Submit by 13 January 2006

DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 14 COMPETITION:STAGE 2

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to each question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

1. Name and address of organisation

Name: Institute of Zoology	**Address:** Zoological Society of London, Regents Park, London, NW1 4RY, UK.

2. Project title (not exceeding 10 words)

Monitoring bat biodiversity: indicators of sustainable development in Eastern Europe.

3. Project dates, duration and total Darwin Initiative Grant requested

Proposed start date: May 2006		**Duration of project:** 36 months			**End date:** April 2009
Darwin funding requested	**Total** £179,029	**2006/07** £54,485	**2007/08** £62,121	**2008/09** £52,121	**2009/2010** £10,302

4. Define the purpose of the project in line with the logical framework

Develop bat monitoring programmes in two countries in Eastern Europe in order to generate long-term data on biodiversity indicator species to assess the impact of national development and global change.

Working with the existing bat conservation organisations in Romania and Bulgaria and using the expertise of The Bat Conservation Trust in the UK, we will establish suitable monitoring protocols and survey selected bat species using echolocation calls along road networks. We will train existing personnel in the Romanian and Bulgarian bat conservation groups in monitoring protocols and equipment use, and help to expand and develop these organisations. This will create monitoring networks able to generate long-term data on changes in bat biodiversity. The baseline data collected initially on bat abundances, distributions and environmental and habitat associations will be used to inform national policy makers on effective roadside designs to maximise bat biodiversity. Bat population data collected over the forthcoming years will serve as indicator measures of biodiversity change allowing national policy makers to make informed decisions on sustainable road development.

This project brings together a unique partnership between conservation groups in two developing countries, the volunteer development and biodiversity monitoring strengths of The Bat Conservation Trust and the scientific expertise of the Institute of Zoology, to leave a sustainable legacy of national monitoring programmes that meet the Convention on Biological Diversity's (CBD) fundamental obligations.

5. Principals in project. Please provide a one page CV for each of these named individuals

Details	**Project Leader**	**Other UK personnel (working more than 50% of their time on project)**	**Main project partner or co-ordinator in host country**
Surname	Jones	Catto	1. Szodoray-Parádi 2. Ivanova
Forename (s)	Kate E.	Colin C. M.	1. Abigél 2. Teodora
Post held	Research Fellow	Biodiversity Monitoring Consultant	1. Project Co-ordinator 2. President
Institution	Zoological Society of London	The Bat Conservation Trust	1. Romanian Bat Protection Association

			2. Bat Research and Protection Group
Department	Institute of Zoology		

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

14-055. *Developing a National Conservation Action Plan for the Mammals of Tanzania*. Sarah Durant.
14-060. *Sustainable Management of Ornamental Fish Species in Mamiraua Brazil*. Alison Shaw.
13-032. *Addressing a threat to Caribbean amphibians: capacity building in Dominica*. Andrew Cunningham.
EIDPO5. *Building capacity for the recovery of endangered Gyps spp. Vultures in India*. Andrew Cunningham.
12-004. *Building capacity for conservation of critically endangered flagship species*. Rajan Amin and Richard Pettifor.
12-017. *Building capacity and determining disease threats to endemic Galapagos fauna*. Andrew Cunningham and Simon Goodman.
11-007. *A National plan for carnivore conservation in Tanzania*. Sarah Durant.
11-013. *Conserving the critically endangered Darwin's fox on Chiloe Island, Chile*. Stephan Funk.
10-013. *Conservation of critically endangered vultures in India*. Andrew Cunningham.
09-020. *Development of a research and training unit at Garamba*. Guy Cowlishaw.
06-126. *Vicuna and guanaco conservation and genetic resource management*. Michael Bruford.

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 (where there are partners in addition to the applicant organisation) and host country partners that will be involved in their project and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. What steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? Please provide written evidence of partnerships.

