

Darwin Initiative – Final Report

(To be completed with reference to the Reporting Guidance Notes for Project Leaders
(<http://darwin.defra.gov.uk/resources/reporting/>) -
it is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

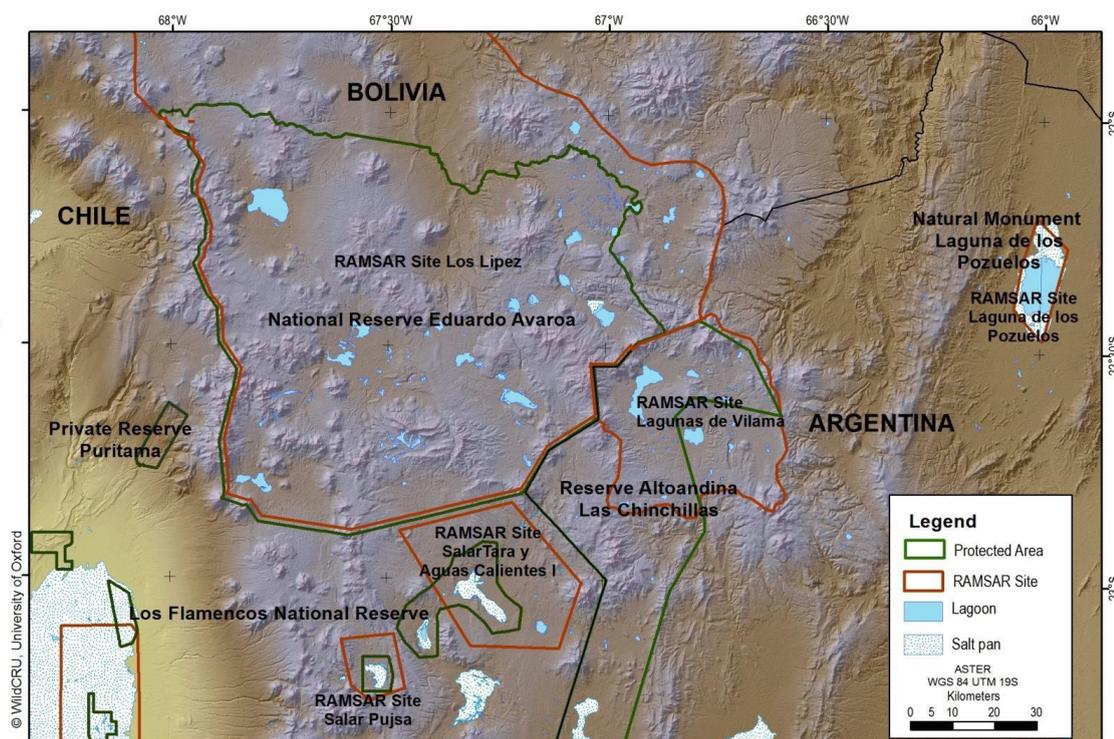
Darwin project information

Project Reference	EIDPO038
Project Title	High Andes Conservation Without Borders
Host country(ies)	Argentina, Bolivia and Chile
UK Contract Holder Institution	University of Oxford
UK Partner Institution(s)	Wildlife Conservation Research Unit (WildCRU), University of Oxford
Host Country Partner Institution(s)	High Andes Flamingo Conservation Group, Andean Cat Alliance, Fundación YUCHAN
Darwin Grant Value	£139,953
Start/End dates of Project	01 April 2010 – 30 June 2012
Project Leader Name	Claudio Sillero•Zubiri
Project Website	www.wildcru.org/research/research-detail/?theme=&project_id=43 www.huellaunica.org www.zapaleri.org
Report Author(s) and date	Marino, J., Marconi, P., Bennett, M., Villalba, M.L., Perovic, P & C Sillero-Zubiri. October 2012.

1 Project Background

The high level of endemism of High Andes biodiversity and its vulnerability to climate change and incompatible land uses render this biome highly vulnerable. In the Triple Frontier between Argentina, Bolivia and Chile these threats are imminent and with potential to affect important populations of the endangered Andean cat, vicuña, and three migratory flamingo species. To help preserve these populations, and the integrity of the wetlands that support them, this project strengthened the network of PAs in the Triple Frontier by promoting regional coordination, research on key ecosystem components, environmental awareness and lobbying for new protected areas. While having to deal with political vicissitudes the capacity for trans-frontier collaboration in the region has consequently improved, particularly for environmental monitoring, community-based tourism, and coordinated conservation planning. The legacy of this project is a common vision and agenda for participatory and coordinated management in the Triple Frontier.

Protected Areas in the Triple Frontier: Reserva Provincial Altoandina de la Chinchilla (RPAC) and Sitio Ramsar Lagunas de Vilama (SRLV) In Argentina, Reserva Eduardo Avaroa (REA) in Bolivia, and Los Flamencos National Reserve (LFNR) and Private Reserve Puritama in Chile.



2 Project support to the Convention on Biological Diversity (CBD)

The project increased the capacity of the host countries to meet CBD commitments in three major areas, discussed in detail below:

a) Habitat protection:

- ✓ *...establish systems of protected areas with guidelines for selection and management; promote protection of habitats...:*

The project led a revision of conservation and knowledge gaps in the TF, and a participative evaluation of threats and the effectiveness of existing PAs in the TF. The project is lobbying for the creation of a Transfrontier Ramsar Site involving the existing Sites at each side of the frontiers, and for the implementation and extension of the ‘paper’ reserve RPAC in Argentina.

- ✓ *...ensure compatibility between sustainable use of resources and their conservation...:*

The *Huella Única (Single Road)* campaign is alerting stakeholders of the current and potential impacts of unregulated tourism in the region, and helped PAs to implement ethical signalling for visitors. The project studied the carrying capacity of wetlands for livestock and vicuñas, and it is evaluating short and long term environmental impacts of water extraction by the mining industry.

