

Darwin Initiative Annual Report

Darwin Project Information

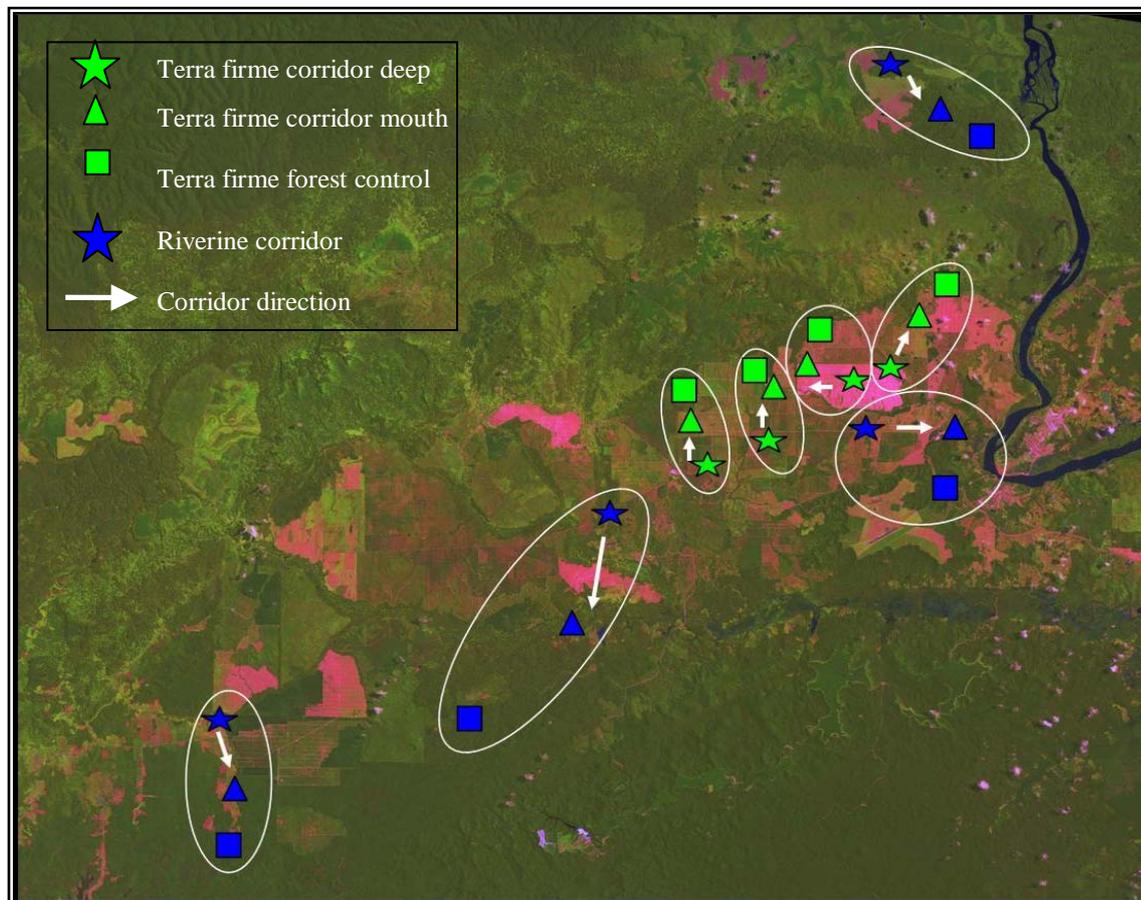
Project Ref Number	EIDPO14
Project Title	Devising strategies to integrate biodiversity conservation in plantation dominated landscapes
Country(ies)	UK, Brazil
UK Contract Holder Institution	University of East Anglia, UK
UK Partner Institution(s)	n/a
Host country Partner Institution(s)	Museu Goeldi, Para, Brazil
Darwin Grant Value	50,004
Start/End dates of Project	01/05/2006 – 30/04/2008
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	Annual report no. 1
Project Leader Name	Carlos Peres
Project website	http://www.tropicalforestresearch.org
Author(s), date	Jos Barlow, Carlos Peres, Leandro Ferreira 05/05/07

