Submit by Monday 1 December 2008

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 16: STAGE 2

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue.

1. Name and address of organisation (NB: Notification of results will be by post)

Name:	**Address:**
Zoological Society of London (ZSL)	**Regents Park, London, NW1 4RY, UK**

2. Project title (not exceeding 10 words)

Berbak to the Future: Harnessing carbon to conserve biodiversity

3. Project dates, duration and total Darwin Initiative Grant requested (but please see note in cover letter)

Proposed start date:		**Duration of project:**		**End date:**	
Darwin funding requested	**2009/10 £99,317**	**2010/11 £95,562**	**2011/2012 £103,189**	**2012/13 £**	**Total £298,067**

4. Define the purpose of the project (extracted from logframe)

To create a financial incentive to landscape stakeholders in eastern Sumatra to conserve peat swamp habitat and thus the biodiversity, carbon potential and other services it contains.

5. Principals in project. Please provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more than one overseas project partner.

Details	**Project Leader**	**Other UK personnel (working more than 50% of their time on project)**	**Main project partner and co-ordinator in host country/ies**
Surname	**Maddox**	**Varma**	**Sutedi**
Forename (s)	**Thomas Miles**	**Kaavya**	**Tedi**
Post held	**Country Manager, Indonesia**	**Project Manager (dependent on grant success)**	**Head, Berbak National Park**
Institution (if different to above)			**Indonesian Department of Forestry**
Department	**Conservation Programmes**	**To be employed by ZSL if the grant is successful**	**Dir. Gen. PHKA**
Telephone			
Email			

Details	Main project partner and co-ordinator in host country/ies	In country advisor	
Surname	**Al Zaqie**	**Brown**	
Forename (s)	**Ichlas**	**David W.**	
Post held	**Co-Project Manager (dependent on grant success)**	**REDD Advisor**	
Institution (if different to above)		**World Bank / ERM**	
Department	**To be employed by ZSL if the grant is successful**		
Telephone			
Email			

6. Has your organisation received funding under the Darwin Initiative before? If so, give details.

Reference No	Project Leader	Title
14/060	Alison Shaw	Sustainable Management of Ornamental Fish Species in Mamiraua, Brazil
162/12/004	Rajan Amin	Building Capacity for Conservation of a Critically Endangered Flagship Species (Kenya)
162/12/029	Kate Oddie / Nigel Barton	The Steppe Forward Programme: Training conservationists for Mongolia's Future
14/024	Belinda Stewart-Cox	Afro-Asian Elephant Community Conservation Network
162/13/034	Sarah Christie	Wildlife health monitoring and capacity-building for leopard conservation in Russia
16-010	Glyn Davies	Wildlife Wood Project

7. IF YOU ANSWERED 'NO' TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims (50 words)
Activities (50 words)
Achievements (50 words)

8. Please list the UK/collaborative (where there are partners <u>in addition</u> to the applicant organisation) and host country partners that will be involved, and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of host country partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

Partner Name:	Details (including roles and responsibilities and capacity to engage with the project):
Berbak National Park (TNB)	Berbak National Park, which is part of the Indonesian Ministry of Forestry, initiated this project in early 2008 by requesting help from ZSL in finding a way to conserve the park and its species. The resulting discussions led to the project outlined in this application. The TNB office has the authority and responsibility for conserving everything within the national park boundary. Currently they are struggling to fulfil this function. They have only received a third of the operating budget they requested for 2009-10 and received just $30 from tourism revenue in 2007. They have just 15 forest police to patrol an area of 1600 sq. km. and the operating budget only allows one patrol per section of the park per month, for just six months of the year. On ZSL's last visit to the park the National Park office's only boat was broken meaning access to the park was only possible by commercially hiring boats. The head of the national park sees great potential from this project as a solution to many of these issues. He has been closely involved in the project development from the outset and plays a crucial role facilitating meetings with key Department of Forestry personnel as we develop the institutional framework for the project. ZSL will shortly formalise their relationship with TNB througn an MoU. However, before this can happen an MoU with the Department of Forestry Directorate for Nature Conservation has to be signed. This has been approved by the Department of Foreign Affairs and is currently in the latter stages of negotiation.

Partner Name:	Details (including roles and responsibilities and capacity to engage with the project):
Environmental Resources Management (ERM) / ERM Foundation	ERM and their charitable foundation were approached for help by ZSL in mid 2008 on a range of projects. This project was chosen as the concept that most interested them and since then their Indonesian office has put in many hours of *pro bono* work helping us develop proposals and introducing us to potential donors and investors. ERM bring an increased level of business acumen to the project, as well as experience from CDM carbon projects, and have played a major role in shaping the project into something that will be financially viable. They have also facilitated introducing the project to various major donor agencies, including securing a presentation as one of ten key projects at a recent World Bank / Dept Forestry REDD meeting. Discussions are currently ongoing to what extent the ERM Foundation can facilitate future involvement and an MoU is in discussion outlining ERM's exact role as the project develops.

9a. Have you consulted stakeholders not already mentioned above? ☒ **Yes** ☐ **No**
If yes, please give details:

Since the Stage I application we have consulted with a wide range of stakeholders including:

Ministry of Forestry - Directorate General for Forest Conservation (PHKA): PHKA was formally consulted through the Secretary to the Director General who expressed strong support for the project, particularly since he felt that his department was being passed by as Indonesia prepares for REDD in preference for sectors where profits from avoided deforestation are likely to be higher (such as forestry or agriculture). He requested to be kept involved and offered specific help on developing the institutional framework. This meeting led to the development of a complimentary proposal from ZSL to the FCO Low Carbon Fund specifically designed to improve REDD 'readiness' within the conservation area sector of the Ministry of Forestry and regional forestry offices.

