



App2 682



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: Natural History Museum	Address: Cromwell Road, London SW7 5BD
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2. Project title (not exceeding 10 words)

Capacity building for biodiversity studies of freshwater insects in Argentina

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

Proposed start date: September 2006	Duration of project: 3 years	End date: August 2009			
Darwin funding requested	Total	2006/07	2007/08	2008/09	2009/2010
	£198,800	£86,850	£54,800	£57,150	£

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

<p>1. We will use our expertise in the collection, identification, monitoring and curation of freshwater insects to build infrastructure and capacity at the Puerto Blest Biological Field Station, Nahuel Huapi National Park (NHNP), Argentina, as a centre for the study of wetlands, and to develop local expertise in this field that can be transferred as a model of Best Practice to the rest of Argentina and southern South America.</p> <p>2. To compile an inventory of freshwater insects and a GIS-based vegetation map in the NHNP providing information on the biodiversity and biogeography of pristine freshwater ecosystems in the region and a baseline against which damaged systems can be measured and the success of remediation assessed.</p> <p>3. To provide specialist and non-specialist identification guides to freshwater insects.</p> <p>4. To develop a multi-tiered education programme at the Puerto Blest field station which will provide interpretative material, workshops and courses on freshwater ecosystems for the local community, university and school students, eco-tourists, national park rangers, sport fishermen.</p>
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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	Brooks		Spinelli
Forename (s)	Stephen John		Gustavo
Post held	Research Entomologist		Senior Researcher
Institution	Natural History Museum		Museo de Ciencias Naturales de La Plata
Department	Entomology		Invertebrates

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

In last 12 years NHM has led on 23 DI projects working in 17 countries

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.

All partners were involved in the planning and design of the project
Museo de Ciencias Naturales de La Plata (UNLP): Coordination of project within Argentina. Supervision and training of research students who will be involved in collection and identification of freshwater insects. Storage, curation and databasing of insect collections. Specialist identification of Ceratopogonidae, Trichoptera. Participation in fieldwork. (Spinelli, Muzon)
Centro Regional Universitario Bariloche (UNC): Logistical and equipment (including boats) support for fieldwork
Biological Station Puerto Blest (EBPB): Logistical support for fieldwork. Facilities for storage and identification of freshwater insects. Teaching, training and interpretation facilities. EBPB Manager (Premoli) will assist with fieldwork and provide access and support at the field station
Administracion Parques Nacionales (APN): Logistical and equipment (including 4x4 vehicle) support for fieldwork. Chehebar will assist with fieldwork and provide local contacts and information on suitable localities in national park.
Agency Catedral turismo: provide logistical support, specifically ferry transport from Bariloche to EBPB.
Universidad de la Patagonia, Esquel, Chubut (UNP): will provide laboratory facilities. Specialist identification of Coleoptera. (Archangelsky)

Continuity of this project is guaranteed because it is central to the aims of all the partner organisations.

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.

Contacts have already been made with the following individuals and organisations who have given their unanimous support for the project (see attached letters):
Dr E. Charreau, Presidente of CONICET, Ministry of Education, Buenos Aires, Argentina
Dr F. Zuloaga, Director of the Global Taxonomy Initiative, San Isidro, Argentina
Dra S. Ametrano, Director of the Museo de La Plata, Argentina
Ms Audrey Benedict, Director of the Cloud Ridge Naturalists NGO, Colorado, USA
Arq. G. Azpiazu, Presidente of the Universidad de La Plata, Argentina
Lic C. Martin, Director of the Patagonian regional national park, Bariloche, Argentina

We have corresponded with Mary Godward, Manager of Learning, British Council, Buenos Aires, who is aware of our project.

Contacts and consultation will be made with local education, sporting and tourism authorities and with user groups of the national park to identify local needs and current levels of awareness of the wetland biodiversity in the park.

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.

This project is a new initiative. We are not aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects closely related to our proposal. We are aware of the 'Senda Darwin' project in Chile which has established a field station in Chiloe from which to run educational projects on sustainable forestry use. Unlike our project the focus was not on wetlands but we will establish collaborative links with Dr J.J. Armesto, University Chile, Santiago.

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.