1. Project Background

This post-project carries on from the DI project “Biodiversity and functional value of Amazonian primary, secondary and plantation forests”, which was conducted in the 1.7 million ha landholding owned by Jari Celulose S.A./ORSA Florestal, located on the border between Amapá and Pará in the north-eastern Amazon basin (00°27’00” -- 01°30’00” S; 51°40’00” -- 53°20’00” W; see Fig 1). The landholding was purchased in 1967 for the establishment of large-scale fast-growing tree plantations of *Gmelina arborea*, *Pinus caribaea*, and *Eucalyptus urograndis*. The area is currently dominated by extensive areas of plantation forestry dominated by *Eucalyptus urograndis*, undisturbed primary forest, and second-growth that has regenerated on plantation areas that were harvested but not replanted. This first project produced globally significant results in helping identify the biodiversity consequences of land-use change from natural to planted forests, and to describe the relative conservation benefits of native versus non-native regeneration on degraded lands. The post-project aims to develop this work further by identifying and examining the trade-offs between the management of tropical forest land use mosaics for both economic production and the conservation of biological diversity. We aim to develop feasible yet effective conservation strategies that can be adopted by forestry companies to help maximise biodiversity conservation at the landscape level. We selected indicator taxa from an objective and empirical analysis of their efficiency and performance as

ecological and biodiversity indicators. We sampled these focal taxa across multiple plantation sites, simultaneously addressing the effects of plantation productivity, the influence of the surrounding landscape matrix, as well as the value of existing primary forest corridors that lie between silvicultural stands.

Fig 1. Map of sampling sites for the corridors component of the project (output 2 on original log-framework).



2. Project Partnerships

The partnership between UEA and MPEG was very strong as a result of our original project. We have been able to maintain and extend this link during the first year of the post-project, especially as one of the UK PI's (Jos Barlow) undertook a CNPq funded fellowship at the Goeldi Museum from May 2006 to the present date. The project has helped provide the funds and expertise necessary to assist the Museum fulfil its role as the focal point of Amazonian Biodiversity collections. The partnership between UEA and MPEG has been particularly useful for the planning of the Biodiversity workshop (see Annex 3), which will be held at MPEG's new auditorium in November.

We have established links with many new institutions in Brazil through the organisation of a biodiversity workshop. These include local and national government, federal institutions (EMBRAPA), Conservation NGOs (CI, TNC) and other research groups. In addition, our work on dung beetles as highly effective indicator taxa has allowed us to develop links with Julio Louzada of the Federal University of Lavras in Minas Gerais, who runs an applied ecological entomology research laboratory. We have maintained our good links with two ongoing projects – PPBio (Biodiversity Research Program) and TEAM (Tropical Ecology, Assessment and Monitoring Initiative) – that involve faculty members from MPEG, and monitor biodiversity in primary forests in the Amazon. These links involved us exchanging information about the success or failure of different sampling methodologies, and the development of species identification tools and manuals.

In attempting to maximise biodiversity conservation opportunities in the management of large-scale tropical forest landscapes, we are directly addressing the main objective (Article 1) of the CBD to conserve biodiversity while allowing sustainable use of its components in the context of a 'working' forest landscape (specifically Article 10, subparagraphs [a] and [b]). Our attempts to improve training in biodiversity sampling and research through host-country capacity building directly address Article 12 of the convention (subparagraphs [a] and [b]) which calls for contracting parties to take account of the particular needs of developing countries. By directly integrating the joint goals of biodiversity conservation and tropical forest production we are responding to the expanded programme of work on forest biological diversity (annex to decision VI/22), adopted in 2002 by the Conference of the Parties at its sixth meeting, as well as three of the key focal areas of the 2010 CDB Biodiversity Target (subparagraphs a,b & d, paragraph 1 of decision VII/30). Specifically, the project will meet key objectives of the Forest Biodiversity Thematic Programme of the CBD in shedding light on cross-cutting issues such as (1) interactions between climate change and forest biodiversity – through developing our understanding of afforestation and revegetation schemes under the Clean Development Mechanism of the Kyoto Protocol ; (2) developing key bioindicator protocols to assess forest ecosystem integrity; (3) institutional capacity building; and (4) strengthening local taxonomic and curatorial expertise. These concerns have also been identified as strategic issues for discussion at the forthcoming Eight Conference of the Parties to the CBD due to be held in Curitiba, Brazil March 2006.