- ✓ *...encourage co-operation between governments and the private sector...:*

The project brought together tour operators and PA administrators, to discuss environmental impacts of tourism and their causes. Particularly in Chile, mining companies and land owners, such as Explora, were involved in the project activities to help raise awareness.

- ✓ *...establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity*

International exchanges, such as the visit by Vilama communities to their neighbouring implementing community-based tourism in Chile, helped the first to comprehend the potential for sustainable tourism in their own area, and the importance of laws and regulations for local involvement in the protection of natural resources.

b) Ecological research and monitoring

- ✓ *Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.*

The identification of threats and conservation priorities in the TF was one of the project's main objectives, including the compilation of databases and reviews with available and new data. Specifically the project with assisted long-term monitoring of aquatic birds, and provided strong baseline information to monitor other ecosystem components in the future, crucially wetlands.

- ✓ *...promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries...*

Research conducted by national students in Chile and Bolivia on the impacts of grazing and water extraction upon wetlands biodiversity of conservation value.

- ✓ *...promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media...*

The project disseminated information in various ways: a project's periodical newsletter, notes with local and national media, extensive reviews and assessments compiled as technical reports, workshops with key conservation players, presentations, other publications, and two new websites.

c) International collaborations

- ✓ *...cooperate with other states and organisations in developing awareness programmes; exchange information on impacts beyond State boundaries.... Countries shall facilitate information exchange including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge*

International collaborations were at the heart of this project, crucially involving the institutions managing protected areas in the three countries, also responsible for CBD in their respective countries. The international collaboration brought together experts as well as PA administrators, and also local communities from neighbouring countries. The *Huella Única* campaign was a common initiative supported by Bolivia and Chile. The participative evaluation of threats and various international meetings helped to exchange information and to plan common agendas. The *Zapaleri Group*, an informal network of people with a common interest in the TF, was formed, named after the peak marking the triple frontier between the three countries. A website, *zalaperi.org*, was created to promote continuous exchange and contacts.

The project contributed to the implementation of the CMS, of which the three countries are signatories, by promoting the conservation of populations of migratory species with unfavourable conservation status (two species of flamingos in Appendix I: *Phoenicoparrus andinus* and *P. jamesi*) and species which require international agreements for their conservation and management (Appendix II: all 3 species of flamingos present in the Triple Frontier, including *P. chilensis*). Similarly, the project assisted Bolivia and Chile to implement their Memorandum of Understanding on the Conservation of High Andean Flamingos and Their Habitats (signed on 2008) and the Ramsar Convention on Wetlands of International Importance of which the three host countries are signatories.

3 Project Partnerships

This project was a joint initiative of WildCRU, the Andean Cat Alliance (**AGA** in Spanish) and the High-Andean Flamingo Conservation Group (**GCFA** in Spanish). This was a dynamic and productive collaboration, with fluid communication between the personnel in Argentina, Bolivia, Chile and the UK including field trips, meetings, and regular virtual conferences via Skype. Incorporating GCFA as a new partner in the project extension proved to be a great asset for the partnership. It provided leadership in the form of project coordinator Patricia Marconi, and opened up opportunities to support the conservation activities of GCFA in the triple frontier, such as the annual census of flamingos. The international nature of both AGA and GCFA brought in the added value of two well-established networks that have been operating in this region for several years.

In particular, Patricia Marconi contributed her vast knowledge of the inner workings of the agencies involved with the protection of High Andes in the three countries, and facilitated activities of experience-sharing involving Chile and Argentina. Pablo Perovic was pivotal in linking the project with the local communities in and around Vilama in Argentina. The role of Lilian Villalba in Bolivia was equally crucial in order to maintain communication and collaborations with members of national, regional and local institutions, in a rapidly changing political landscape. Magdalena Bennett not only fulfilled her role as researcher but also contributed to formalize collaborations with PA managers in Chile. From the UK, Claudio Sillero coordinated the functioning of the project and managed the finances, sorting obstacles with the timely transfer of funds to the partners. He also visited the study area several times and met all project members and representatives from relevant agencies and facilitated the final international workshop in San Pedro de Atacama, Chile. Jorgelina Marino coordinated the ecological research components of the project, designed and oversaw implementation of graduate and post graduate theses, and provided academic supervision both remotely and in the field. The UK lead institution benefited from past experience in several other DI projects.

The project worked with various institutions in the three countries, including those managing protected areas in Argentina (Administración de Parques Nacionales - APN, and Secretaría de Gestión Ambiental, Jujuy Province), Bolivia (Servicio Nacional de Áreas Protegidas - SERNAP) and Chile (Corporación Nacional Forestal - CONAF), which are also responsible for implementing the CBD in their countries. The situation in Bolivia required flexibility in order to adapt to the incipient co-management approach in REA, shared between SERNAP and the local communities, and to the changing authorities within SERNAP. Eventually, the project did succeed in implementing international collaborations between the staff from protected areas in Bolivia and Argentina, including exchange and capacity building for aquatic bird monitoring. Links were also established with a relatively new stakeholder in the triple frontier, the hotel chain Explora, who owns land in the Chilean side and set some aside as private protected area Puritama. Collaborations were established with universities in Argentina, Bolivia and Chile to implement coordinated research by graduate and post-graduate students. An important collaboration was established with the Environmental Change Institute at the University of Oxford to study climate change and its impacts in the context of a doctoral thesis. The project's closing international workshop in San Pedro de Atacama, delivered a common vision and a common agenda for environmental conservation in the Triple Frontier.

4 Project Achievements

4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

Our ultimate goal was to improve the conservation status of neighbouring High Andes habitats in Argentina, Bolivia and Chile, with a focus on carnivores, waterbirds and wetlands. Tangible conservation impacts may not be evident at the time scale of this project, but the partnerships and mechanisms that were put in place, or reinforced, are a good starting point for an integrated protected area management in the Triple Frontier. As a result of this project the relevant institutions and local communities have a better understanding of natural and cultural connectivity in the Triple Frontier, and are more willing and better prepared to implement conservation actions.