The project will develop identification guides, a reference collection and an inventory of freshwater insects for the Nahuel Huapi National Park (**Article 7, Article 8, GTI, Inland Waters – 20%**)
Species distribution data will be linked to a vegetation classification in order to model freshwater insect data spatially and create a biodiversity data repository, (**Article 7, Article 8, Article 17, Global Taxonomy Initiative, Global Strategy for Plant Conservation, Inland Waters, Protected Areas – 20%**)
The project will provide a wetland interpretation centre for tourists, sport fishermen, students and researchers (**Article 12, Article 13, Inland Waters, Public Education and Awareness, Biodiversity and tourism, Ecosystem Approach – 20%**)
Firm links will be established between the field station and permanent staff at UNLP, UNP and UNC, and between the partners, the national park administration, and the Ministry of Education. (**Article 6 – 10%**)
Links with the NHM will be maintained (**Article 18 – 10%**)
Training in collection, curation, databasing, GIS, digital imaging, and website development will be provided, leading to further educational courses and material on wetland biodiversity. (**Article 12, Article 13, GTI, Inland Waters, Public Education and Awareness, Biodiversity and tourism – 20%**)

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.

The freshwater insect biodiversity of Argentina is threatened by pollution. Even in National Parks increasing pressure from tourism poses a threat. However, at present this fauna is poorly known and knowledge is constrained by a lack of adequate identification guides and reference collections. In addition there is poor public understanding of the importance of wetlands for biodiversity and providing basic human needs. The project will address this need by building infrastructure in the Nahuel Huapi National Park (NHNP) identified as one of the most important conservation areas in the Argentinean Patagonia to provide a wetland interpretation centre where tourists, sport fishermen, students and researchers will be able to study freshwater insects and understand their role in freshwater ecosystems. Identification guides, a reference collection and an inventory of freshwater insects will be developed for the National Park. The need our project, its high priority and relevance to national biodiversity strategies has been identified clearly in the supporting letters.

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

There is currently poor knowledge of the regional fauna and flora and the area is inadequately mapped so the full extent of wetlands is unknown. The project will provide an infrastructure for the collection of freshwater insect biodiversity data and vegetation associations. This data is essential because of the increasing pressure of tourism and fishing in the NHNP area. The current lack of awareness of conservation issues in local communities will be addressed by the training programmes and interpretive material that will be available at the field station. These are prerequisites for the conservation of Patagonian wetlands. We expect that there will be employment opportunities for local people as natural history tour guides.

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 project will provide a detailed database of freshwater insects from NHNP. The species distribution data will be linked to a vegetation classification using GIS and digital imaging to model freshwater insect data spatially and create a biodiversity data repository, the first of its kind in Patagonia. A fully curated synoptic reference collection of freshwater insects from NHNP will be established at the Puerto Blest field station for use by student classes. The remaining material will be deposited in the NHM and UNLP and will be used to develop identification guides to freshwater insects of the region. These guides will be multi-tiered from technical keys to simple identification charts for use by visitors to the park, sport fishermen and community groups. These latter products will be used to generate interest in wetland conservation in local communities. The field station will be developed for use as an interpretive centre for wetlands promoting the value and sustainable use of wetlands to visitors to the park. The centre will be equipped with microscopes, PCs and necessary infrastructure for its use by students from schools and universities to carry out research projects and learn about wetland biodiversity. Results will be disseminated through scientific publications, a dedicated website, reports to DI, posters and simple foldout identification charts, local and national media.

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

The Puerto Blest field station will be established as an interpretive centre to promote the study, appreciation of the biodiversity and sustainable use of wetlands to students, tourists and local communities. A Best Practice model, which can be rolled out elsewhere in southern South America, for the development and curation of insect reference collections, taxonomic databases, digitised images, GIS and website construction. An on-going multi-tiered education programme at the Puerto Blest field station providing interpretative material, workshops and courses on freshwater ecosystems for the local community, university and school students, eco-tourists, national park rangers and sport fishermen.

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.

By the end of the project the Puerto Blest field station will be fully functional as a freshwater field study centre administered by UNC. A fully curated reference collection of freshwater insects will be available, field guides will be in production and interpretive material for use by school teachers will be available. Local staff will have been trained in identification of freshwater insects, water quality monitoring techniques and the sustainable use of wetlands. Firm links will have been established between the field station and permanent staff with interests in freshwater insects at UNLP, UNP and UNC, ensuring continued use of the field station by students. Clear lines of communication will have been established between the partners, the national park administration, and the Ministry of Education. Links with NHM will be maintained.

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

The project will be publicised in appropriate Argentinean institutions, websites, media, and NHM annual reports. The Darwin Initiative name and logo will appear on all publications, reports, NHM and Argentinean websites, equipment, and in the field station. The British Embassy in Buenos Aires will be kept informed of developments and we will seek assistance from them in attracting commercial support for related projects.

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?