Romanian Bat Protection Association (RBPA) (http://www.datec.ro/batprotection/bat.php?en2, contact Abigél Szodoray-Parádi) and the **Bat Research and Protection Group (BRPG)** (http://www.bats-bulgaria.org/indexe.cfm, contact Dr. Teodora Ivanova). Both Abigél and Teodora have contributed to the project development and have been instrumental in developing this proposal. Our project will help the RBPA and BRPG develop their role in (1) designing a statistically-defensible plan for a long-term national bat monitoring programme; (2) recruiting and training sufficient personnel to collect data to implement the programme and create a long-term network of trained monitoring volunteers; (3) collecting and uploading the project's data to the central web-based database; and (4) analysing their data and bringing the project's results to the attention of national policy makers. Both organisations are extremely enthusiastic about our potential collaboration (see letters of support) which has a broad-based support from their members and is not dependent on our particular contacts.
The Bat Conservation Trust, U.K. (BCT) (http://www.bats.org.uk, contacts Amy Coyte, Chief Executive and Dr. Colin Catto). BCT will advise and assist the project on effective training and monitoring protocols drawing on their nine years of experience running the UK National Bat Monitoring Program (NBMP) in which they are widely recognized as world leaders (see letters of support and cvs). Dr. Catto plays a central role in this project and will be responsible for designing monitoring protocols and training. After his role as the Director of the NBMP, he is now an independent biodiversity monitoring consultant for BCT, is also an honorary research fellow at the Institute of Zoology and is enthusiastically committed to our proposed project. BCT and myself have a very strong long-standing collaborative link which started formerly as their employee in 1999 to now a trustee. I have every confidence that BCT will be an excellent and effective partner in this proposed project. BCT will also act to facilitate contacts with the existing Romanian and

Bulgarian bat conservation organizations building on their long-standing collaborations. For example, BCT partnered with the Romanian Bat Protection Association in 2002 and 2003 jointly running two monitoring workshops which produced a Romanian Bat Action Plan. Additionally, BCT established links with the Bulgarian Bat Research and Protection Group in 2003, first meeting at the EUROBAT Meeting of Parties (Agreement on the Conservation of Populations of European Bats) in Sofia, Bulgaria. Dr. Jonathan Russ will also act as a consultant on our project using his expertise in developing bat echolocation calls as monitoring tools (see cv). The relevant knowledge, skills and experiences to implement the survey are shared between Dr. Jones, Dr. Catto and Dr. Russ and these will be shared with the main personnel involved in the proposed project to ensure continuity if there are staff changes.
Agreement on the Conservation of Populations of European Bats (EUROBATS) (http://www.eurobats.com). All the bat conservation organizations involved in the project are EUROBATS members and this provides a forum to ensure that the project results will be used to inform EUROBATS polices (monitoring bat populations is a fundamental obligation of EUROBATS Member States). Our project has the strongest support from the convener of the EUROBATS Intersessional Working Group on Guidelines for surveillance and monitoring methods for European bat populations (Dr. Jessa Battersby, JNCC – see letter of support).

9. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities? Please include details of any contact with the government not already provided.

BRPG and **RBPA** are non-governmental, non-profit organizations established in 1997 and 2000 respectively, in recognition of the need for national bat conservation programs in their rapidly urbanising countries. Both organisations have been extremely successful in raising awareness of bat conservation issues both with the public and governmental bodies, and have trained volunteers in bat monitoring and set up many monitoring projects within local communities and national parks (see their websites, cvs and letters of support). They have both attracted funding from a number of international governmental and non-governmental organisations to support their work, such as Fauna and Flora International, Rufford Foundation, Bat Conservation International, DEFRA and The Bat Conservation Trust. Our project will build on these links to develop a sustainable monitoring project using bats as biodiversity indicator species. BRPG and RBPA have extremely strong collaborative links to local and national government which we will use to disseminate our science into policy. For example, RBPA already has the full support of the Romanian Environment Protection Agency for our proposed project and have requested that one of their staff representatives is included in the training workshops. The Romanian EPA recognises the central importance of obtaining baseline biodiversity data in order to monitor development (see letter of support from the Romanian EPA Director). Additionally, BRPG has started discussions with the Bulgarian Highways Authorities which have shown strong support and interest in the proposed project (see Dr Ivanova's letter of support).

PROJECT DETAILS

10. Is this a new initiative or a development of existing work (funded through any source)? Are you aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects relevant to your work? If so, please give details explaining similarities and differences and showing how results of your work will be additional to any similar work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits.