4.2 Outcomes: achievement of the project purpose and outcomes

PA authorities and the local communities living in the Triple Frontier are now more aware of the existence of common natural and cultural values, and of shared environmental problems and threats. The impacts of transfrontier activities, such as the international workshop on community-based conservation and ecotourism in Chile and the park staff exchange during flamingo censuses in Argentina, were evidenced by the local communities' support for a protected area in Vilama and by the establishment of coordinated flamingo censuses in Argentina.

Tourism in the Triple Frontier benefits local livelihoods in Chile and Bolivia, and potentially also in Vilama. By exchanging experiences, these communities are now better informed about the need to develop economic activities that are compatible with the protection of natural resources within PAs.

The project increased the human resources available to conservation in the host countries via formal training of university students and by short-term training of research assistants, protected area staff and tour operators. International networks of specialists were also strengthened and these networks are expected to continue to grow, increasing stakeholder participation and influencing decisions relevant to sustainable uses in the Triple Frontier.

Local partners in the host countries will continue to carry out research and conservation activities in the region in collaboration with AGA, GCFA and PA authorities, to put into action the common agenda agreed at San Pedro de Atacama at the end of this project.

The identification and measurement of the key threats affecting natural resources in the Triple Frontier serves as a baseline of information on land use. Complemented by the state of knowledge reports and the site management assessments, these inputs provide standardized information for an integrated analysis and subsequent planning of conservation actions in the Triple Frontier.

4.3 Outputs (and activities)

The project achieved the outputs stated in its logical framework, according to the indicators originally set up (Annex 1 & 4). Most research activities, capacity building and networking, were implemented within the original timetable. The completion of some of these and publications, however, were delayed to some extent. This delay resulted from logistical constraints that affected the timing of field work, the need to coordinate field work with the students' other academic responsibilities, and with the Darwin project itself, and delays due to administrative procedures. All studies however are well progressed and the expectation is that the outputs will be completed in the next 6 months.

The assumption of political willingness to counteract threats to biodiversity the Triple Frontier held largely true, but politics at national and local levels (such as the transition to co-management in PAs of Bolivia) did hinder progress towards the implementation of some activities of international collaborations, and the creation national reserves in Vilama (Argentina) and Licancabur-Tatio (Chile).

In Argentina, consultations with PA managers revealed that the political will to implement a national protected area in Vilama eventually petered out, allegedly due to lack of sufficient funds to manage the existing protected areas. Thus, the project shifted its focus to the local communities of Vilama identified as the major conservation players, and worked to build up links with them, crucially with the *Warmi* (association of local women directly involved with an initiative to develop tourism with support from Banco Interamericano de Desarrollo - BID). The initiative to create a National Reserve in Vilama included a design of precise limits for the protected area, informed by the technical outputs of the Darwin Initiative project. General elections, and the change in authorities, resulted in this proposal not progressing, but it has inspired new plans to expand the Reserva Provincial Altoandina de la Chinchillas (Luis Rivera, Director de Biodiversidad, Secretaría de Gestión Ambiental, Jujuy, com. pers.)

In Chile, the support for a protected area in Licancabur-Tatio also dwindled, but a proposal for a PA in Tatio is currently evaluated by the Chilean Congress, following an environmental disaster resulting from geothermic exploration in Tatio. A private PA was recently created in Puritama on land belonging to the Explora Hotel chain, strategically located close to REA in Bolivia and with the only confirmed presence of Andean cats for the Chilean side of the Triple Frontier. The project worked with Explora providing technical support and coordinated field research in Puritama.

In Bolivia an issue hindering the implementation of activities in REA was the tense relationship between the protected area and local communities, which claimed access to a larger percentage of the admission fees, and threatened to collect eggs of nesting flamingos from Laguna Colorada. The team met the communities in December 2010 at a crucial point in the transition towards co-management of REA by the state and the local communities. This process had started in 2007 and resulted in general instability in PA staff. Presently the tensions relaxed and a new director has been named. Also, following changes at ministerial levels in Bolivia, steps had to be taken to make the Tilcara agreement known among the new authorities.

Towards the end of the project efforts concentrated on a proposal to create a Transfrontier Ramsar Site in the Triple Frontier, led by the partner institution GCSA. The project contributed funding and coordination for an international workshop, and lobbying for signing by relevant authorities. At present, Argentina's Foreign Affairs Ministry and the National Secretary of Environment are evaluating the document and the signature is imminent. In Chile and Bolivia the bureaucratic process to formalize the Transfrontier initiative is also ongoing - CONAF and SERNAP have showed a positive attitude.

4.3 Project standard measures and publications

A paper on Andean cats published in *Diversity and Distributions* (Marino et al. 2011), a journal of high impact in this field, had an important impact on the setting up of conservation priorities for the conservation of the species, as stated in the Strategic Plan of the Andean Cat Alliance (AGA, 2011), a strategic process also supported by the Darwin project.

4.4 Technical and Scientific achievements and co-operation

Sociological studies focused on communities on the Argentine side of the triple frontier, which have been the least researched and where the incipient development of community-based tourism (with support from a World Bank grant) provided opportunities to articulate economic development with awareness of the value and fragility of the Puna ecosystem. A study conducted by Amelia Clark (Instituto Latinoamericano de Ciencias) entitled *Communities of the Puna of Jujuy and community-based tourism: Vilama case study* (* diploma thesis annexed), recorded the participative process by which communities conceptualized the value of natural resources, the importance of tourism development, and conservation as a social responsibility. The study culminated with a workshop organized by the communities themselves and which reflected the compromises acquired. These communities have limited opportunities for economic development, scarce public services and infrastructure. They use natural resources such as water and grazing for subsistence pastoralism, and their main income come from government subsidies.