Trainees include: five post-graduate students from UNLP, two post-doctoral Argentinean DI-funded personnel. They have been identified by the Project Principals on the basis of their relevant interests and skills. In the first year, 13 weeks training will be given to DI-funded personnel and students in insect collection, curation, databasing, GIS, digital imaging, website development. On-the-job training will continue throughout the project. Using these skills, DI-funded personnel will develop educational courses and interpretive material to develop courses on wetland biodiversity for students, park rangers and other visitors to the Puerto Blest field station. The effectiveness of the training will be assessed by the increase in the number of species identified, increase in database entries and number of people taking the courses on offer at the field station.

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 <ul style="list-style-type: none"> • 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 develop capacity in northern Patagonia for the identification, surveying, monitoring and mapping of freshwater insects.	Infrastructure for study of freshwater insects and interpretative centre focussing on wetland ecosystems established at Puerto Blest	Puerto Blest field station equipped and in use as a base for field studies of wetlands	Continued national and institutional recognition of importance of freshwater studies to national conservation and biodiversity goals
Outputs Inventory of freshwater insects in the NHNP available on database	Database and website detailing distribution of freshwater insects	Database and website accessible, copy of inventory sent to Darwin.	Representative freshwater biotopes are accessible to surveyors.
Darwin-funded staff trained in freshwater insect taxonomy, sampling methods, GIS, collections maintenance.	Darwin-funded staff trained. Engaged in sampling, identification, databasing, developing interpretative material.	Reports sent to Darwin, NHM and La Plata University, training protocol published for wider dissemination.	Darwin-funded staff become familiar with diverse insect groups and have multi-tasking abilities.
Specialist and non-specialist guides to Patagonian freshwater insects.	Identification guides available and widely disseminated.	Copies of identification guides sent to Darwin and lodged in libraries of NHM and UNLP.	Taxonomy is tractable so species level keys can be produced within three years for all groups.
Establishment of Puerto Blest field station as centre for studying freshwater insects and freshwater ecology.	Puerto Blest regularly used by students, specialists, community groups and tourists to learn about wetlands.	Darwin informed of number of courses and visitors to Puerto Blest.	Support of field station by local Universities and local communities.
Training courses for students, Park Rangers local groups, fishermen in freshwater monitoring, surveying and insect identification	Groups involved in river monitoring, media interest and coverage to promote river monitoring schemes.	Reports on number of courses established and people trained sent to Darwin.	Active participation by universities, Park Rangers, fishermen and local community groups in freshwater biodiversity projects.
Freshwater insect collection established with accompanying taxonomic database, GIS database, digital image archive.	Collections of freshwater insects accumulating, properly curated and stored, expandable database operational.	Accessible collections.	Local contribution of resources sufficient to maintain and house expanding collections and databases.
Freshwater insect monitoring programmes run by local communities established	Trained local people running monitoring programmes on local rivers	Report to Darwin on number of monitoring programmes in operation.	Continuing support of local projects by Argentinean partners

Activities	Activity milestones (summary of project implementation timetable)	Assumptions
Inventory of freshwater insects from NHNP	Yr 1: planning workshop; Yrs 1-3: Sampling representative aquatic habitats across climatic and vegetational gradients	Sampling sites accessible
Information products	Yr 1: Establish website; design taxonomic database; Yr 2-3: develop, test and disseminate identification guides; Yrs 1-3: develop interpretative material for display in field station	Species-level identification can be resolved for all groups
Training at field station	Yr 1: Train Darwin-funded staff in identification and survey techniques; Yr 2-3: Darwin staff train locals, Park Rangers and student groups	Participation from local groups
Freshwater insect collection	Yrs 1-2: Training visits to NHM and field station; Yrs 1-3: collection building; Yrs 1-3 exchange visits by specialists between NHM and UNLP	On-going commitment to aquatic insects by UNLP
GIS	Yr 1: Train Darwin staff in GIS; Yrs 1-3 survey NHNP, data input; Yr 3: analysis	Sampling sites accessible