The need for this project was identified from a series of workshops run by The Bat Conservation Trust in 2002 and 2003 in Romania with attendees from Romania and Bulgaria and other neighbouring countries (funded by DEFRA via a voluntary contribution to EUROBATS). The Bat Conservation Trust has been extremely successful in developing and implementing a U.K. bat biodiversity monitoring scheme, the National Bat Monitoring Programme (NBMP) (funded by JNCC with initial funds from DEFRA). The NBMP has gathered national data on bat distributions and abundances for nine years by training and developing a network of over 1900 volunteers throughout the U.K. The aim of the Romanian workshops was to share best practices in U.K. bat monitoring to develop a Bat Action Plan for Romania that would allow this country and region to

develop long-term monitoring programmes that would help them implement CBD resolutions. Bats are ideal to use as indicators of changes in environmental quality and biodiversity in general because of their ecological requirements and their sensitivity to environmental change. However, the attendees at the workshop recognised a clear need for a more significant transfer of skills and equipment in order to achieve these aims for both Romania and Bulgaria. By building on existing links already developed by The Bat Conservation Trust and the volunteer networks already established, the proposed project will develop effective monitoring protocols and long-term bat biodiversity data. The protocols proposed here for monitoring bats along roads using echolocation calls have been successfully trialled in Ireland (funded from the Heritage Council of Ireland) and in the UK for the Bats and Roadside Mammals project (funded by the Mammals Trust, UK) by our partners in this project Dr. Catto and Dr. Russ.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

By generating long-term data on biodiversity indicators, the project will support the host countries to implement the CBD's Article 6 (*General measures for conservation and sustainable use*, 20%) and Article 7 (*Identification and monitoring*, 20%). Training in equipment and monitoring protocols using the expertise of The Bat Conservation Trust and Institute of Zoology will help to implement Article 12 (*Research and training*, 15%) and Article 16 (*Access to and transfer of technology*, 15%). Identifying best designs for maximizing road-side bat biodiversity and impacts of future development and global change implements Article 14 (*Impact assessment and minimizing adverse impacts*, 10%), Article 8 (*In-situ conservation*, 10%) and Article 13 (*Public education and awareness*, 10%). The CBD themes that are relevant to this project are *Indicators*, *Sustainable Use and Biodiversity*, *Climate Change and Biodiversity* and *Impact Assessment, Liability and Redress*.

12. How does this project meet a clearly identifiable biodiversity need or priority defined by the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans, if applicable.

Initially, **RBPA** and **BRPG** identified the urgent need for equipment and skills transfer in order to monitor their bat biodiversity at the Romanian workshops in 2002 and 2003. These countries are developing fast, for example a large number of new highways are planned by the Romanian National Road Authority and many renovations and improvements to highways in Bulgaria are foreseen in the near future. The expected rapid changes to agricultural practices and other environmental aspects in many of these countries following EU enlargement is an issue of extreme conservation concern. Obtaining baseline data on biodiversity prior to those changes taking place is seen to be very important. For example, organisations such as Environmental Protection Agency, Environmental Ministry, Natura 2000 NGO Coalition in both Romania and Bulgaria need this information in order to inform their environmental impact assessment procedures for building new roads and to monitor any changes to ensure that development is sustainable. Our project will form a vital part of that work, by developing surveillance and monitoring methods, capacity building for future work and providing baseline data on bat populations. Our project already has the full support and involvement of the Romanian Environmental Protection Agency (see support letter). Additionally, BRPG is a member of a newly established national working group on Transport and Biodiversity organized by The Bulgarian Biodiversity Foundation (http://bbf.biodiversity.bg) and baseline information and long-term monitoring data is of critical importance to their project.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country.

A network of specialists in monitoring bat biodiversity will be trained in the host countries along with the necessary equipment and skills to maintain the programme for the long-term. Through creation of roadside habitats that sustain biodiversity, future road users will benefit from an improved roadside environment. For example, in the UK, many people enjoy seeing biodiversity such as red

kites and kestrels flying along motorways and this has a positive impact on their lives.

