



DARWIN200

EIDPS026 - revised

Submit by Friday 19 February 2010

## APPLICATION FOR DARWIN FELLOWSHIP PROGRAMME ROUND 17

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 UK Host organisation** (NB: Notification of results will be by post and addressed to the main UK Expert listed in Section 5)

<b>Name:</b> Wildlife Conservation Research Unit (WildCRU)	<b>Address:</b> Recanati-Kaplan Centre, Zoology Department, University of Oxford, Tubney House, Tubney OX13 5QL
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**2. Name and official address of proposed Darwin Fellow** (include email and telephone details where available)

Magdalena Bennett Manzano
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**3. Project dates, duration and total Darwin Initiative Grant requested**

<b>Proposed start date:</b>	<b>1 July 2010</b>	<b>Duration of project:</b>	<b>1 year</b>	<b>End date:</b>	<b>31 June 2011</b>
<b>Darwin funding requested</b>	<b>2010/11</b>	<b>2011/12</b>	<b>Total</b>		
	<b>£ 13,160</b>	<b>£ 4,030</b>	<b>£ 17,190</b>		

**4. Summary of proposed Fellowship (no more than 100 words)** ie Purpose and expected outputs and outcome

The fellowship will aid Magdalena Bennett to further develop her scientific analytical and writing skills, to network with experts in landscape ecology, remote sensing and carnivore conservation in Oxford, and write up the results from the Darwin project "Conservation of Puna's Andean cats across national borders" of which she was an integral part. The fellowship will afford Magdalena the opportunity to work with Dr Claudio Sillero, the project's UK expert, and his team on the impacts of human activities in the fragile High Andes ecosystem and suitable mitigation strategies. The fellowship will last for one year commencing in July 2010, and will be based at Oxford University's Wildlife Conservation Research Unit.
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**5. Principals in the Project.** Please give the details of the individuals from the UK host organisations (and other institutions if relevant) who would be directly involved in supervising/working with the Darwin Fellow. 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	Main UK expert	Other UK expert
Surname	Sillero	Marino
Forename(s)	Claudio	Jorgelina
Post held	Senior Research Fellow	Post-Doctoral Researcher
Institution (if different to UK Host)		
Department		
Telephone		
Email		

**6. Describe briefly the aims, activities and achievements of the UK Host organisation. (Large institutions please note that this should describe your unit or department) (150 words)**

The mission of the **Wildlife Conservation Research Unit (WildCRU)** is to achieve practical solutions to conservation problems through original scientific research. The WildCRU trains conservation scientists in conducting research and putting scientific knowledge into practice. It embraces problems spanning the challenges faced by particular species to the grand global linkages of the 21st century, between biodiversity, livelihoods, food security, health and climate change. WildCRU is involved in the implementation of many conservation projects and embraces the need to educate and involve the wider public to achieve lasting solutions. Whether the focus is on species or ecosystems, on protection or sustainable use, on wildlife or people, WildCRU is dedicated to producing the science that builds the policies that deliver the solutions. The WildCRU has an exceptional record in training young conservation biologists from countries rich in biodiversity that have returned to use their acquired expertise back at home.

**7. Describe briefly the aims, activities and achievements of the proposed Darwin Fellow's employing organisation. (Large institutions please note that this should describe your unit or department) (150 words)**

The Center for Advanced Studies in Ecology and Biodiversity of the Pontificia Universidad Católica de Chile (CASEB) is dedicated to generate and transfer ecological knowledge relevant to understanding biodiversity, in order to manage and conserve Chile's biological patrimony for its sustainable development. In this wide remit CASEB works closely with other international leading research groups to solve the cross-cutting issues of biodiversity functioning, conservation, management and disruptions, all considered in light of global change scenarios. Directly relevant to Magdalena Bennett's work are the identification of geographical patterns in biodiversity and the design of terrestrial conservation areas networks, the analysis of habitat fragmentation consequences on the functioning of biodiversity at different spatiotemporal scales, and the climatic and human disruptions of the High Andes biodiversity and ecosystem services. Magdalena is also an active member of the Andean Cat Alliance (AGA), founded in 1999 to facilitate collaboration between individuals and institutions engaged in Andean cat research and conservation activities, including WildCRU.