3. Project progress

We have made excellent progress towards achieving outputs 1 & 2 since the start of the project, and are slightly ahead of schedule. A progress talk was given to the local stakeholders (Jari Celulose/Orsa Florestal) and the experimental design and the potential implications of the results were discussed with the Forest Stewardship Council in Brazil. A first publication relating to the theme of this project is in review in a special issue of "Biodiversity and Conservation" that addresses biodiversity conservation in plantation forests. A second publication "The conservation value of linear forest remnants for understorey Amazonian birds" is currently being completed and will be submitted to the Journal of Applied Ecology by the end of May.

Progress in carrying out project activities

All the year 1 activities been carried out in the manner and time planned. The region has been mapped, the sample areas have all been chosen, methodologies defined, and the first and second seasonal replicates have been undertaken (or are currently being finished), and we are well into the identification of specimens of all groups. In addition, 5 students (2 undergraduates and 3 PhD candidates) have undertaken training in field sampling techniques and dung beetle , orchid bee and carrion/blow fly identification.

Progress towards Project Outputs

We have made good overall progress towards achieving our outputs. The first steps in achieving outputs 1 and 2 is the completion of fieldwork, which has been undertaken within the time allotted, allowing us to focus on analysis and dissemination in year 2. There has been no change in the output level assumptions.

Standard Output Measures

PROJECT OUTPUTS		
Year/Month	Standard output number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc.)
08/2006-09/2007	2	Training for MSc students (two from Brazil, one from UK – UEA) 68 weeks per student (=200 weeks in total)
08/2006-11/2006	4A	Training of two Brazilian undergraduate students. 30 weeks per student
08/2006-06/2007	5	Comprehensive training in field and laboratory techniques for two research technicians from the Goeldi Museum. 48 weeks per technician
10/2007	7	Donation of extensive invertebrate specimen collections including photographic and written guides of key groups
06/2006-05/2007	8	Number of weeks UK investigators spend in host country = 55 (J.Barlow 50, C.Peres 5)
09/2007 + 10/2007	11A & 11B 12A	5 papers will be submitted to high quality peer-reviewed journals. All data will be compiled into a relational database, and handed over to MPEG and posted on the internet following the termination of data collection and analysis.
01/2008	14A	We intend to host a multi-stakeholder workshop in Belem, hosted by the Centre for International Forestry Research (CIFOR). Attendees will include representatives from UEA, MPEG, Jari Ceulose, Orsa Florestal, as well as key conservation organisations working in the Brazilian Amazon.
06/2007 +	14B	3 key international conservation and tropical biology conferences (e.g. SCB, ATBC) will be attended by lead investigators.
11/2007 +	15A-15D	3 press releases in the host country (Brazil), in addition to 3 UK press releases to coincide with publication of highest impact papers
10/2007 +	17	1 network of students and researchers trained in biological surveys and analysis to be established, allowing collaborators to stay in contact and maintain a standardised approach to field sampling
10/2007 +	18 + 19	5 international and national interviews to be aired on radio in UK and Brazil.
10/2006 +	22	Phenological survey plots in primary forest corridors will be surveyed beyond the project lifetime by IEPA, forming the only long-term baseline phenological plots in this region of Amazonia.
	23	Total funds raised from other sources £119,990

Table 1 Publications (abstracts available in English and Portuguese on www.tropicalforestresearch.org/publications ; full papers on request from authors due to copyright issues). These papers relate mainly to the initial project “Biodiversity and functional value of Amazonian primary, secondary and plantation forests” but they directly inform the post-project work. Five other papers that are currently in review are found in Annex, including those relating to the post-project.