Ministry of Forestry - Directorate General for Forest Production (BPK): BPK were consulted on options for the production forest section of the project area. They were encouraging on options to obtain formal licenses

for carbon utilisation in the production forest and protection forest areas and revealed that half of the production area within the project site was presently unallocated.

Ministry of Forestry - Directorate General for Environmental Services and Nature Tourism: Consulted for specific advice on current progress of new regulations concerning carbon trading in Indonesia.

Dept. Wildlife Conservation, Jambi (BKSDA): BKSDA are responsible for all wildlife conservation outside protected areas, so have an important role in parts of the project area. They were again supportive and updated us on other REDD project potentials in the region.

Wetlands International: WI have conducted extensive work in the Berbak region and are just coming to the end of a GEF project focussing on peatland communities in the area. They are supportive of the project and undertaking similar projects in Aceh and Kalimantan. They expressed a strong interest of being involved if their GEF funding was extended.

PINSE / Gita Buana: PINSE and Gita Buana are local NGOs that have been working in partnership with Wetlands International in the Berbak region. Both have been consulted on plans and were supportive, giving valuable insights on illegal logging and the production forest areas. It is intended that both NGOs will be involved in the assessment of driving factors for illegal logging in Berbak.

PT Putra Duta: Putra Duta are the logging company that hold the concession rights for half of the production forest within the project area. At present they are inactive, having just had their cutting rights withdrawn by the government for unsatisfactory management plans. They gave us detailed information on their operating costs and profit margins and showed a strong interest in principle in earning revenue from not cutting or reduced impact logging if we could demonstrate comparable profits to timber. As part of their new concession license, PT Putra Duta already have the right to market carbon from their concession.

EU Forest Law Enforcement, Governance and Trade office, Jambi (FLEGT): FLEGT currently use the Berbak region as one of their focal sites and for this reason have obtained high resolution and up to date imagery for the region. They have agreed to release all of this information to the National Park in support of this project and this request is currently in process.

EcoSecurities: EcoSecurities are one of the world's largest brokers and buyers of carbon credits and showed immediate interest in our Project Idea Note, saying in principle they would be interested in buying credits when further groundwork was complete. They were supportive of the direction we were taking to scientifically validate baselines before attempting to sell any credits and asked to be kept involved with project developments.

9b. Do you intend to consult other stakeholders? ☒ **Yes** ☐ **No**
If yes, please give details:

The key stakeholders left to consult are the regional government who control all of the land outside the National Park, and local community leaders. Meetings have been arranged with the provincial and regional forestry offices (DINAS) facilitated by the head of the National Park, but these have been scheduled for 4-5th December. Following these meetings it is hoped that forestry offices will facilitate meetings with the two relevant regional heads (bupatis, who hold most of the power under Indonesia's new decentralised form of government) and ultimately with the provincial governor who we hope will play a crucial role in coordinating the regional heads and supporting the institutional framework. It is hoped that regional government will form one of the formal stakeholders in the project management partnership. Community leaders will be approached after regional government leaders have been fully briefed.

9c. Have you had any (other) contact with the government not already stated? ☒ **Yes** ☐ **No**
If yes, please give details:

ZSL's overall strategy and presence in Indonesia as a charitable organisation has received formal approval by the Indonesian Department of Foreign Affairs allowing us to obtain a tax number and bank account within country.

The project leader's personal presence in the country is supported by the Indonesian Institute of Science, part of the Ministry of Technology and Science who have also approved all planned activities including the Berbak project.

9d. Is any liaison proposed with the CBD/CMS/CITES focal point in the host country? ☒ Yes ☐ No
If yes, please give details:

The contact officer for the Indonesian CBD focal point (the Ministry of Environment) has been contacted with details of the project and requested to act as a formal advisor.

PROJECT DETAILS

10. Please provide a Concept note (Max 1,000 words) (repeat from Stage 1, with changes highlighted)

One of the key factors limiting biodiversity conservation is that the economic value of biodiversity is intangible and difficult to measure, particularly at the scale required to provide a local incentive to conserve [1]. One solution to this is to recognise biodiversity as an integral part of a suite of ecosystem values, some of which have clearer economic value [2]. Currently combating climate change is the top global environmental priority. This has led to a strong economic incentive to conserve the carbon value of an ecosystem, with avoided deforestation identified as one of the most efficient options [3], particularly in peatlands [4]. The close relationship between biodiversity conservation and climate change has already been recognised at the highest level [5] and has led to the idea that activities conducted to mitigate climate change could be harnessed to drive biodiversity conservation, as well as a host of other 'co-benefits' such as rural development [6, 7]. This overlap is particularly prevalent in tropical forests where biodiversity is highest and deforestation is a primary driver of both biodiversity loss [8] and carbon emissions [9]. Few opportunities exist for forest-based climate change mitigation under the Kyoto Protocol, but trade in forest carbon credits has been increasing through unregulated voluntary markets, particularly through 'avoided deforestation' projects [10]. This has led to formal discussion on incorporating avoided deforestation and forest degradation (REDD) into UNFCCC trading mechanisms [3, 11, 12].

Indonesia is one of the world's few 'megadiversity' centres. It has two global biodiversity hotspots and is home to some 30,000 plant, 1000 bird and 500 mammal species [13]. This wealth of biodiversity is conserved through an extensive protected area system, national legislation and international treaties including CBD, CITES and Ramsar. However, with a population of almost 200 million and a *per capita* income of only $710, demand for economic development places heavy demands on environmental resources [14]. The country's forests have been reduced by 30-50% over the past century with current deforestation rates far exceeding global averages [15]. This habitat loss has been a key factor in the decline, and extinction, of a range of species and Indonesia now has more endangered species than almost any other country. Furthermore, carbon emissions from deforestation, particularly on peat lands, have driven Indonesia to become the third largest emitter of greenhouse gases in the world [16, 17]. The challenge now facing Indonesia is to reconcile the demands of development with the pressures this places on the ecological foundations on which the country rests.