**8. Describe briefly the proposed Fellow's current role within their organisation and their link to a Darwin project, including the project reference number, his/her role in that project and any ongoing involvement. (200 words)**

For the last five years Magdalena Bennett has worked at the Pontificia Universidad Católica de Chile, under the wing of Dr Pablo Marquet, applying GIS technology to biodiversity studies. Magdalena was a key participant of the Darwin Project "Conservation of Puna's Andean cats across national borders" (project 14 028), collaborating closely with Dr Claudio Sillero and Dr Jorgelina Marino at WildCRU in a study of the spatial ecology of Andean carnivores and developing the project's databases. Since 2008 Magdalena has been instrumental in implementing *Huella Única*, an off-road driving mitigation project in the triple frontier of Argentina, Bolivia and Chile. This project originated during the aforementioned Darwin project, and will hopefully continue during a proposed Darwin Initiative post project (current round). Magdalena is an active member of the Andean Cat Alliance, and worked closely with all of WildCRU's national partner institutions in the original Darwin project.

Magdalena hopes to continue his involvement with this area of research to help increasing protection of High Andes biodiversity and of critical natural resources with a focus on the imminent threats of incompatible land uses and climate change. The fellowship will enable her to undertake research to measure land-use changes and modelling their impacts on the wetlands and Andean species of the triple frontier under possible scenarios of climate change. Her work will contribute to developing guidelines for better implementation or extension of protected areas in the triple frontier, including implementation of the off-road mitigation project. If this application is successful Magdalena will apply for doctoral studies at Oxford University under the supervision of Dr Claudio Sillero. She has secured a grant from Chile's CONICT to cover her eventual doctoral studies.

**9. Provide a concept note on the Darwin Fellowship (maximum 1,000 words). This should include:**

- a clear outline of the aim and objectives of the Fellowship
- the role of the UK Host organisation, and others where relevant (including contacts)
- where appropriate, the role of the UK Host organisation, and others ie what the expected outcome of the Fellowship will be, with regard to the higher goals of the Darwin Initiative

Aim and objectives of the Fellowship The chief aim of this Darwin fellowship is to support Magdalena Bennett to successfully accomplish research relevant to the conservation of High Andes biodiversity in the triple frontier between Argentina, Bolivia and Chile. Under supervision of a high academic level at the University of Oxford, Magdalena will identify, measure and map land use changes that affect biodiversity in the High Andes and its conservation, as derived from her involvement with the Darwin Initiative project 14 028. This project identified key areas for conservation of carnivores in the region (particularly Andean cats and their prey base), the critical resources on which they depend (mainly highland wetlands), and threats from unregulated tourism, in addition to mining and overgrazing.

Consequently, Magdalena's work will focus on the highland wetlands known as 'vegas' or 'bofedales', which sustain a rich fauna of water birds, rodents, carnivores and domestic stock. Applying GIS and remote sensing techniques her objective is to detect changes in land uses and in the condition of wetlands in the region, incorporating the potential effects of climate change. Additionally, she will explore how these changes may affect populations of emblematic species such as the endangered Andean cat and three species of migratory flamingos that converge there every summer. The vulnerability of mountain ecosystems to climate change is widely recognized, including diminishing habitat for highland specialists due to the potential effects of raising temperatures and changes in rainfall. Ultimately her work will produce crucial information for decision makers to better protect biodiversity hotspots under most imminent threat in this region.

