scholar<sup>1</sup> (H-factor = 89). Over 75% of my papers (2007-2016) are published in high-ranking journals, including Science, PNAS, Nature, PLoS, Trends in Ecology & Evolution, Ecology Letters and Conservation Biology.*

<sup>1</sup>[https://scholar.google.co.uk/citations?hl=en&user=D5ervmgAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.co.uk/citations?hl=en&user=D5ervmgAAAAJ&view_op=list_works&sortby=pubdate)