Magdalena Bennett, for her doctoral thesis at the University of Oxford titled *Land use and climate change in the High Andes: Effects on biodiversity and natural resources*, first assessed the main threats to biodiversity conservation in the Triple Frontier, with a combination of field surveys, census data, remote sensing and spatial modeling (* two chapter drafts annexed). The study revealed that water extraction - for mining and settlements - and unregulated tourism were the anthropogenic disturbances most relevant for biodiversity conservation. Weather data was analyzed to assess the threat of climate change, and confirmed declining rainfall over the last three decades in some areas, but no consistent trends. Rainfall instead has been mainly influenced by the Southern Oscillation Index (with dry conditions in El Niño years and wet conditions during La Niña events), and temporal associations were also observed between rainfall and primary productivity (i.e. a delayed peak in NDVI after a wet year). At high elevations patterns were not that evident, so more recent analyses include temperature and evapo-transpiration.

The thesis postulates that flamingoes and Andean cats are good case studies to assess the biodiversity impacts of these threats. Conservation priorities for Andean cats are the habitat corridors connecting populations across borders, while the less-disturbed and more humid areas of Argentine were found to contain more prime Andean cat habitat. Flamingos, are under intense human pressure in important sites in Bolivia from collection of eggs by local communities and the development of a geothermic power plant. Information from the last monitoring season will soon be submitted to a peer reviewed journal (*Monitoring of 2011-2012 breeding colonies and populations of High-Andean Flamingos in Argentina and Bolivia*). The data shows that Laguna Colorada in REA other wetlands in Ramsar Site Los López to the North together and Vilama to the East are important summer habitats for foraging and breeding.

More localized ecological studies were conducted in Chile focusing on the threats imposed by llama grazing on *bofedales*, measuring biomass, carrying capacity, and competition with vicuñas. These were conducted by two students from Universidad de Chile, Diego Correa Páez (*Study of animal carrying capacity in Salar de Tara and surroundings, Provincia del Loa, Región de Antofagasta*) and Daniel Valencia (*Spatio-temporal interactions between vicuñas y llamas in Sector de Tara, Región de Antofagasta, Chile*) (* thesis progress reports annexed). In Bolivia, *bofedales* associated to the main settlements in REA were studied by Karina Gonzales Pomar of Universidad Mayor de San Andres (*Environmental factors conditioning interactions between plants and invertebrates in bofedales of Quetena grande, Sud Lipz, Potosi*) (* master thesis progress report annexed).

Furthermore, research initiated during the first Darwin project was published in a peer review journal of international prestige (Marino et al. 2011: *Bioclimatic constraints to Andean cat distribution: a modelling application for rare species*). Using all known Andean cat locations and modeling approaches this study described the bioclimatic niche of Andean cats, predicted core areas for the species (one of them the triple frontier Argentina-Bolivia-Chile), revealing knowledge gaps and survey priorities. A second manuscript (*Ecology of carnivores in dry highlands: applications for transfrontier conservation of Andean cats*) will soon be submitted to a conservation journal (* draft annexed). This study provides evidence of High Andean carnivores and their prey being directly or indirectly limited by the distribution wetlands where vegetation grows more profusely, and by rocky outcrops where they find refuge, and propose indicators of habitat quality. The paper assesses the conservation status of the best areas for carnivores and the opportunities for international collaborations, discussing the role of the Andean cat as a flagship species for High Andes conservation.

Complementary research was conducted during this project by Universidad de Salta students Montserrat Arciénaga (*Patterns of occurrence of mountain viscachas in rocky outcrops of Vilama*), and Maria Jose Anselmino (*Models of occupation of rocky outcrops by Andean carnivores in Vilama*) in the Vilama region (* progress report annexed). Their studies explored how vegas and rocky formations affect the distribution of Andean cats and their main prey, the mountain viscacha (*Lagidium viscacia*) in Vilama and habitat corridors linking to Los Flamencos Reserve in Chile and REA in Bolivia.

4.5 Capacity building

As per the project purpose capacity building was a mayor output. We built a mechanism for trans-frontier cooperation between governmental agencies and NGOs working in the conservation of High Andes biodiversity in three host countries, partly implementing the Tilcara Agreement which provides a mechanism to capitalize on the human resources enhanced by the original Darwin project.

A large share of our efforts was dedicated to this training and human development. APN, CONAF and SERNAP, our main government partners have improved human resources as a result of this partnership, specifically through training workshops targeting their staff, field training and participation in education campaigns.

The academic support provided by Oxford staff and partner universities facilitated the training of students from University of Oxford, Universidad de Chile, Universidad Nacional de Salta, and Universidad Mayor de San Andrés.

The PL and Oxford ecologist worked closely with partners advising students on ecological research and data collection and analysis. In turn UK personnel acquired valuable experience through their participation in this project, improving their organizational, managerial and facilitation skills. The Oxford ecologist extended her spatial ecology skills by learning additional GIS and modelling tools and working closely with a geographer and a modeller. The project involved many members of the AGA and GCFA networks, and contributed to the institutional development of AGA, increasing the level of cooperation between members and the internal flow of information, as well as assisting with the preparation of an institutional strategy.

It is chiefly through the AGA and GCFA networks that the project partners will continue to operate. Implementation of additional field components will be dependent on identifying sources of future funding, and on the environmental policy of the countries of the region. Our partners will continue to work through their institutions, and we hope that some of the students that were trained will find work

opportunities in the region. The Oxford personnel will maintain a professional and personal interest in the region, keeping in touch with the other partners chiefly through the zapaleri.org and huellaunica.org initiatives, and will actively seek opportunities for continued engagement.

5 Lessons learned, dissemination and communication

The key lesson is that communication among partners is essential in international collaborations, and good mechanisms to establish and maintain communication should be agreed and implemented early on. International and cross-discipline communication was poor before the original (2005-2008) project was implemented. While it has improved significantly since it needs to be actively maintained. Through good networking and partnerships the project will in all likelihood outlive its Darwin-funded phase, contributing to its legacy.