The High Andes ecosystem is a biome of particular conservation concern due to its high level of endemism, but despite its fragility and vulnerability to degradation, fragmentation and climate change, it is under-represented in the protected area networks of Argentina, Bolivia and Chile. The original Darwin project raised awareness and capacity for biodiversity conservation in the region, reinforcing networks of scientists, Protected Areas (PA) managers and other stakeholders. These are now in place and this fellowship will contribute new information required to implement some of the collaborative actions contemplated in the '*Tilcara Agreement*'. This agreement was a major outcome of the original project, signed by agencies from the three host countries. Signatories of the Tilcara Agreement gave explicit support to initiatives such as: promotion of integrated management of PAs and Ramsar sites in the triple frontier region; identification of priority areas for conservation and support to the creation of new protected areas, restricted conservation areas and biological corridors between PAs; agreements for coordinated surveys of flamingos, carnivores and wetlands; establishment and access to common databases; and articulated reinforcement of sustainable tourism regulations.

### Role of the UK host organization and other partners

WildCRU will provide Magdalena Bennett with expertise on academic research in conservation and contacts with other Oxford University research groups with expertise on regional climate modeling in the Andes. The continuation of Magdalena's involvement with WildCRU (started in 2005 with the original Darwin project) will provide her with a high level of education and tools that are not available in her country. Moreover, members of the Andean Cat Alliance active in the triple frontier since 1999 and across the species' distribution range will contribute to and benefit from Magdalena's work, as the threats that make biodiversity vulnerable in the triple frontier are common across the High Andes. A close collaboration with the Andean Flamingos Conservation Group (GCFA: Grupo para la Conservación de Flamencos Altoandinos) will enable Magdalena a better grasp of the conservation problems faced by populations of flamingos in the region and access to a network of researchers, conservationist and government agencies involved in conservation of flamingos and wetlands in the triple frontier since 1996.

### How the Fellowship will contribute towards sustainable development or sustainable livelihoods

This fellowship will contribute to assess problems that affect mountain ecosystems globally, and the High Andes in particular (the focus of a Darwin post-project proposal pending decision). In the triple frontier these problems are exacerbated by the increasing demand for water for urban development and the mining industry, particularly in Chile, and by the dependence on wetlands for livestock grazing. In the triple frontier all life systems depend on these wetlands. Furthermore, the wetlands are crucial for the water balance of these closed basins which are replenished very slowly. Low water levels have been registered in relation to El Niño/La Niña fluctuations by the GCFA. The Darwin project also identified poor or absence of adequate control of tourism activities, and key conservation areas markedly disturbed by off-road driving. Unregulated tourism, mining and overgrazing were recognized as major problems for High Andes biodiversity conservation by the new AGA Strategic Plan, and the GCFA Regional Strategic Plan for High Andean Wetlands.

Generating information on these anthropogenic processes and their impacts on major components of the High Andes ecosystem, namely the highland wetlands, is a very important step toward finding solutions to the problems of biodiversity loss and sustainable livelihoods in the High Andes region. These research findings will be delivered to the protected areas managers, governments and mining companies to influence their decisions regarding sustainable development, while considering the impacts of human activities on the long-term persistence of populations of High Andean species.

### **10. Legacy. Provide information on how the Darwin Fellow will utilise, promote and disseminate the benefits of the Fellowship on return to his/her home country. Will a strategy be developed during the Fellowship to ensure this is achieved? (200 words)**

Due to her previous participation and exemplary work in the Darwin initiative Project (14 028) Magdalena Bennett has become a crucial member of the Andean Cat Alliance, and it is hoped she will continue to work within the Alliance for many years to come. The fellowship and her participation in the proposed Darwin post project proposal will provide valuable professional exposure and experience to Magdalena, which will contribute to her liaison with Corporación Nacional Forestal (CONAF) and National Tourism Service (SERNATUR). She will have regular meetings with these organisations and their personnel. Workshops planned as part of *Huella Única*, the off-road mitigation project, will bring her close to the tour operators and those responsible for controlling the tourism and mining activities threatening the fragile High Andes ecosystem.

Magdalena will return to Chile with new knowledge and experience on topics such as conservation biology, climate change, landscape change and niche modelling. Furthermore, Magdalena's work will be disseminated through the completion, and publication, of her research during the Darwin project.