Type *	Detail	Publishers
(eg journals, manual, CDs)	(title, author, year)	(name, city)
Journal	Leite, R. N., M. N. F. da Silva, and T. A. Gardner. in press. New records of <i>Neusticomys oyapocki</i> (Ichthyomyini, Sigmodontinae) from a human-dominated forest landscape in northeastern Brazilian Amazonia. <i>Mastozoologia Neotropical</i> .	Sociedad Argentina para el Estudio de los Mamíferos
Journal	Barlow, J., T. A. Gardner, L. V. Ferreira, and C. A. Peres. in press. Litter fall and decomposition in primary, secondary and plantation forests in the Brazilian Amazon. <i>Forest Ecology and Management</i> .	Elsevier
Journal	Gardner, T. A., J. Barlow, and C. A. Peres. in press. Paradox, presumption and pitfalls in conservation biology: consequences of habitat change for amphibians and reptiles. <i>Biological Conservation</i> .	Elsevier
Journal	Gardner, T. A., J. Barlow, L. T. W. Parry, and C. A. Peres. 2007. Predicting the Uncertain Future of Tropical Forest Species in a Data Vacuum. . <i>Biotropica</i> 39:25-30.	Blackwell
Journal	Gardner, T. A., M. A. Ribeiro Jr, J. Barlow, T. A. S. Ávila-Pires, M. Hoogmoed, and C. A. Peres. 2007. The biodiversity value of primary, secondary and plantation forests for a neotropical herpetofauna <i>Conservation biology</i> DOI: 10.1111/j.1523-1739.2007.00659.x.	Blackwell
Journal	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. <i>Biological Conservation</i> 136:212-231.	Elsevier
Journal	Barlow, J., W. L. Overal, I. S. Araujo, T. A. Gardner, and C. A. Peres. in press. The value of primary, secondary and plantation forests for fruit-feeding butterflies in the Brazilian Amazon. <i>Journal of Applied Ecology</i> .	Blackwell
Journal	Bonaldo, A.B, Rheims, C.A., and Berscovit, A.D. 2006. Four new species of <i>Drymusa simon</i> (Araneae, Drymusidae) from Brazilian oriental Amazonia. <i>Revista Brasileira Zoologia</i> . 23 (2) 455-459	Sociedade Brasileira de Zoologia
Journal	Ribeiro-Junior, M.A., Gardner T.A., Avila-Pires, T.C. 2006. The effectiveness of glue traps to sample lizards in a tropical rainforest. <i>South American Journal of Herpetology</i> , 1 (2) 131-137.	Allen press
Journal	Barlow, J., C. A. Peres, L. M. P. Henriques, P. C. Stouffer, and J. M. Wunderle. 2006. The responses of understorey birds to forest fragmentation, logging and	Elsevier

Progress towards the project purpose and outcomes

Progress towards project purpose and outcomes has been good (as with outputs, the year 1 progress was reliant on successful completion of fieldwork). There has been no change in the outcome level assumptions.

Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

Our project should help tropical forestry management systems be more effective in promoting sustainability in large production landscapes. Our highly novel work on the effectiveness of indicator groups for studying multiple components of biodiversity will assist in the monitoring and evaluation of all forestry programs. On a local level, our post-project research will help aid Grupo Orsa devise management programs for their 1.7Mha landholding at Jari, and their other forestry enterprises across Brazil. Moreover, the Jari site serves to stand as something of a flagship project of how scientists and managers can better integrate their respective expertises to devise more effective partnerships for the promotion of sustainable use. On a national and international level, our work should provide information to assist conservation planning and the monitoring and evaluation of forestry across the tropics. In keeping with this, lead project members are currently preparing a book entitled "Monitoring and evaluation of tropical forest management systems: the emergence of a conceptual framework" that draws upon the important lessons learnt in Jari and provides wide-ranging advice for how to improve the existing forest certification process.

4. Monitoring, evaluation and lessons

Indicators of achievement in this first year of the project are easily quantified (i.e. either fieldwork and training was undertaken). As such, we did not employ detailed M&E at this phase, although we did keep a close check on the data collection processes to maintain data quality.