14. What will be the impact of the work, and how will this be achieved? Please include details of how the results of the project will be disseminated and put into effect to achieve this impact.

The main impact of the work will be to raise awareness of the variety of biodiversity that can exist along well-designed roads. Awareness will be achieved through involvement of Road Authorities in our work and thus allow them to appreciate the impact of roads on biodiversity. At present few road designers are aware of their impact on biodiversity. Reports of the initial baseline bat distribution data along roads and their habitat and environmental associations will inform the National Road Authorities as to best practices for road design to maximise biodiversity. These results will be disseminated from the bat conservation organizations to the relevant authorities and other conservation organisations. Monitoring the impact of future development and global change on the biodiversity will also be possible after the initial survey providing valuable indicator databases.

15. How will the work leave a lasting legacy in the host country or region?

The project with leave a legacy of formal networks of bat biodiversity monitoring specialists and the necessary equipment. It will also generate long-term bat biodiversity data through a freely-accessible online database which can act as indicator measures of the impact of development and global change. Our work will also leave a lasting impact in the host countries by minimising the impact of new roads on biodiversity and informing sustainable development.

16. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy.

Our exit strategy will be implemented by laying a foundation of informed people who are motivated to influence the future of roadside biodiversity. This is achieved by: (1) involving the National Road Authorities in the project who will use the gained knowledge to influence future road designs that are beneficial for biodiversity; (2) training a network of volunteers who will give their time freely to monitor roadside biodiversity beyond the life of this work; and (3) ensuring that systems of communication between biodiversity and road designers are in place so that results of future monitoring will be used to inform the success or otherwise of sustainable development.

Potential problems that may influence our project's impact are: (1) that we are unable to recruit sufficient surveyors to implement the project; and (2) that road designers are not willing to become involved in our work. However, we are confident that these problems are minimal as already our Romanian colleagues have recruited over 250 people interested in volunteering to collect survey data. The training offered by this work will allow them to use their time effectively to meet our work aims. Additionally, the communication between both our Romanian and Bulgarian colleagues with their Road Authorities and their strong links to other governmental and non-governmental organisations and the commitment already shown by these Authorities to the work addresses the potential problems identified.

Potential problems that may influence our project's legacy are: (1) road authorities failing to act on the information we generate; and (2) insufficient personnel willing or funding available to carry on the long-term monitoring. Romania and Bulgaria are both Parties to the EUROBATS Agreement and have a fundamental obligation to protect bat biodiversity in their countries. Through provision of information on the location of bats that will be supplied by our project, their governments are obliged to take action that will not be detrimental to identified populations. They are also bound by the Habitats directive and have a legal requirement to ensure that the Favourable Conservation Status of Appendix I & II species (includes all bats) is maintained. This legislation provides a legal obligation on each country to continue our proposed work. The BCT has run workshops in Eastern Europe to promote the use of volunteers in bat monitoring and will continue to look for funding to support volunteers beyond the life of this work.

17. How will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used?

The Darwin project will be advertised on a dedicated web site maintained by the Institute of Zoology which will host the online bat biodiversity monitoring database. The Darwin logo will also appear on all best practice guidelines, reports, presentations and project equipment. Darwin will also be acknowledged in the resulting scientific papers.

18. Will the project include training and development? Please indicate who the trainees will be and criteria for selection and that the level and content of training will be. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

The success of this proposed project critically hinges on training and development. Trainees will be recruited from RBPA and BRPG which both have a strong history of successfully recruiting and maintaining volunteers and volunteer networks. Volunteers will come from a wide variety of backgrounds as the criteria for selection will be based on them having a biodiversity interest (this criteria is similar to the successful volunteer-based surveyor approach used in the UK by bat (BCT) and bird (British Trust for Ornithology) non-governmental organisations. Training will be provided through a series of workshops held in each country. The level of training will be sufficient for volunteers to implement the bat biodiversity survey protocol and a minimum of 10 volunteers are proposed to be trained from each country. The effectiveness of the training will be measured by comparing the actual output to that in our proposal (this estimate is based on previous experience of similar surveys in the UK and the Republic of Ireland). Also as the first survey year in each country is a pilot, there will be time to adjust training if deemed necessary. Key personnel (full time conservation staff in RBPA and BRPG) will be provided with intensive training so they can cascade their skills and knowledge to new volunteers. Also they will be provided with volunteer management techniques to monitor trainees after the proposed project is complete. Lengths and dates of training courses are in the Logical Framework.