**11. How will the Fellowship assist the Fellow's organisation and/or local communities and/or home country in working towards the objectives (or implementation) of the CBD/CITES/CMS? Please refer to specific Articles or cross cutting themes as appropriate. (200 words)**

The main research topic of this fellowship is habitat loss, one of the most important causes of the reduction of biodiversity in the world. Therefore the activities of the Fellow, as well as the original Darwin and post project, will contribute directly to the 2010 Biodiversity Target (i.e. to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level) and the implementation by the Argentine, Bolivian and Chilean governments of the Mountain Biodiversity thematic programme of the CDB. Cross-border cooperation, coordinated research and better conservation across boundaries will be achieved via exchange of expertise, resources and integrated regulations (Articles 5, 17 and 18: Co-operation, Exchange of information, Technical and scientific co-operation). The project focus on in-situ conservation (Article 8) to help mitigating the impacts of growing threats to mountain biological diversity, with education campaigns for tourists, tour operators and local communities (Article 13 - Public education and awareness) and with monitoring work in priority areas for conservation (Article 7 - Identification and monitoring).

The new focus on highland wetlands will contribute to the implementation of the CMS, of which the three countries are signatories, helping to conserve populations of migratory species with unfavourable conservation status (two species of flamingos in Appendix I: *Phoenicoparrus andinus* and *Phoenicoparrus jamesi*) and species which require international agreements for their conservation and management (Appendix II: all species of flamingos, including *Phoenicopterus chilensis*). The project will help Bolivia and Chile to implement their Memorandum of Understanding on the Conservation of High Andean Flamingos and Their Habitats (signed on 2008 between Bolivia, Chile and Peru, and with potential to include Argentina) and the Ramsar Convention on Wetlands of International Importance of which the three host countries are signatories.

**12. What collaboration has there been with the Darwin Fellow to date in developing the proposal, and what collaboration is planned for the duration of the Fellowship? Where relevant, describe any consultation or collaboration by the proposed Fellow within his/her own country. (200 words)**

Magdalena has worked closely with Dr Jorgelina Marino and Dr Claudio Sillero at WildCRU developing this concept and the post project proposal (pending). There are ongoing discussions with the University of Oxford's School of Geography and Environment for a multidisciplinary collaboration.

In Chile Magdalena will collaborate with CONAF, organization charged with Chile's protected areas, and with the Tourism Service SERNATUR in the triple frontier. Regionally Magdalena will collaborate with the Andean Cat Alliance (AGA), the international network Andean Flamingos Conservation Group (GFCA), the Eduardo Avaroa National Park in Bolivia and Vilama RAMSAR site in Argentina.

**13. Where will the Darwin Fellow be based? Please be specific with organisational details and dates (where more than one location). (200 words)**

For most of the fellowship period (July 2010 to June 2010) the Fellow will be based with the Wildlife Conservation Research Unit at Oxford University, with a field trip of 8 to 10 weeks to Chile planned. Magdalena will do fieldwork in the study area of the triple frontier collecting species presence data (DNA samples, camera traps and interviews) and landscape data to ground truth her satellite images analyses and models.

## Start date, length and location of Fellowships

Fellowships will be provided for **up to one year**. Fellowships should start after 1 July 2010 and finish before 1 October 2011.