Good communication and adaptability were also essential for the project to attain any concrete conservation impact. The project faced political uncertainty as authorities and/or environmental policies changed following elections or political reforms. In Argentina, for example, as political will to implement a national protected area in Vilama petered out, the project then identified the local communities in Vilama as major conservation players, and worked to build up links with them. The ability to adapt to change meant replacing initial targets by new ones, refocusing lobbying efforts towards emerging opportunities such as the creation of a Transfrontier Ramsar Site, the eventual implementation of the paper reserve Reserva Provincial Altoandina de la Chinchillas in Argentina, and supporting a private protected area in Puritama, Chile.

Monitoring activities were good opportunities for international collaboration and to bring people together, but the effort required to collect and collate data and information with common protocols should not be underestimated.

The project was successful at disseminating its results and conservation message, by using a variety of approaches, from scientific papers and technical reports to newsletters and websites, to reach the different audiences representing the various stakeholders. Some concrete applications are already tangible, including: a) the use of information on Andean cats and their prey in implementation of a zonation in REA, b) an information campaign for off-road tourism, c) concrete progress towards the creation of a Transfrontier Ramsar Site in the Triple Frontier, d) lobbying for the creation of a new protected area in Vilama.

An important lesson learnt in the context of the *Huella Única* project is that the process from raising awareness to mitigate off-road driving should be long-term and are affected by many circumstantial factors, including political will, changes in political structures and managers, and financial limitations on the part of the agencies in charge of maintaining the roads. Lack of road maintenance is offered as the main problem by drivers and tour guides and drivers in Bolivia. New surveys by *Huella Única* in Argentina point out to more diverse reasons for which new tracks are open in High Andean landscapes, including mining and poaching.

We also learned that in order to be more appealing education material need to include more general information on the flora and fauna of a protected area or region, and on areas of touristic interest. We are financing new information materials jointly with REA staff in Bolivia.

We believe fervently that information campaigns are important and should be continued to keep people interested and motivated. Public awareness is essential to lobby for concrete conservation actions in the Triple Frontier. We learnt that flamingos are a good flagship species, because they are easy to see, unlike the elusive Andean cats. Still, information campaigns bring opportunities to raise awareness of the problems that Andean cats face.

Finally, the structure we put in place and the strong bonds promoted within AGA and GCFA, guarantees that follow-up actions will exist and that information dissemination will continue well after project termination. Additional evidence of these future developments is that there are several common publications in the pipeline.

5.1 Darwin identity

The Darwin logo was used in all printed material, websites, and presentations at conferences. The programme was known by all as the “Darwin Project”, and the financial support the philosophy underlining the Darwin Initiative was stressed at every opportunity during meetings with Government officials, and was used to urge the recipient countries to emulate the investment the UK is making to protect high biodiversity areas. The Darwin Initiative was well known by personnel in the government agencies partnering with the project. Less so by politicians and the general public.

6 Monitoring and evaluation

To determine whether the project and its components were conducted as planned we carried out an internal project evaluation throughout the course of the project. This progress evaluation took into account annual report reviews and determined whether the project was meeting its stated purpose, objectives, outputs and milestones according to the proposed timetable. Towards the end of each project year, an evaluation took place to assess strengths, weaknesses and implement corrective measures. We also assessed the cost-effectiveness of what had been accomplished, benefits to trainees and the effectiveness of components. No changes to the original logframe were deemed necessary.

The main project activities, timetables and the staff responsible for the execution of the project were included in the project’s annual operational plan. We promoted the participation of all partners in the evaluation of the project. All universities involved evaluated the proposed plans for the theses conducted during the project. Outcome indicators served as a baseline for measuring success. Success was estimated based on training and education outputs (number of people trained and training weeks), cooperation activities with local institutions, and academic outputs (theses, papers and technical reports).

The main difficulty of the project was the large geographic extent of the study area and the logistics involved in accessing and travelling in the High Andes. We solved this by allowing flexibility to project partners to carry out their field work at their own convenience, always within the general operational plan.

At the end of the project at the San Pedro meeting we examined how research and training contributed to understanding of the key factors involved in the long-term conservation of High Andes habitats. We also evaluated the options available to continue to support the various conservation strands of the project beyond Darwin Initiative funding.

6.1. Actions taken in response to annual report reviews

A few minor comments raised in the reviews of annual reports were addressed and helped improve the project outcomes. The reviews were discussed with project partners and collaborators. There are no outstanding issues.

7 Finance and administration

7.1 Project expenditure

Item	Budget (£)	Spending (£)	Difference from Budget (£)	% Difference
<i>Staff Costs</i>				
<i>Overhead Costs</i>				
<i>Travel and Subsistence</i>				
<i>Operational Costs</i>				
<i>Capital items</i>				
<i>Other Costs</i>				
TOTAL	£139,953	£157,968	£5,400	%3.9

The large variation under Other Costs can be explained due to the way the advances to partners were accounted for. This includes Operational and local salary costs. Information as to the detailed allocation of those budgets available on request.

7.2 Additional funds or in-kind contributions secured

In total the equivalent of £62,000 in match funding were contributed to this project. No additional investments or in-kind contributions were secured.

7.3 Value of DI funding

This project would not have taken place if it wasn't for the Darwin grant.

Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2012	Actions required/planned for next period
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <ul style="list-style-type: none"> • The conservation of biological diversity, • The sustainable use of its components, and • The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 		<p>Environmental threats and the effectiveness of existing protected areas to conserve critical resources in the High Andes are better understood. As a result, governments and local communities in the Triple Frontier are more aware of environmental impacts of land use, and of natural and cultural connectivity. The three countries now share a common vision and common agenda for biodiversity conservation, and the partnerships and mechanisms that were put in place are a good starting point for integrated management in the Triple Frontier.</p>	<p>(do not fill not applicable)</p>
<p>Purpose Through international collaborations in the triple frontier of Argentina, Bolivia and Chile increase protection of High Andes biodiversity and critical natural resources from the threats of incompatible land uses and climate change.</p>	<p>International collaborative projects resulting from <i>Tilcara Agreement</i> in place. Strengthened network of protected areas.</p>	<p>Coordinated research implemented across countries on wetland conservation and climate change. Collaborative evaluations of threats and knowledge gaps increased awareness of the need to protect natural resources among local communities, PA staff and experts. Proposal to implement a Transfrontier Ramsar Site gained government support. Common transfrontier agenda agreed for next 12 month, including sustainable tourism and ecological monitoring. Protected areas in Chile and Bolivia implemented common signalling to control off-road impacts.</p>	<p>Follow up implementation and accomplishment of the 12-month agenda</p> <p>Follow up implementation of Transfrontier Ramsar Site</p> <p>Seek funding for additional conservation activities in triple frontier.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2012	Actions required/planned for next period
		Overall, there is political will to strengthen biodiversity conservation in the Triple Frontier, although local and national politics could still hinder international collaborations and integrated management.	
Output 1. Key threats to critical High Andes resources identified and measured.	Measures of the extension, impact and/or level of threat from mining, tourism, and livestock grazing on wetlands and associated populations of water birds and carnivores. Assessment of the distribution & status of wetlands across the triple frontier and of imminent threats from land use and climate changes.	Useful measures of the realized or potential impacts of water extraction, off-road tourism and grazing, particularly upon wetlands, were achieved via extensive field surveys, workshops, remote sensing, literature reviews and the collation of government statistics. Flamingo censuses and mapping of wetlands and carnivores' suitable habitats permitted assess the importance of these threats, regionally and locally, and to lobby for actions to mitigate specific impacts.	
1.1. Mapping wetlands		Vegetation maps with distribution of <i>vegas</i> and <i>bofedales</i> were derived from remote sensing and extensive ground truthing. As part of the ongoing doctoral thesis, these maps will be further validated with additional field data. (<i>* maps and progress reports available</i>)	
1.2. Analyses of wetlands (distribution, primary productivity, climatic correlates)		The distribution of highland wetlands was assessed at a regional level with landscape analyses and by incorporating rainfall data (doctoral thesis, ongoing); local studies measured biomass and carrying capacity in wetlands used for grazing (one still ongoing). (<i>* maps and progress reports available</i>)	
1.3. Map off-road disturbance		Maps of off-road disturbance completed. (<i>* maps available</i>)	
1.4. Water extraction and wetlands, case study		Water extraction data collated, study area identified; analysis ongoing – this required waiting for the results of the climate study.	
1.5. Research on livestock grazing on wetlands, people's livelihoods and potential impacts on wildlife populations		Activities targeted specific problems, given the local conditions and knowledge gaps. These included a socio-economic study of local communities in the Argentine side and ecological studies of carrying capacity and grazing impacts in selected wetlands within the protected areas of Chile and Bolivia. (<i>* thesis and</i>	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2012	Actions required/planned for next period
		<i>progress reports available, in Spanish)</i>	
1.6. Summer census of water birds in the Triple Frontier		Completed, including monitoring of 2011-2012 breeding colonies in REA and Vilama. Ongoing in-depth analyses of abundance and reproduction data.	
Output 2. Technical evaluations and recommendations improve the efficacy of PAs network to protect key natural resources in the triple frontier.	Assessment of threats to critical resources in key conservation areas of Los Flamencos Reserve, proposed Licancabur-Tatio, Eduardo Avaroa Reserve, Laguna de Pozuelos Biosphere Reserve, and Lagunas de Vilama Ramsar Site.	<p>Continuous communication with PA authorities, local communities and researchers was crucial to understand the socio-political complexities of institutions in each country and local communities.</p> <p>Technical reports completed.</p> <p>Site assessment of PA including management effectiveness completed.</p>	
2.1. Consultation with PA managers to determine technical needs and main threats to biodiversity		Numerous meetings and workshops with stakeholders, including new authorities and players. The closing international workshop at San Pedro de Atacama delivered a common agenda, including future scientific and technical needs. www.zapaleri.org website. (<i>* minutes in Spanish available on request</i>)	
2.2. Collation of information on current and planned mining activities		Project members collated information in each country, which has been compiled into technical reports for each PA. (<i>* available in Spanish</i>)	
2.3. Mapping key resources and threats in the triple frontier		Field surveys completed; data collated; GIS analyses and maps completed (<i>* reports available in Spanish</i>)	