LOGICAL FRAMEWORK

19. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	**Measurable Indicators**	**Means of verification**	**Important Assumptions**
Goal: **To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve** • **the conservation of biological diversity,** • **the sustainable use of its components, and** • **the fair and equitable sharing of benefits arising out of the utilisation of genetic resources**			
Purpose			
To generate long-term population data on biodiversity indicators to assess the impact of global change by developing bat biodiversity monitoring programmes for two countries in Eastern Europe.	Online database of abundances and distribution of roadside bats in Romania and Bulgaria. Network of monitoring personnel maintaining a long-term programme in each country. Production of manuals on good practice in road design to enhance biodiversity and effect of development.	Website and database available online and continuing annual data entry from host countries. Training manuals and reports and research results published in peer reviewed journals.	Host countries can recruit and maintain a sufficient volunteer network. Host countries willing to share data.
Outputs			

Establishment of statistically defensible long-term monitoring protocols for Romania and Bulgaria	Protocol guidelines manual for each host country.	Distribution of manuals to monitoring network.	Protocols will deliver monitoring (risk reduced based on previous successful surveys carried out in the U.K. and Republic of Ireland).
Network of host country personnel trained in monitoring techniques, equipment and analysis.	Key personnel and 10 volunteers trained in survey methods. Further workshops run by host countries. Training material produced.	Contact details of volunteers and workshops recorded. Training material available for download from project website.	Ability of host countries to recruit volunteers (risk reduced as Romania has already recruited some volunteers).
Ongoing online international spatial and temporal database on bat species abundances and distributions alongside road networks.	Roadside survey data from 200 km of transect collected from each country and uploaded to database. Website and database are developed.	Verification of the quality and quantity of survey data. GPS log can be used to verify position of recordings.	Survey data is collected correctly. Website can be accessed by host countries.
Knowledge on how road design and the change in human development and climate impacts bat biodiversity.	Statistical analysis of quantity and quality of roadside bat biodiversity along a range of road side types in host countries. Statistical analysis of time series survey data with change in development and climate. Annual report on roadside biodiversity index.	Production of peer-reviewed papers and production of annual report to policy makers.	Sufficient data is collected for analysis
Activities	**Activity milestones (summary of project implementation timetable)**		**Assumptions**
Protocol & Equipment Development	Monitoring protocols designed and equipment procured. Yr 1: Romania, Yr 2: Bulgaria		Equipment is obtained and protocols work.

Training/Workshops	Yr 1: 1st workshop to initially train key Romanian personnel in survey techniques, call analysis, volunteer recruitment. 2nd workshop run by Romanian personnel offering training to survey volunteers. Development of training material. Yr 2: 3rd workshop run to train key Bulgarian personnel in survey techniques and volunteer management methods. 4th workshop run by trained Bulgarian personnel to train Bulgarian volunteers. Yr 3: Joint Romanian/Bulgarian/UK workshop to provide feedback and identify future funding	Volunteers are willing and capable of being trained.
Field Research Programme	Yr 1: Pilot survey data collected by Romanian key personnel. Yr 2: Survey data collected by network of Romanian volunteers and pilot data collected by Bulgarian key personnel. Yr 3: Survey data collected by Romanian and Bulgarian volunteers.	Volunteers are trained and collect the required data.
Database Development & Spatial Analysis & Modelling	Yr 1: Development and design of online database to host project data. Romanian pilot data uploaded and initial analysis. Yr 2: 2nd Yr Romanian data uploaded and analysed. Bulgarian pilot data uploaded and analysed. Yr 3: 3rd Yr Romanian, 2nd Yr Bulgarian data uploaded and analysed. Examine 3 years of data for Romania to examine effect of global change on bat biodiversity.	Website and online database are established correctly and maintained.
Project Reporting	Yrs 2-3: Production of guidelines to maximize biodiversity for roadside managers in Romania and Bulgaria. Report effect of human development on bat biodiversity in Romania using three years of data.	Sufficient data is collected for the spatial analysis and modelling.

20. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Financial year	**Date**	**Key milestones**
Apr-Mar 2006/7	July 2006	1st workshop to train key Romanian personnel in survey techniques, call analysis, volunteer recruitment. Romanian monitoring protocols designed and equipment procured.
	Sept 2006	Development and design of pilot online database to host project data. Pilot survey data collected and uploaded to database by Romanian key personnel.
	Jan 2007	Analysis of 1st year pilot data from Romania.
	Mar 2007	2nd workshop run by Romanian personnel offering training to survey volunteers. Development of training material and monitoring protocol manuals.
Apr-Mar 2007/8	May 2007	3rd workshop to train key Bulgarian personnel in survey

		techniques and volunteer management methods. Bulgarian monitoring protocols designed and equipment procured.
	Sept 2007	2nd year Romanian survey data collected by network of Romanian volunteers and 1st year pilot data collected by Bulgarian key personnel. Data uploaded to online database and design and development of online database and website finalised. Production of database design and analysis manuals.
	Jan 2008	Romanian 2nd year data and Bulgarian 1st year pilot data analysed. Analysis, report and scientific publication on effect of road design on bat biodiversity in Romania based on two years data.
	Mar 2008	4th workshop run by trained Bulgarian personnel to train Bulgarian volunteers. Development of training material.
Apr-Mar 2008/9	Sept 2008	3rd year survey data collected by Romanian volunteers and 2nd year survey data collected by Bulgarian volunteers. Data uploaded to online database.
	Mar 2009	Analysis, report, scientific publication of the effect of road development on bat biodiversity in Romania using three years of data and effect of road design on bat biodiversity in Bulgaria based on two years data.
Apr-Mar 2009/2010	May 2009	5th workshop jointly with Romania and Bulgaria to provide feedback and identify future funding.

21. Set out the project's measurable outputs using the separate list of output measures.

PROJECT OUTPUTS		
Year/Month	**Standard output number (see standard output list)**	**Description (include numbers of people involved, publications produced, days/weeks etc.)**
Mar 2008	5	Key personnel and a minimum of twenty volunteers trained to survey and monitor bats, interact with the online database, extract and interpret data.
Sept 2007	7	Training manual and material (x2), monitoring protocol manual (x2), 1 database design and analysis manual (x1).
May 2009	8	30 weeks leading in-country workshops and field work.
Mar 2009	9	Road design best practice manual for the National Road Authority and other interested NGOs (x2). Report on the effect of development on biodiversity (x2).
May 2009	10	Identification guide to bats along roadsides using echolocation calls (x2).
May 2009	11	Papers submitted on road design on biodiversity (x1), effect of development on biodiversity (x1),

		effective protocols for echolocation monitoring (x1).
Sept 2007	12A	Online database of bat distributions from transect data and echolocation calls.
May 2009	13A	Echolocation call libraries for roadside bat species (x2).
May 2009	14A&B	Workshop at end of project (x1), international conference presentations (International Bat Conference and Society for Conservation Biology).
May 2009	15AB, D	Annual national and local press releases in each host country and UK local press release at start of project.
May 2009	17A&B	Development and enhancement of biodiversity monitoring network (x2).
May 2007	20	Computer equipment, detectors and software, £20,000.
May 2009	23	Confirmed £134,439 (Institute of Zoology). Proposed £20,000 (Rufford Foundation), £5,000 (Bat Conservation International Global Grass Roots Fund, £5,000 Fauna and Flora International Flagship Species Fund, £5,000 People's Trust for Endangered Species Fund.

PROJECT BASED MONITORING AND EVALUATION

22. 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.

Establishment of the monitoring protocols will be verified by production and the distribution of manuals to the monitoring network in the host countries. Monitoring of the progress of the survey methods training and volunteer recruitment will be through recording the volunteer contact details and tracking the workshops held and the progress of the development of the training material. The progress and the quality of the data collected and uploaded to the online database will be monitored against that expected and the GPS log can be used to verify the position of the recordings. Analysis and reporting of the data will be verified by the production of peer-reviewed papers and reports to policy makers.