In accordance with the CBD and Indonesia's own NBSA, this project aims to conserve the biodiversity of a 2500 km^2 peat swamp forest ecosystem in eastern Sumatra dominated by a National Park. Historically, restricted accessibility has meant this area remains highly important for biodiversity, particularly large mammals and birds, including the Sumatran tiger (Critically endangered, CITES I), white-winged duck (Endangered, CITES I) and Nordman's Greenshank (Endangered, CMS Appendix I) [18, 19]. Furthermore, the area also has important functions as a major carbon sequestration site, estimated to contain close to 100 million tonnes of CO_2 equivalent, and as a source of water, protection and resources for communities living on the forest fringes. But pressure is growing on these values, with a recent study estimating deforestation rates within the park at 2.44%/yr and outside the park at 4.66%/yr [20] with illegal logging and resulting fires primary causes [18]. Forest protection resources are severely lacking and local communities are very poor. With the forest providing few tangible and immediate benefits (revenue from tourism in 2007 was $30) the incentives for long term conservation are outweighed by the need for short term profit and survival.

We aim to address this by establishing an REDD project that harnesses the potential economic value of the carbon stored in the forests to the value of the biodiversity, providing an immediate financial incentive for stakeholders to conserve the region. This concept has been recognised as the first pilot project addressing implications of avoided deforestation for conservation areas within Indonesia's REDD preparatory work and will therefore provide a new conservation model for the region's most bio-diverse areas. This proposal covers the core scientific, political and monitoring activities required to underpin a successful REDD project and to link carbon to biodiversity and community benefits - aspects which do not always receive the attention they deserve in the race to bring credits to market elsewhere. The project will first establish the institutional framework and MoUs with stakeholders required to manage the ecosystem unit and resulting revenues and to obtain the relevant certification and assessments required to attract investors [21, 22]. In parallel with this, fieldwork will be conducted with stakeholder counterparts to assess deforestation and carbon emission

baselines, biodiversity and community 'co-benefit' baselines and the relationships between them. Options for tackling deforestation and emissions will then be assessed, including improving forest protection, local community development projects, implementation of reduced impact logging and reforestation of areas already cleared. Since monitoring and evaluation is both an essential component of an REDD project and grant implementation, the proposal includes the framework for setting up a sustainable monitoring programme for emissions and biodiversity and the training required for this to be continued by stakeholder staff at the end of the project period.

At the end of the project, all of the requirements for an REDD project will be in place and the project will be ready to receive investment to implement deforestation mitigation strategies on a large scale and generate credits for sale on voluntary carbon markets. Environmental Resources Management (ERM) will be working hard to identify eventual investors throughout the project, with significant interest already shown even before the project has begun. In addition, by working through the government and following approved methodologies [23], the project will have maximised the chances of eligibility for a UNFCCC REDD mechanism, expected to be established in 2012, which will greatly increase the scope for revenue and thus sustainable biodiversity conservation. *(987 words)*

1. Balmford, A., Rodrigues, A., Matt Walpole, ten Brink, P., Kettunen, M. & Braat, L. and de Groot, R., *Review On The Economics Of Biodiversity Loss: Scoping The Science*. 2008, University of Cambridge, IEEP, Alterra, UNEP, WCMC: Cambridge, UK.
2. Naidoo, R. and T.H. Ricketts, *Mapping the Economic Costs and Benefits of Conservation.* PLoS, 2006. **4**(11): p. e360.
3. Eliasch, J., *Climate Change: Financing Global Forests. The Eliasch Review*. 2008, Office of Climate Change, UK: London.
4. Spracklen, D., et al., *The Root of the Matter: Carbon Sequestration in Forests and Peatlands*. 2008, Policy Exchange: London.
5. G8 Environment Ministers, *Kobe Call for Action for Biodiversity*. 2008.
6. Chan, K.M.A., et al., *Conservation Planning for Ecosystem Services.* PLoS, 2006. **4**(11): p. e379.
7. Ebeling, J. and M. Yasue, *Generating carbon finance through avoided deforestation and its potential to create climatic, conservation and human development benefits.* Philosophical Transactions of the Royal Society B, 2008. **363**: p. 1917-1924.
8. Turner, I.M., *Species loss in fragments of tropical rainforests: a review of the evidence.* Journal of Applied Ecology, 1996. **33**: p. 200-209.
9. Stern, N., *The Economics of Climate Change: The Stern Review*. 2007, Cambridge, UK: CUP.
10. Neeff, T., et al., *Update on Markets for Forestry Offsets*. 2007, The Tropical Agricultural Research and Higher Education Center (CATIE).
11. Miles, L. and V. Kapos, *Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation: Global Land-Use Implications.* Science, 2008. **320**: p. 1454-1455.
12. Campbell, A., et al., *Protecting the future: Carbon, forests, protected areas and local livelihoods.* Biodiversity, 2008. **9**(3-4): p. 117-121.
13. BAPPENAS, *Indonesian Biodiversity Strategy and Action Plan*. 2003, The National Development Planning Agency (BAPPENAS): Jakarta, Indonesia.
14. World Bank, *Environment at a Glance 2004: Indonesia*. 2004.
15. FWI/GFW, *The State of the Forest: Indonesia*. 2002, Forest Watch Indonesia and Global Forest Watch USA: Bogor, Indonesia and Washington, DC.
16. PEACE, *Indonesia and climate change: current status and policies*. 2007, World Bank, DfID: Jakarta, Indonesia.
17. Hooijer, A., et al., *PEAT-CO2: Assessment of CO2 emissions from drained peatlands in SE Asia*. 2006, Delft Hydraulics, Wetlands International.
18. Giesen, W., *Causes of Peat Swamp Forest Degradation in Berbak NP, Indonesia and Recommendations for Restoration*. 2004, International Agricultural Centre (IAC) in ccoperation with Alterra, Arcadis Euroconsult, Wageningen University / Lei, Wl / Delft Hydraulics, Wetlands International.
19. Salampessy, A., T. Maddox, and D. Priatna, *Rapid survey for large mammals of Taman*