Our post-project relied on using easily sampled indicator taxa to ensure the effective monitoring of biodiversity. In doing so, we were able to assess the viability of long-term monitoring programs, and devise a project structure that has a high level of scientific integrity and institutional stability, thus ensuring that it can continue successfully into the future.

5. Actions taken in response to previous reviews (if applicable)

n/a in post-project

6. Other comments on progress not covered elsewhere

The original project design has been adhered to, and we have been careful to avoid the run-away expansion that characterised (some aspects) of our first project! However, we have developed the exit-strategy through discussion with Grupo Orsa, the Forest Stewardship Council, and partner institutions in Brazil (MPEG). As a result of these talks, we have established a region-wide biodiversity monitoring and evaluation program that can be adopted by Grupo Orsa and MPEG to meet Forest Stewardship Council requirements. The company has committed itself to long term financing of this plan, and we will be visiting the site in July and August to begin the implementation of the program with our MPEG partners and our new links with the Federal University of Lavras, who will then take on most of the day to day running and subsequent data analysis. Although we believe the plan to be financially and logistically viable, there are some associated risks which would be inherent to any long-term project where funding and permission are in the hands of a limited company. These risks will be minimised

through the maintenance of a transparent and open relationship with the company and with FSC, as well as the collaborating scientific institutions.

7. Sustainability

Our ongoing work has ensured that the profile of our project has remained high within collaborating institutions, as well as the wider conservation community in Belém. The project has been projected globally (and will continue to do so) through the large number of high quality publications, which have been distributed to relevant scientists. We will make a special effort to target the UK, Brazilian and international press following the publication of high-impact multi-taxa papers (that are currently in review). The submission of articles to international journals by MSc students that were related to our original project provides evidence of increased capacity in biodiversity research. Three of the students (Marco Ribeiro Junior, Rafael Leite, and Luiz Mestre) originally involved in the project have gone on to find PhD studentships (in Brazil and the US), that were substantially aided by their involvement with the project.

8. Dissemination

We have been disseminating work through publishing in peer-reviewed journals and presenting in conferences and workshops in the UK and Brazil. Our work has been highlighted by the media (see <http://news.mongabay.com/2007/0206-biodiversity.html>) as a result of this strategy. In addition to this, we have made substantial progress towards the planned Biodiversity Workshop to be held in Belém later this year (Biodiversity conservation in human-dominated neotropical forest landscapes; 21-23rd Nov 2007) . We have invited a range of speakers with diverse backgrounds, uniting scientists, NGOs, Industry and local and national government in one workshop, covering the causes of land-use change in Brazilian forests, and the consequences, and opportunities and challenges for implementing effective change. In addition to the contribution identified within the budget of the Darwin post-project award, we have commitments for financial support from Conservation International, and an application has been submitted to CNPq (Brazilian Research Council for additional funding). Cambridge University Press has been contacted regarding publishing a book after the workshop, and the idea was met with enthusiasm by the managerial editors. The full application to CNPq, along with the preliminary program, is attached (it is currently only available in Portuguese, but will be translated to English soon).

As well as the planned workshop, project participants (UK and Brazilian) have spoken at a range of national and international meetings, and our project was summarised in front of key politicians and scientists by the director of MPEG at the Brazilian meeting of Global Climate change (Simpósio Brasileiro de Mudanças Ambientais Globais) that was held in Rio de Janeiro in May 2007.

Finally, we have also invested time and money in a website www.tropicalforestresearch.org, with the aim of clearly presenting our research aims and results in one dual language website, where all publication abstracts translated into Portuguese.

9. Project Expenditure

Table 2 Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)

Item	Budget (please indicate which document you refer to if other than your project schedule)	Expenditure	Balance
Rent, rates, heating, overheads etc			
Office costs (eg postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment			
Others (Vehicle costs)			
Salaries: Full time field survey assistant Two MPEG research technicians Student field stipends			
TOTAL			

Highlight any agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget.

10. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

[I agree for ECTF and the Darwin Secretariat to publish the content of this section](#)

We are currently awaiting acceptance of our main multi-taxa papers before going for a full press-release of our work in Jari. However, this should be forthcoming in the next few months, and we would be delighted to work with ECTF and DI on a joint press release of the main findings of our work.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<p>Goal: <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p><i>By publishing and disseminating our results, we are aiding effective decision making by conservation planners (in NGOs, industry and government).</i></p>	<p><i>Continue publishing, and, especially, disseminating our results to as wide an audience as possible. The workshop will be crucial for this, as it will allow results to reach beyond the scientific community to key forestry stakeholders in Brazil.</i></p>
<p>Purpose Identify and analyse existing trade-offs between the management of tropical forest landscapes for economic production and the conservation of biological diversity.</p>	<p>Identify management options which maximise biodiversity conservation opportunities within tropical production forests.</p> <p>Local capacity increased for forest biodiversity surveys.</p>	<p>The first step towards achieving this purpose requires effective data collection and analysis. This has been accomplished in year 1. Capacity building in the field has been undertaken in the same period.</p>	<p>The main purpose for the second year will be to interpret our results in a way that is meaningful for biodiversity conservation in human dominated landscapes, and to effectively disseminate that information so that it is taken up by relevant stakeholders.</p>
<p>Output 1. Eucalyptus plantation landscape analysis using pre-identified focal indicator taxa</p>	<p>Sampling design established and set out by month 5</p> <p>Field data collected by month 12 and specimens identified by month 14</p> <p>Peer reviewed papers and</p>	<p>Progress to date has met with (and exceeded) expectations. Indicators are suitable as they define progress towards ultimate goal of publication and dissemination of results.</p>	

	management report by month 19	
<p>Activity 1.1</p> <p>Identify, map and establish sampling areas and define methods (month 2)</p> <p>Undertake first seasonal replicates (months 3-6)</p> <p>Identify material from first seasonal replicate (months 7-8)</p> <p>Undertake second seasonal replicates (months 9-12)</p> <p>Identify material from second seasonal replicate (months 13-14)</p> <p>Create database and analyse data (months 15-18)</p> <p>Prepare scientific papers and management guidelines (months 19 & 20)</p>		<p>Completed on schedule</p> <p>Completed on schedule</p> <p>Completed on schedule</p> <p>Completed on schedule</p> <p>Completed for all groups except blowflies (completion due by end May 07)</p> <p>Initial stages in place. Will be completed ahead of schedule</p> <p>First two papers already prepared. Multi taxa papers will be written and published on schedule.</p>
Output 2. Evaluate functional role of native forest corridors and their value to biodiversity conservation	See indicators for output 1.	See output 1.
Activity 2.1. See Activities 1.1		See Activities 1.1
Output 3. Improve regional and national capacity to undertake effective biodiversity surveys	Improved expertise in biodiversity sampling amongst local counterparts	Progress to date has met expectations. The indicators define progress, but are difficult to assess at this point in the project (improved capacity is suggested at this point, but will be better defined by results at then end of the project).

Activity 3.1. Field training of MSc students (months 3-14)	Training of UK and Brazilian MSc students completed.
Statistical and analytical training for Masters students (Months 15-20)	To be completed in year 2.

Annex 2 Project's full current logical framework

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal:</p> <p><i>To draw on expertise relevant to biodiversity from within the United Kingdom and to work with local partners in countries rich in biodiversity but poor in resources to achieve:</i></p> <ul style="list-style-type: none"> • <i>the conservation of biological diversity,</i> • <i>the sustainable use of its components, and</i> • <i>the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i> 			
<p>Purpose</p> <p><i>Identify and analyse existing trade-offs between the management of tropical forest landscapes for economic production and the conservation of biological diversity.</i></p>	<p><i>Identify management options which maximise biodiversity conservation opportunities within tropical production forests.</i></p> <p><i>Local capacity increased for forest biodiversity surveys.</i></p>	<p><i>Produce management guidelines</i></p> <p><i>Continued establishment (with initial phase) of globally significant insect collections at MPEG</i></p> <p><i>Field competent students and technicians available and trained</i></p>	<p><i>Guidelines accepted by landscape planners at the local level.</i></p> <p><i>Guidelines have impact upon regional, national and international forestry policies.</i></p> <p><i>Local partners are interested in continued sampling in the region and resources are made available</i></p>
<p>Outputs</p>			