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

Project implementation timetable		
Date	Financial year	Key milestones
	Apr-Mar 2006/7 Apr-Mar 2007/8 Apr-Mar 2008/9 Apr-Mar 2009/2010	
Year 1		
September	2006	Planning meeting in Buenos Aires completed
November	2006	Initial training in insect collection, curation, databasing complete.
December	2006	Field surveys of freshwater insects initiated Field station equipped
January	2007	Specimen preparation, identification, collection building and curation initiated. Database framework designed
February	2007	Image analysis system acquired, installed and personnel trained in its use
March	2007	Training and fieldwork for 2006/7 complete Mid-year review, planning meeting and workshop in London Training at NHM in GIS and website design complete
Year 2		
September	2007	First draft identification guides complete; first draft training modules and interpretive material complete
October	2007	First year review, planning meeting, workshop in Argentina Curation and databasing of material collected during previous field season complete
November	2007	Second season of fieldwork initiated.
January	2008	Park Rangers and student groups receive training in freshwater insect surveying Specimen preparation, identification, databasing, collection building and curation on-going, draft keys tested
March	2008	Argentineans to London for curation training, mid-year review, planning meeting, workshop in London.
Year 3		
September	2008	Fieldwork and field testing of draft keys for 2007/8 complete Second year review, planning meeting, workshop in Argentina
October	2008	Curation and databasing of material collected during previous field season complete
November	2008	Third season of fieldwork initiated
January	2009	Specimen preparation, identification, databasing, collection building and curation on-going
March	2009	Argentinean scientist to NHM to access reference collections
April	2009	Fieldwork and final testing of keys complete
June	2009	Training complete
July	2009	Curation and databasing of material collected during previous field season complete
August	2009	Final workshop for all participants, Argentinean officials, international scientists in Buenos Aires also invited Taxonomic database and website complete and operational for post-project entry of further data GIS database complete Identification keys in final version Field station fully equipped as wetlands interpretive centre and training resource, interpretative material complete and installed, course modules finalised.

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.)
September 2006	15A-C, 16,	Press release (3); distribution of first wetlands centre newsletter to local community and Argentinean and UK universities (200); TV (2) and radio (6) features NHM staff in Argentina (3 pers; 2 wks), workshop Initial training of Argentineans in entomological and databasing techniques complete (7 pers, 8 weeks) Field station fully equipped (£38,800) Argentineans trained in digital imaging (7 pers, 1 wk) Train Argentineans in GIS and website design at NHM (2 pers; 4 wks); Mid-year review/workshop at NHM; press release (3) NHM staff to field station (2 pers; 2 wks), workshop, Press release(3), 2 nd newsletter (200); TV(2), radio(2), Train Argentineans in curation (2 pers, 2 wks); Mid-year review-workshop at NHM; Press release (3) NHM staff to field station (2 pers; 2 wk), workshop; press release (3), 3 rd newsletter (200); radio (2) Train Argentinean Park Rangers (10 pers, 1 week), undergraduates (20 pers, 4 wk) and postgraduates (20 pers, 4wk) in survey techniques at field station Mid-year review-workshop at NHM; taxonomic work Freshwater insect reference collection complete at field station; collections at La Plata, NHM enhanced NHM staff to Argentina (3 pers; 2 wk), international workshop at LaPlata; press release(3), TV(2), radio(6), newsletter (200); GIS-referenced taxonomic database completed at La Plata, accessible at field station, UNP and NHM; specialist identification guides complete (7+); peer reviewed papers (6); dedicated field station website complete; field station equipped and operational as wetlands interpretation centre and training resource (£49,000); collaborative networks established between Argentina, Chile, international institutes and NGOs concerned with wetland conservation; training materials for non-specialist audience and undergraduates: guides, posters, manuals, videos, talks
	18, 19	
November 2006	8, 14A	
	4C, 4D	
	20	
December 2006	4C, 4D	
March 2007	4C, 4D	
	14A, 15A, 15B, 15C,	
September 2007	8, 14A,	
	15A-C, 16, 18A,C, 19A,C	
March 2008	4 CD, 14A, 15A-C,	
September 2008	8, 14A,	
	15A-C, 16, 18, 19A,C	
January 2009	6A,	
	4AB, 4CD,	
March 2009	14A, 12B	
July 2009	13A,	
	13B	
August 2009	8, 14A,	
	15A-C, 18A-C, 19 A-C	
	16, 12A	
	10,	
	11, Additional	
	20,	
	21, 17	
	16	
	17	
	7	

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.

<p>Progress of the project will be monitored and evaluated as follows:</p> <ol style="list-style-type: none"> 1. NHM annual performance review of UK participants 2. Darwin Initiative biannual reporting requirements 3. Biannual meetings in Argentina and UK between UK and Argentinean partners 4. Consolidated monthly progress reports of UK and Argentinean co-ordinators distributed to all partners 5. Regular communication between partners via e-mail and telephone 6. Communication mechanism set up for post-project cooperation to be established before project completion 7. Scientific publications and field guides based on research and development carried out during project
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