Nasional Berbak. 2008, Zoological Society of London: London.
20. Gaveau, D., *Evaluating whether Sumatran protected areas reduce tropical deforestation*, in *Durrell Institute of Conservation and Ecology*. 2008, University of Kent: Canterbury.
21. Kollmuss, A., H. Zink, and C. Polycarp, *A Comparison of Carbon Offset Standards*. 2008, WWF Germany, Stockholm Environment Institute, Tricorona: Stockholm, Sweden.
22. Merger, E., *Forestry Carbon Standards 2008 - A comparison of the leading standards in the voluntary carbon market and the state of climate forestation projects*. 2008, Carbon Positive.
23. Biocarbon Fund, *Methodology for Estimating Reductions of GHG Emissions from Mosaic Deforestation*. 2008, World Bank: Washington D.C.

11a. Is this a new initiative or a development of existing work (funded through any source)? Please give details:

This is a new initiative, but ZSL already completed a preliminary survey of the site in 2007/8 searching for tiger evidence and we have already obtained some funds to start the initial stages, with KPMG providing £25,000 to set up project infrastructure within the park and ERM providing *pro bono* assistance to develop project ideas.

11b. Are you aware of any other individuals/organisations/Darwin Initiative projects carrying out similar work?

☒ **Yes** ☐ **No**

If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:

Since the UNFCCC COP13 meeting in Bali, various avoided deforestation projects have started to be established in Indonesia. Most of these, including this initiative, were presented at a 'lessons learned' REDD meeting held by the World Bank and Ministry of Forestry in November. The highest profile of these was the FFI / Merrell Lynch Ulu Masen project in Aceh, which is many times larger than our proposal. We met one of the original initiators of this project and the associated Aceh Green project to get advice on directions. One of their key problems at present is that there is a dispute between the provincial government that signed the deal on the basis that carbon was a provincial asset and central government who argue the carbon is a national asset. National-regional conflict has since sprung up in various projects since then and has stimulated the Ministry of Forestry to draft new regulations to control this, although these have yet to be passed. This is one of the reasons we are developing the Berbak project with the full knowledge of both national and regional government.

We have also been in touch with Global Eco-Rescue who are setting up avoided deforestation projects in Kalimantan throught the Deaprtment of Forestry. However, we have been told by the Department of Forestry that we are the only project attempting to set up an avoided deforestation project based within a protected area in Indonesia.

We have noticed that there are also three other projects in the Darwin Initiative shortlist that we would be very interested in sharing notes with: 'Harnessing carbon finance to arrest deforestation: Saving the Javan rhinoceroses – IIED, 'Conserving carbon and biodiversity in China's and Vietnam's forests' - University of East Anglia and 'Piloting reductions in deforestation through economic incentives in Cambodia' - University of Cambridge. Contact details for these projects has been requested.

12. Please indicate which of the following biodiversity conventions your project will contribute to: -
At least one must be selected.
- Only indicate the conventions that your project is directly contributing to.
- No additional significance will be ascribed for projects that report contributions to more than one convention

Convention on Biological Diversity (CBD)	☒ **Yes** ☐ **No**
CITES	☐ **Yes** ☐ **No**
Convention on Migratory Species (CMS)	☒ **Yes** ☐ **No**

What problem is this project addressing and how was it identified? (150 words)

At one level this project will be addressing the need for financial incentives to conserve biodiversity. This problem was initially highlighted by the local National Park manager who was frustrated that his park held significant and endangered biodiversity but could not access any funds to secure it. This is just one example of a global problem; that the value of biodiversity is intangible and rarely obvious at the regional scale where most of the threats originate. On a finer level, the project addresses the problem that whilst carbon markets may potentially provide a solution to this, most of the current mechanisms are not specifically designed to do so and there is little understanding of how this potential can be applied. This is a problem that has been widely covered in recent literature and was specifically raised at the UNFCCC COP13 meeting where the roadmap to REDD was launched. (*148 words*)

What will change as a result of this project? (150 words)

The main direct changes that we expect to see as a result of this project are that:
- The destruction of habitat in the Berbak ecosystem is significantly reduced or stopped
- The forests and their constituent biodiversity, carbon and ecosystem services are conserved for the foreseeable future
- The applicability of REDD for conservation areas and biodiversity will be demonstrated

The main indirect changes we expect the project to play a significant role in are:
- Application of REDD schemes in further protected areas
- Associated benefits for biodiversity from increased habitat protection due to REDD schemes

(*98 words***)**

Why is the project important for the conservation of biodiversity? (150 words)

The project is important for the conservation of biodiversity because it represents a replicable method of securing funds for conserving biodiversity in the most important habitats. If we can demonstrate that sufficient emissions can be avoided by better management of parks to secure sufficient funding to drive those changes, then this may represent the best opportunity for stopping the steady disappearance of habitat in Indonesia's conservation areas. (*67 words*)

How does this relate to one or more of the biodiversity conventions? (150 words)

This project matches all of the objectives of the CBD, by aiming to a) conserve biodiversity b) use biodiversity sustainably (in this case indirectly by using biodiversity to access premium prices for carbon credits) and c) the fair and equitable use of the benefits arising (it is essential all stakeholders feel they are receiving an equitable share of the benefits if their support in reducing emissions is to be continued). Specifically the project addresses article 8, in particular clauses b-f which deal with the sustainable conservation of protected areas and surrounding habitat.