2.4. Socio economic surveys to determine changes in human demography as a result of mining and tourism development		Socio-economic surveys completed in Vilama and REA; statistics from each country collated. (<i>* thesis available in Spanish</i>)	
2.5. Assist with technical reports to support changes in status, zoning and/or creation of new PAs, including maps of key resources and threats across PA		<p>Technical support provided for the proposal to create a National Reserve in Vilama, Argentina (which did not prosper due to political reasons). All existing and new information compiled in a detailed evaluation of the status of knowledge and conservation in the Triple Frontier. (<i>* available in Spanish</i>)</p> <p>Collaborative assessments quantified threats and the effectiveness of current PAs in the Triple Frontier. (<i>* preliminary report available</i>)</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2012	Actions required/planned for next period
<p>Output 3. Strengthened network of PAs and transfrontier collaborations in the triple frontier.</p>	<p>Zoning and ethical signalling in Salar de Tara; progress with Licancabur- Tatio proposals; implementation of zoning in REA, articulated with Ramsar sites and neighbouring PAs; progress towards formalizing the creation of a PA in Vilama.</p> <p>Tilcara Agreement results in successful international collaborations.</p>	<p>Important progress achieved towards a unified system of ethical signalling in Chile and Bolivia and with the exchange of information about community-based tourism between local communities of Argentina and Chile. Political reasons, however, interfered with proposals for new protected areas in Licancabur-Tatio National Park (Chile) and Vilama National Reserve (Argentina), and with zoning plans in REA (Bolivia). The project adapted to the changing political landscape and the new indicators of success are: concrete progress towards the creation of a Transfrontier Ramsar Site in the Triple Frontier; better integration between national and private conservation areas in Chile; and a renewed interest – if only an informal pledge - of the Jujuy authorities to implement the designated (but never implemented) Regional Reserve Las Chinchillas in Argentina.</p>	
<p>3.1. Revisit Tilcara Agreement, select concrete collaborative projects and agree on implementation (e.g., unified regulation of tourism)</p>		<p>Transfrontier collaborations considered in the Tilcara Agreement implemented by the project: community-based tourism and conservation exchanges (Argentina-Chile) and coordinated bird monitoring (Argentina and Bolivia). Community representatives from Vilama visited their neighbours in Chile in 2010 to learn from their experiences with tourism and conservation in LFNR. Two REA park rangers participated in flamingo minitirng in Vilama and Pozuelos (Argentina); Argentine biologist and REA park ranger trained in flamingo chick ringing techniques in Laguna Colorada, Bolivia. (<i>* reports available in Spanish</i>)</p> <p>During 2012 closing workshop in San Pedro de Atacama a 12-month common agenda for the Triple Frontier was agreed. Chile and Bolivia PA authorities organized an Atacama community representatives visit to REA communities in the next spring. (<i>* minutes in Spanish available on request</i>)</p>	
<p>3.2 Lobbying for progress towards PA in Vilama, Licancabur-Tatio, better integration of Ramsar site management with that of Pas</p>		<p>Proposal to create a PA in Vilama supported and developed in collaboration with national authorities and local communities; the proposal was later shelved by the newly elected authorities of Jujuy Province. (<i>* letters of support in Spanish available on request</i>)</p> <p>Links established with private protected area Puritama in Chile, the only locality with confirmed presence of Andean cats in the Chilean side of the triple frontier.</p> <p>Proposal to designate a transboundary Ramsar Site in the triple frontier formally</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2012	Actions required/planned for next period
		submitted by GCFA with support of AGA and Darwin Initiative project team to Ramsar national authorities of the three countries, and accepted by Chile and Argentina on September 2011. At present, Chile and Argentina Foreign Affairs Ministries have accepted the proposal and it was considered positively at the Ramsar regional meeting during Ramsar COP11 at Bucharest, Romania.	
3.3. Assist with drafting of integrated management plan for PAs in the triple frontier.		<p>Compilation of all environmental and sociological information available for the Triple Frontier will support future integrated management plans. (<i>* technical report available</i>)</p> <p>Collaborative assessment conducted for each PA using the WHSRN Site Assessment Tool (Valencia & Duncan 2006) to evaluate the effectiveness of management and conservation efforts in the Triple Frontier. (<i>* preliminary report available; site assessment forms, in Spanish, available on request</i>)</p> <p>During the final international meeting, a common agenda was agreed for the next 12 months. (<i>* minutes in Spanish available on request</i>)</p>	
Output 4. Effects of unregulated tourism in the PAs mitigated and increased awareness of the need to protect the High Andes ecosystem.	Information campaign 'Huella Unica' (off-road project) continued in Bolivia and Chile and extended to Pozuelos and Vilama in Argentina.	<i>Huella Única (Single Road)</i> campaign disseminated good practice and biological information relevant to the conservation of High Andes biodiversity among tour operators, tourists, local communities involved with tourism, and project staff. System of ethical signaling to mitigate the impacts of off road implemented in areas Chile and Bolivia. (<i>* reports available in Spanish</i>)	
4.1. Information campaign in REA, LF and Pozuelos		Materials to raise awareness of the impacts of unregulated tourism were re-printed and disseminated in PAs of Bolivia and Chile, government offices, tour companies, etc. Plans to expand the campaign to the National Park Laguna de Pozuelos were abandoned due a lack of infrastructure and personnel in this PA.	
4.2. y 4.3. Zoning and ethical signalling for tourists and drivers in Salar de Tara and REA		In collaboration with the project Salar de Tara and REA, two key conservation areas, implemented ethical signaling for drivers and tourists.	