### 14. Provide a programme of work, including key milestones, through the duration of the Fellowship

Activity	Duration	2010/11									2011/2011			
		J	A	S	O	N	D	J	F	M	A	M	J	J
Mapping wetlands	4		X	X	X	X								
Analyses of wetlands (distribution, primary productivity, climatic correlates)	8						X	X	X	X	X	X	X	X
Map off-road disturbance	2	X	X											
Water extraction and wetlands, mining case study	6					X	X	X	X	X	X			
Grazing, wetlands, collation of information	6							X	X	X	X	X	X	
Maps of wetlands and disturbances	6					X	X	X	X	X	X			
<i>Huella Única</i> information campaign	2			X	X									
Consultations with PA managers in each country	3			X	X	X								
Assistance with technical reports to PA	3											X	X	X
Field work	2			X	X									

**15. Financial Aspects. Please use UK Government Financial Years ie April 2010 – March 2011 etc)**

<b>Fellow payment</b>						
		10/11	11/12	2010/11	2011/11	
London: £1200/month	Number of months			£	£	
UK (outside London): £1000/month	Number of months	6	3			
Overseas location £ 700 /month*	Number of months	3				
<b>Host Organisations' costs</b>						
UK: £300/month	Number of months	10/11 6	11/12 3	2010/11 £	2011/12 £	
Overseas location: £ 250 /month*	Number of months	3				
<b>A. Total Fellow &amp; Host Organisation Costs</b>						

<b>Actual travel costs (Return journey to Fellowship location)</b>		
	2010/11	2011/12
Return airfare. <i>Details</i> Return flight from Santiago to London	£	£
Travel to/from airports. <i>Details</i> Travel from Gatwick to Oxford		
Visas etc. <i>Details</i>		
<b>B. Total Fellowship Travel Costs (Actual costs up to £2000 will be paid)</b>		

<b>Actual travel costs 'Additional Travel'</b>		
<b>Maximum £500 within country of Fellowship location, £1500 for international travel.</b>		
<b>Specify purpose.</b>		
To carry out field work in Triple frontier of Argentina, Bolivia and Chile		
Airfares <i>Details</i> Return London to Santiago to Calama	2010/11 £	2011/12 £
Subsistence <i>Details</i>		
Travel to/from airports. <i>Details</i> Travel from Oxford to Gatwick Travel within the UK for meetings		
Visas etc. <i>Details</i>		
<b>C. Total (Other travel) costs</b>		

<b>D. ACADEMIC FEES</b>	2010/11	2011/12
<i>Details</i> .	£	£

<b>TOTAL FELLOWSHIP COSTS (A + B + C + D)</b>		
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\* Figures available from the Darwin Applications Unit Tel: 0131 440 5180

**16. Other sources of funding: provide details and amounts**

Wildlife Conservation Network ([www.wildnet.org](http://www.wildnet.org)) £3,125 toward *Huella Única* off-road mitigation project.  
CONICYT Doctoral Studies Abroad Grant, £9,600, conditional to University acceptance.

**FCO NOTIFICATION**

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 details of the Darwin Fellowship and the resultant work in the UK or the Darwin Fellow's home country

**CERTIFICATION**

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.

I enclose CVs for project principals and letters of support as requested in the Guidance Notes.

<b>Name (block capitals)</b>	Dr Claudio Sillero
<b>Position in the organisation</b>	Senior Research Fellow, WildCRU, Department of Zoology

**Signed**

**Date:**

19 February 2010



## Fellowship Application - Checklist for submission

	Check
Have you provided actual start and end dates for the Fellowship?	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
Has your application been signed by a suitably authorised individual? <b>(clear electronic or scanned signatures are acceptable)</b>	
Have you included a 1 page CV for the proposed Fellow and the UK experts listed in Section 5?	X
Have you provided the relevant letters of support?	X
Have you included a copy of your most recent annual report and accounts? <b>An electronic link to a website is acceptable.</b> <a href="http://www.ox.ac.uk/about_the_university/facts_and_figures/financial_statements.html">http://www.ox.ac.uk/about_the_university/facts_and_figures/financial_statements.html</a>	X
Have you read the Guidance Notes?	X

Once you have answered Yes to the questions above, please submit the application, not later than 2359h GMT on **Friday 19 February 2010** to [Darwin-Applications@ltsi.co.uk](mailto:Darwin-Applications@ltsi.co.uk) using the name of the proposed Fellow as the subject of your email. 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 LTS International, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL postmarked not later than **Monday 22 February 2010**.

**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.