The project also has strong implications for achieving the goals of the CMS in that the Berbak forests are an important migratory stop over point (it is estimated that 10% of the world population of Nordmann's greenshank pass through Berbak). However, Indonesia is not a signatory to the CMS. (*141 words*)

13. How will the results of the project be disseminated; how will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used? (max 200 words)

Dissemination of results is important for the project for three reasons. Firstly, it is important on a local level to garner support for the project. Secondly it is important on a national level because we are hoping this will be the first in a series of conservation areas in Indonesia to utilise REDD to assist in their protection. Finally, it is essential that the project results are disseminated internationally in order to identify potential investors to push through the recommendations on avoiding deforestation.

ZSL and members of the Indonesian team are already experienced in results dissemination. ZSL has several full time publicity staff, whilst the Indonesian team have already had their work covered published in peer reviewed journals and covered on UK and Indonesian tv and radio and by most of the major newspapers in both countries.

Assuming permission is given, the Darwin logo will be placed on all project vehicles and at the entrance to the field research centre. The logo will also be displayed on the project's website and blog (on www.zs.org), on the project database and on all reports produced. (*183 words*)

14. What will be the long term benefits of the project in the host country or region and have you identified any potential problems to achieving these benefits? (max 200 words)

The Indonesian government has already identified its commitment to biodiversity conservation in its national BAP and it has also clearly stated its desire to utilise REDD to reduce deforestation. This project will assist with both long term targets, with the project being one of only a few that are being set up in collaboration with central government and recognised as the only formal pilot project to date that is addressing REDD in the protected area sector.

The key limitation to achieving the results at present is the lack of a legal framework, which leaves projects open to increased risk. However, this problem has been identified and the government are working hard to bring through legislation designed to guide REDD projects in the future. *(123 words)*

15. State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave? (Max 200 words)

One of the most exciting aspects of this project is that it does have a strong potential for achieving genuine sustainability. Once the project is complete (or quite likely before) it is expected that at least one investor will want to buy verified emission reductions (or the anticipation of their imminent generation based on the DI project groundwork). At the point the first payment arrives, the project should be formally sustainable. Continued demonstrated of reductions in emissions and maintenance of biodiversity will be required if revenue is to continue flowing, therefore assuming the management structure in place is strong enough, the revenue earned will have to be re-invested in achieving the project goals in order to secure payment the following year. At this point, or after a short transition period, ZSL plans to back away from the project (and probably move to re-start the process elsewhere). An NGO presence is often useful for credibility and transparency and for this reason we would hope to remain part of the management unit for the ecosystem in some form, but after sustainability is achieved it is expected that ZSL would become just one of several stakeholders driving the process forward. (197)

16. If your project includes training and development, please indicate how you will assess the training needs in relation to the overall purpose of the project. Who are the target groups? How will the training be delivered? What skills and knowledge to you expect the beneficiaries to obtain. How will you measure training effectiveness. (max 300 words)

You should address each of these points.

Training and development is a vital part of the project to ensure that members representing the project stakeholders (National Park, protection forest, logging concessions) have the skills and technical capacity to continue implementing and monitoring the project once revenue starts arriving and it officially becomes sustainable. Several key areas have been identified for training:

1. Background knowledge on what REDD is, how it can be applied to conserve forests and biodiversity and what benefits can be expected (important not only as an introduction but also to manage stakeholder expectations)
2. Technical skills for project monitoring
    a. Ability to monitor and calibrate deforestation rates in a transparent and verifiable manner
    b. Ability to monitor biodiversity values
    c. Ability to monitor stakeholder satisfaction
3. Technical skills for emissions avoidance implementation
    a. Forest protection management
    b. Reduced Impact Logging techniques
    c. Reforestation techniques

ZSL will lead on training for 1 and 2 but outside experts will be brought in for 3. Training effectiveness will be judged by short assessments before, immediately after and six months subsequent to the training courses. (177 words)

LOGICAL FRAMEWORK

17. Please enter the details of your project onto the matrix using the note at Annex 3 of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes. (Use no smaller than Arial 10 pt)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: [1] To conserve the biodiversity, carbon potential and associated ecosystem functions of the peat swamp forests of eastern Sumatra	1. Deforestation rates significantly reduced 2. Key species populations stable or increasing 3. Local communities show increased support for conservation	Satellite imagery based monitoring system Annual biodiversity assessment Community surveys at project start and end	
Purpose: To create a financial incentive to landscape stakeholders in eastern Sumatra to conserve peat swamp habitat and thus the biodiversity, carbon potential and other services it contains.	4. Proven availability of an economically viable volume of carbon emission reductions 5. Measurable positive impacts on co-benefits (biodiversity and local communities) if interventions implemented	Economic feasibility study completed by third party Recognised Forestry Carbon Standard certification obtained Assessments of relationships between carbon and co-benefits	Indonesian legislation does not prohibit activities Carbon sequestration retains a market value Carbon and biodiversity values overlap Permission to operate in Indonesia continued
Outputs: 1. Establishment of the institutional framework required to operate a carbon revenue-based project	6. % key stakeholders represented on management body 7. No. agreements signed	Signed agreements Legal documents	Support is obtained by the key landscape stakeholders Clarity on 'ownership' of national forest is obtained.
2. Quantification of emission baseline values and likely rates of change in a 'business as usual' scenario.	8. Forest cover across project area assessed for at least ten historical points 9. Carbon calculations calibrated by at least 100 field sample plots	Project reports	Weather conditions permit fieldwork Sufficient historical data can be obtained.