<p>1) <i>Eucalyptus</i> plantation landscape analysis using pre-identified focal indicator taxa</p> <p>2) Evaluate functional role of native forest corridors and their value to biodiversity conservation</p> <p>3) Improve regional and national capacity to undertake effective biodiversity surveys</p>	<p>1 & 2) Sampling design established and set out by month 5</p> <p>1 & 2) Field data collected by month 12 and specimens identified by month 14</p> <p>1 & 2) Peer reviewed papers and management report by month 19</p> <p>3) Improved expertise in biodiversity sampling amongst local counterparts</p>	<p>1 & 2) Sampling locations mapped on GIS database</p> <p>1 & 2) Database compiled and available for analysis. Insect specimens curated in MPEG</p> <p>1 & 2) Papers accepted and published; Management report delivered</p> <p>3) 3 MSc's completed by end of project.</p>	<p>1 & 2) Transport available and reliable</p> <p>1 & 2) Collaborating partners cooperate as agreed</p> <p>1 & 2) Collected material can be identified</p> <p>3) Students are fully integrated into the project and complete their course</p>
<p>Activities</p> <p>Outputs 1 & 2</p> <p>Output 3</p>	<p>Activity Milestones (Summary of Project Implementation Timetable)</p> <p>Identify, map and establish sampling areas and define methods (month 2)</p> <p>Undertake first seasonal replicates (months 3-6)</p> <p>Identify material from first seasonal replicate (months 7-8)</p> <p>Undertake second seasonal replicates (months 9-12)</p> <p>Identify material from second seasonal replicate (months 13-14)</p> <p>Create database and analyse data (months 15-18)</p> <p>Prepare scientific papers and management guidelines (months 19 & 20)</p> <p>Field training of MSc students (months 3-14)</p> <p>Statistical and analytical training for Masters students (Months 15-20)</p>		

Annex 3 supplementary material (workshop application to CNPq and preliminary proposal is attached as separate file)

Annex 4 Papers submitted and in review.

Barlow, J., T. A. Gardner, I. S. Araujo, A. B. Bonaldo, J. E. Costa, M. C. Esposito, L. V. Ferreira, J. Hawes, M. I. M. Hernandez, R. N. Leite, N. F. Lo-Man-Hung, J. R. Malcolm, M. B. Martins, L. A. M. Mestre, A. L. Nunes-Gutjahr, W. L. Overal, L. Parry, S. L. Peters, M. A. Ribeiro-Junior, C. da Silva Motta, M. N. F. da Silva, and C. A. Peres. in review. Quantifying the biodiversity value of tropical primary, secondary and plantation forests. PNAS.

Gardner, T. A., J. Barlow, I. S. Araujo, A. B. Bonaldo, J. E. Costa, M. C. Esposito, L. V. Ferreira, J. Hawes, M. I. M. Hernandez, R. N. Leite, N. F. Lo-Man-Hung, J. R. Malcolm, M. B. Martins, L. A. M. Mestre, A. L. Nunes-Gutjahr, W. L. Overal, L. Parry, S. L. Peters, M. A. Ribeiro-Junior, C. da Silva Motta, M. N. F. da Silva, and C. A. Peres. in review. The cost-effectiveness of biodiversity research in tropical forests. Ecology Letters.

Barlow, J., I. S. Araujo, W. L. Overal, T. A. Gardner, F. Mendes, I. Lake, and C. A. Peres. in review. Diversity and composition of fruit-feeding butterflies in tropical plantation forests. Biodiversity and Conservation.

Ribeiro Jr, M. A., T. A. Gardner, and T. C. S. Avila-Pires. in preparation. Evaluating the effectiveness of herpetofaunal sampling techniques across a habitat change gradient in a neotropical forest landscape. Journal of Herpetology.

Parry, L. T. W., J. Barlow, and C. A. Peres. in review. Large vertebrate assemblages of primary and secondary forests in the Brazilian Amazon Journal of Tropical Ecology.