[1] Changes made to log frame: Original output assessing deforestation drivers incorporated into output 2 and output assessing carbon and co-benefit baselines separated. This was to match the methodology structure for assessing emissions from avoided deforestation recommended by the World Bank BioCarbon Fund (2008). Indicator and verification information improved

3. Quantification of co-benefit (biodiversity, community) baseline values and relationship to carbon baselines	10. Biodiversity analysis based on at least 100 field samples 11. At least 30% of villages sampled	Project reports	Weather conditions permit fieldwork Communities are willing to cooperate.
4. An assessment of the viability of available strategies to mitigate environmental change	12. At least 5 potential interventions assessed	Project reports	Deforestation continues Mitigation options are on a scale that is manageable by local action Landscape managers are open to trialling new techniques

Main activities (details in work plan)

1.1 Define boundaries for zones: a) project area b) reference region c) leakage belt
1.2 Establishment of independent management entity
1.3 Sign working agreements with key stakeholders
1.4 Obtain recognised Forestry Carbon Standard certification
2.1 Calculate historical land-use and land cover change across zones
2.2 Identify agents, drivers and underlying causes of deforestation
2.3 Project future deforestation rates and locations across zones
2.4 Calculate baseline carbon stocks above and below ground
2.6 Calculate carbon stock changes if intervention is taken
2.7 Calculate carbon stock changes through leakage
2.8 Calculate overall predicted project carbon emission reductions

Recommended methodology for measuring avoided GHG emissions from World Bank BioCarbon Fund

3.1 Calculation of species richness across different forest classes
3.2 Calculation of habitat use by key species (tigers, birds)
3.3 Calculation of tiger densities across the project area
3.4 Inventory of all communities within the project area
3.5 Survey of current sources of income and relationship with the forest
3.6 Quantify relationships between biodiversity values, deforestation and carbon emissions
4.2 Quantifiably assess impact of forest protection improvement across project area
4.3 Quantifiably assess impact of community support intervention within the project area
4.4 Quantifiably assess impact of reduced impact logging in active production forest
4.5 Quantifiably assess potential of avoiding all deforestation in unallocated production forest
4.6 Quantifiably assess impact of reforestation options

Monitoring activities:
Indicator 1 – Annual remote sensing assessment of deforestation and carbon emissions across project area compared to reference zone and leakage belt zone
Indicator 2 – Annual ground-based biodiversity indicator and threat assessments across project area compared to reference zone and leakage belt zone
Indicator 3 – Community surveys at project start and end to assess attitudes towards, and relationships with, the forests and species within them.

18. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project.

	Activity	Months	Year 1				Year 2				Year 3			
			1	2	3	4	1	2	3	4	1	2	3	4
1.1	Define boundaries for zones: a) project area b) reference region c) leakage belt	1	X											
1.2	Confirm physical boundary locations with spatial planning agencies	2	X											
1.3	Provide introductory training on REDD to stakeholders	1	X											
1.4	Establish independent management entity	6	X	X										
1.5	Sign agreement with National Park	6	X	X										
1.6	Sign agreement with regional government	6	X	X										
1.7	Sign agreement with logging concession	6	X	X										
1.8	Sign agreement with Ministry of Forestry	6	X	X										
1.9	Conduct economic feasibility study	3												X
1.10	Obtain recognised Forestry Carbon Standard certification	3												X
2.1	Calculate historical land-use and land cover change across zones	4	X	X										
2.2	Identify agents, drivers and underlying causes of deforestation	6		X	X									
2.3	Project future deforestation rates and locations across zones	2				X								
2.4	Identify forest classes in areas of predicted deforestation and land classes replacing them	2				X								
2.5	Calculation of baseline carbon stock changes above and below ground	6	X	X										
2.6	Calculation of carbon stock changes if intervention is taken	1			X									
2.7	Calculation of carbon stock changes through leakage	1				X								
2.8	Calculation of overall predicted carbon emission reductions	2				X								
3.1	Establish field research base	3	X	X	X									
3.2	Development of biodiversity assessment protocol	3	X	X										
3.3	Calculation of species richness across different forest classes	6			X				X				X	
3.4	Assessment of habitat use by tigers and other large mammals	24	X	X	X	X	X	X	X	X				
3.5	Tiger density assessment	9		X	X			X	X			X	X	
3.6	Summarise relationships between biodiversity values, deforestation and carbon emissions	2									X	X		
3.7	Assess basic demographic and social variables for communities within project area	3		X	X									
3.8	Conduct needs assessment for communities in/around forest	3			X	X								
3.9	Summarise relationships between community values, deforestation and carbon emissions										X	X		
4.1	Conduct a needs assessment for improving protection	6					X	X						
4.2	Conduct a needs assessment for improving community livelihoods	6						X	X					
4.3	Conduct a needs assessment for reducing impacts from logging	6							X	X				
4.4	Conduct a needs assessment for increasing sequestration through reforestation	6								X	X			

4.5	Conduct a needs assessment for avoided deforestation through licensing in empty logging concession	6									X	X		
	Monitoring activities													
1	Establish monitoring station	3	X											
2	Establish project website	1		X										
3	Establish source of future satellite imagery data	6	X	X										
4	Establish data management framework for receiving and analysing data	4			X	X								
5	Train stakeholder staff in monitoring deforestation / emission rates	12	X	X	X	X								
6	Conduct annual assessment of deforestation / emission rate	12		X	X			X	X			X	X	
7	Establish protocol for rapid biodiversity assessment	4	X	X										
8	Train stakeholder staff to collect biodiversity indicator data	4		X	X									
9	Train stakeholder staff to manage and analyse biodiversity data	4			X	X								
10	Conduct annual assessment of biodiversity indicators	12		X	X			X	X			X	X	
11	Establish protocol for rapid community attitude assessments	1			X									
12	Train stakeholder staff to conduct community surveys	1			X				X				X	
13	Train stakeholder staff to manage and analyse community attitude data	12			X	X			X	X			X	X
14	Conduct annual survey of community attitudes towards forest conservation	12			X	X			X	X			X	X

19. Please indicate which of the following Standard Measures you are likely to report against. You will not necessarily plan to cover all these Standard Measures in your project.

Standard Measure No	Description	Tick if Relevant
1A	Number of people to submit thesis for PhD qualification (in host country)	
1B	Number of people to attain PhD qualification (in host country)	
2	Number of people to attain Masters qualification (MSc, MPhil etc)	X
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	
4A	Number of undergraduate students to receive training	
4B	Number of training weeks to be provided	
4C	Number of postgraduate students to receive training	X
4D	Number of training weeks to be provided	X
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	X
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	X
6B	Number of training weeks to be provided	X
7	Number of (ie different types - not volume – of material produced) training materials to be produced for use by host country	X
8	Number of weeks to be spent by UK project staff on project work in the host country	X
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	X
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	X
11A	Number of papers to be published in peer reviewed journals	X
11B	Number of papers to be submitted to peer reviewed journals	X
12A	Number of computer based databases to be **established** and handed over to host country	X
12B	Number of computer based databases to be **enhanced** and handed over to host country	
13A	Number of species reference collections to be **established** and handed over to host country(ies)	
13B	Number of species reference collections to be **enhanced** and handed over to host country(ies)	
14A	Number of conferences/seminars/ workshops to be **organised** to present/disseminate findings	X
14B	Number of conferences/seminars/ workshops **attended** at which findings from Darwin project work will be presented/ disseminated.	X
15A	Number of national press releases in host country(ies)	X
15B	Number of local press releases in host country(ies)	X
15C	Number of national press releases in UK	X
15D	Number of local press releases in UK	X
16A	Number of newsletters to be produced	X
16B	Estimated circulation of each newsletter in the host country(ies)	
16C	Estimated circulation of each newsletter in the UK	X
17A	Number of dissemination networks to be **established**	
17B	Number of dissemination networks to be **enhanced/ extended**	
18A	Number of national TV programmes/features in host country(ies)	
18B	Number of national TV programmes/features in UK	
18C	Number of local TV programmes/features in host country(ies)	
18D	Number of local TV programmes/features in UK	
19A	Number of national radio interviews/features in host county(ies)	X
19B	Number of national radio interviews/features in UK	X
19C	Number of local radio interviews/features in host country(ies)	X
19D	Number of local radio interviews/features in UK	X
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	X
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	X
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	X

PROJECT BASED MONITORING AND EVALUATION

20. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

Monitoring and evaluation is not only an important part of grant implementation, it is also an essential component of a credible avoided deforestation programme since the generation of carbon credits depends on the ability to demonstrate in a transparent and verifiable manner that deforestation levels have been reduced relative to a baseline. For these reasons M&E has a prominent place it the project.

Assessment of the project sub-goal will not be able to be performed within the project time frame, however, sustainable mechanisms for monitoring deforestation, biodiversity and community attitudes are all built into the project, so ultimate success will be measurable after the project ends.

Achievement of the project purpose will be assessed by looking at a) a demonstrated economic feasibility for an REDD project and b) a predictable positive impact on co-benefits, particularly biodiversity. These indicators will be most easily evaluated by the production of an economic feasibility study by a third party based on the results from project outputs 1 and 2 and by the awarding of a recognised Forestry Standard Certification. Various options exist for certification, with the Climate, Community and Biodiversity Standard (CCBS) the best known for recognition of impacts on co-benefits and options such as the Voluntary Carbon Standard (VCS), CarbonFix Standard (CFS) or Plan Vivo better suited for assessing carbon impacts. In addition, the project's own assessment reports on the relationship between co-benefits and carbon (which will look at the most important forest classes and locations for different co-benefit values and compare these to the classes identified as highest risk for deforestation) will be valuable in assessing the extent to which tackling deforestation will have positive benefits on biodiversity and communities.

Achievement of output 1 will be assessed by quantitative measurements of numbers of agreements signed with stakeholders and the percentage of stakeholders in the forest block signing up to agreements. Outputs 2 and 3 will be achieved if a baseline is set, but the quality of the baseline will be assessed by indicators looking at the data the baseline was based on. Output 4 will be assessed by the number of intervention assessments completed.

Project M&E will be ultimately supervised by the ZSL South/South East Asian Programme Manager, based on monthly reports submitted from the project leader in Indonesia. Within country, monthly meetings will be held with project staff and quarterly meetings will be held between main stakeholders to assess project progression.

FUNDING AND BUDGET

Please complete the separate Excel spreadsheet which will provide the Budget information for this application. Some of the questions below refer to the information in this spreadsheet.

NB: Please state all costs by financial year (April to March). Use current prices – and include anticipated inflation, as appropriate up to 3% per annum. The Darwin Initiative will not be able to agree increases in grants to cover inflation on UK costs once grants are awarded.

21. How is your organisation currently funded? (max 100 words)

The Zoological Society of London is a registered charity in the UK with income from zoo visitor receipts, donations and grants. Central administration is generally funded by zoo receipts but all field activities are funded by grants and donations. (39 words)

22. Provide details of all <u>confirmed</u> funding sources identified in the Budget that will be put towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity. Please include any additional <u>unconfirmed</u> funding the project will attract to carry out addition work during or beyond the project lifetime. Indicate those funding sources which are confirmed.

Confirmed:

- £25,000 – Donation from KPMG Consultants for the conservation of Berbak National Park. Currently being used to build project infrastructure within the park (field base, vehicles)
- £13,000 – 21st Century Tiger – to conduct tiger surveys outside the project boundary
- £6500 – ERM Foundation – *pro bono* costs for Indonesia office staff to assist with project development

Unconfirmed:

Applications for grants supporting the Darwin application:

- FCO Low Carbon Fund - £450,000 – To provide REDD training to PHKA / regional government and to assist in the development of a stronger legal framework in readiness for the application of REDD projects in conservation areas post-2012. A successful application would greatly increase the project's capacity to impact on REDD in Indonesia's protected areas at a national scale, and will facilitate the establishment of the institutional framework for Berbak, but will not be essential for achieving Darwin aims within the Berbak site.
- ERM Foundation - £55,000 – to further support *pro bono* involvement of Indonesian office staff, to pay for voluntary standard accreditation. A successful application would ensure the long term assistance of ERM who have provided a valuable role at the beginning of the project but would not be crucial to the success of the project. This grant will also cover the certification process which is aimed to be the final step in the Darwin proposal. With the current budget, the most conservative quoted figure for achieving certification has been used, with the assumption that most of the ground work will already have been done. However, the ERM grant would increase the budget for certification, opening options for additional certification (e.g. one standard aimed at co-benefits and another at carbon).
- USFWS Save the Tiger Fund - £16,200 – Determining tiger density within the Berbak National Park and surrounding areas.
- USFWS Rhino and Tiger Fund - £32,400 – Extensive tiger ecological studies and protection in and around Berbak National Park. The two tiger applications will allow a far greater level of detail on responses of tigers to habitat change, both within the project area and across the larger landscape.
- An application to the USFWS SPIRIT fund for bird conservation was rejected although resubmission was encouraged for the following year. For this reason the focus on birds has been reduced from the first stage application, although we hope this focus will be re-introduced in year 2.

Investment to implement project recommendations:

Whilst these grants would all significantly augment the project, none of them are essential to its success. More important for the ultimate success of the project is the identification of an investor willing to buy carbon credits, or fund their generation, to enable implementation of intervention strategies recommended by this project. In theory such investment should wait until the project is complete when the most effective intervention strategies have been identified and confident predictions made on their impacts. In practice, investors are already showing an interest in the project and investment may end up coming earlier, being used to fund the most likely intervention strategies (such as increasing patrol resources). This likelihood would be increased if the Darwin Grant was awarded since investors will be more confident that the framework is in the process of being built, encouraging them to take the risk earlier rather than later. This would be allowed simply because we feel it is important that deforestation intervention happens as soon as possible to maximise the potential impact. If significant investment was brought in before the project end, the project would simply adapt to testing the impact of intervention. For example, without further investment we would be limited to investigating the theoretical impact of doubling patrol frequency, since the costs for implementing this would be beyond the scope of a Darwin award. If investment was brought in and patrols were actually doubled, the project's role would switch to assessing the impacts of increased patrols compared to a reference area without extra patrols.

There are two main options for carbon credit investors: donors or commercial companies. With ERM assistance we are investigating options for both including:

- Indonesia-Australia Forest Carbon Partnership
- GTZ Forest and Climate Change Programme
- UNDP REDD Start up Programme
- Norwegian Embassy Forests Programme
- UN-REDD programme
- World Bank Forest Investment Programme
- EcoSecurities
- Investment banks

23. Please give details of any further funding resources (confirmed or unconfirmed) sought from the host country partner (s) or others for this project that are not already detailed in the Budget or Question 22. This will include donations in kind or un-costed support eg accommodation. (max 50 words per box)

Financial resources: The EU FLEGT project has a base in Jambi and is committed to support TN Berbak in any way possible. So far we have formally requested access to newly acquired SPOT 5 imagery for the region, worth about £10,000, which has been agreed. FLEGT have also indicated they may be able to assist with deforestation rate calculations.
Funding in kind: TN Berbak will support the work through office space for the monitoring facility at their head office, through provision of a building to be renovated as a field base and through the cooperation of their fifteen forest police assigned to the park.

FCO NOTIFICATIONS

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country. ☐

Please indicate whether you have contacted the local UK embassy or High Commission directly to discuss security issues (see Guidance Notes) and attach any advice you have received from them.

Yes (no written advice) ☒ **Yes, advice attached** ☐ **No** ☐

CERTIFICATION 2009/10

On behalf of the trustees of Zoological Society of London

(*delete as appropriate)

I apply for a grant of £99,317 in respect of expenditure to be incurred in the financial year ending 31 March 2010 on the activities specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful. (This form should be signed by an individual authorised by the lead UK institution to submit applications and sign contracts on their behalf.)

I enclose a copy of the organisation's most recent audited accounts and annual report, CVs for project principals and letters of support.

Name (block capitals)	Thomas Miles Maddox
Position in the organisation	Indonesia Project Manager

Signed  **Date:** 1st December 2008

Stage 2 Application - Checklist for submission

	Check
Have you provided actual start and end dates for your project?	**X**
Have you provided your budget based on UK government financial years ie 1 April – 31 March?	**X**
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the application?	**X**
Is the concept note within 1,000 words?	**X**
Is the logframe no longer than 2 pages and have you highlighted any changes since Stage 1?	**X**
Has your application been signed by a suitably authorised individual? (clear electronic or scanned signatures are acceptable)	**X**
Have you included a 1 page CV for the Project Leader, any other UK staff working 50%+ on this project, and for a main individual in each overseas partner organisation?	**X**
Have you included a letter of support from the main overseas partner organisations?	**X**
Have you checked with the FCO in the project country/ies and have you included any evidence of this?	**X**
Have you included a copy of your most recent annual report and accounts? An electronic link to a website is acceptable.	**X**
Have you read the Guidance Notes ?	**X**

Once you have answered Yes to the questions above, please submit the application, not later than midnight GMT on **Monday 1 December 2008** to Darwin-Applications@ltsi.co.uk using the application number (from your Stage 1 feedback letter) and the first few words of the project title **as the subject of your email**. However, if you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). **In addition**, a hard copy of the application and any supporting documents not available electronically should be submitted to the Darwin Applications Management Unit, c/o ECTF, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL **postmarked** not later than **Tuesday 2 December 2008.**

DATA PROTECTION ACT 1998: **Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites(details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.**