Annex 2 Project's final logframe, including criteria and indicators

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>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.</p>			
<p>Sub-Goal:</p> <p>Contribution to the implementation of international and national conventions for the protection of High Andes biodiversity, particularly migratory flamingos and water birds, carnivores and their prey, and the highland wetlands that sustain them around the triple frontier of Argentina, Bolivia and Chile.</p>	<p>Stable or recovering populations of carnivores and water birds within interconnected protected areas; maintenance of nesting sites and migratory routes; status of wetlands maintained; more sustainable land uses in the region.</p>	<p>Ongoing long-term monitoring of water birds and water bodies; surveys of distribution of rare carnivores and abundance of prey; monitoring of wetlands; statistics of tourism activity within PAs; mapping of off-road disturbance.</p>	
<p>Purpose</p> <p>Through international collaborations in the triple frontier of Argentina, Bolivia and Chile increase protection of High Andes biodiversity and critical natural resources from the threats of incompatible land uses and climate change.</p>	<p>International collaborative projects resulting from <i>Tilcara Agreement</i> in place.</p> <p>Strengthened network of protected areas.</p>	<p>Key conservation areas and biological corridors protected.</p> <p>New areas under regulated tourism.</p> <p>Progress towards a new PA in Vilama, Argentina.</p>	<p>There is political willingness to counteract threats to biodiversity and to strengthen the network of protected areas in the triple frontier, fulfilling responsibilities assumed with international conventions and the Tilcara Agreement.</p>
<p>Outputs</p> <p>1. Key threats to critical High Andes resources identified and measured.</p>	<p>Measures of the extension, impact and/or level of threat from mining, tourism, and livestock grazing on wetlands and associated populations of water birds and carnivores.</p> <p>Assessment of the distribution &</p>	<p>1 PhD (start Apr10), 2 MSc theses, 2 undergraduate theses.</p> <p>Maps of critical resources, level of protection, and current and predicted threats.</p> <p>Scientific publications and technical</p>	<p>In these arid environments wetlands are key resources for wildlife and local communities, under threat from tourism and the mining industry.</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	status of wetlands across the triple frontier and of imminent threats from land use and climate changes.	reports.	
2. Technical evaluations and recommendations improve the efficacy of PAs network to protect key natural resources in the triple frontier.	Assessment of threats to critical resources in key conservation areas of: Salar de Tara (Los Flamencos Reserve) and proposed Licancabur-Tatio in Chile; Eduardo Avaroa Reserve (REA) and Los Lipez Ramsar site in Bolivia; and Laguna de Pozuelos Biosphere Reserve and Lagunas de Vilama Ramsar Site in Argentina.	Technical reports to governments and PA authorities with assessments, guidelines and recommendations. Databases of wildlife associated to wetlands. Plan for wetland monitoring in REA, Bolivia.	There is a need and interest in governments and PA authorities for information on the status and threats to their natural resources.
3. Strengthened network of PAs and transfrontier collaborations in the triple frontier.	Zoning and ethical signalling in Salar de Tara; progress with Licancabur-Tatio proposals; implementation of zoning in REA, articulated with Ramsar sites and neighbouring PAs; progress towards formalizing the creation of a PA in Vilama. Tilcara Agreement results in successful international collaborations.	Endorsement of Tilcara Agreement at Foreign Affairs Ministerial level Progress formalizing status of Vilama PA (Arg) Draft of integrated management plan, subscribed by agencies in all three countries.	Tilcara Agreement and GCFA MoU accepted by government agencies as best framework for future collaboration. Integrated management plan adopted as an implementation tool by each of the relevant PAs
4. Effects of unregulated tourism in the PAs mitigated and increased awareness of the need to protect the High Andes ecosystem.	Information campaign 'Huella Unica' (off-road project) continued in Bolivia and Chile and extended to Pozuelos and Vilama in Argentina. Awareness campaign disseminates relevant good practice and biological information to tour operators and local communities. At least two key conservation areas with ethical signalling for drivers and tourists.	Reports with statistics on tourism, tour operators, PA staff and local communities reached by the campaign. Before-after surveys unveiling changes in attitude.	A sustainable tourism industry is compatible with the conservation of the fragile High Andean terrain.

Annex 3 Project contribution to Articles under the CBD

Please record only the 2 or 3 main articles to which your project has contributed.

Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	30	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	30	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation		Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity	10	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training		Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	10	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on

Article No./Title	Project %	Article Description
Resources		mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
16. Access to and Transfer of Technology		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information	20	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol		Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Other Contribution		Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

Annex 4 Standard Measures

*electronic outputs appended under 'Annex 4' folder

Code	Description	Totals (plus additional detail as required)
Training Measures		
1a	Number of people to submit PhD thesis	1 (ongoing, Triple Frontier)
2	Number of Masters qualifications obtained	1 (in progress, Bolivia)
3	Number of other qualifications obtained	5 1 diploma (Argentina, completed); 4 undergraduate theses (2 in Chile, close to completion; 2 in Argentina, field work done)
4a	Number of undergraduate students receiving training	6 4 conducting their research thesis 2 assisting the Masters student
4b	Number of training weeks provided to undergraduate students	8 Themes: biological surveys; sampling design; field data collection; use of GPS and maps; soil sampling; collection of carnivore faeces.
4c	Number of postgraduate students receiving training (not 1-3 above)	1 (Argentina-Bolivia exchange)
4d	Number of training weeks for postgraduate students	1
6a	Number of people receiving other forms of short-term education/training (ie not categories 1-5 above)	30 18 scouts from REA (Bolivia) 1 scout from LFNP (Chile) 1 tourism guide from Puritama (Chile) 10 local community representatives (Chile-Argentina exchange)
6b	Number of training weeks not leading to formal qualification	5 1 (REA staff; unregulated tourism & impacts) 1 (LFNP and Puritama staff; ecological surveys & collection of carnivore faeces) 1 (local communities; community-based tourism & impacts of unregulated tourism) 1 (PA staff, flamingo census training) 1 (PA staff, bird ringing)
7	Number of types of training materials produced for use by host country(s)	9 (<i>*electronic versions annexed</i>) 2 Project slide shows (used by partners) 1 technical publication: Status of Knowledge and Conservation in Triple Frontier (project publication with digital resources) 1 Field book guide Plants of REA 1 <i>Huella Única</i> brochure 2 <i>Huella Única</i> posters 1 <i>Huella Única</i> presentation (slide show) 1 Banner for the XV International Tourism Fair in La Paz, Bolivia
Research Measures		
8	Number of weeks spent by UK project staff on project work in host country(s)	5 (Claudio Sillero) 4 (Jorgelina Marino)
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country	
11a	Number of papers published or accepted for	3 (<i>*electronic versions annexed</i>) Bioclimatic niche of Andean cats

Code	Description	Totals (plus additional detail as required)
	publication in peer reviewed journals	Flamingo census results Andean cat abundance in Vilama 1 close to submission (Priority areas for carnivore conservation in the TF)
11b	Number of papers published or accepted for publication elsewhere	1 (flamingos)
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	1 Triple Frontier environmental GIS <i>(*available on request, list of contents annexed)</i>
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	2 <i>(*available on request)</i> 1 flamingos database (GCFA) 1 mountain viscacha, Andean cat & other carnivores database (AGA)
Dissemination Measures		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	34 <i>(*minutes in Spanish available on request)</i> 1 Reunión de presentación del proyecto y resultados anteriores con autoridades y comunarios Quetena Chico y Grande, y personal de la REA (attended by Sillero, Marino & Bennett) 1 Capacity-building workshop on off-road driving issues with REA staff 3 initial Project Meetings (one per country) with partners/key stakeholders, including APN (Argentina), CONAF (Chile), SERNAP y REA (Bolivia) 6 meetings with ministerial-level authorities (in Argentina: 2 with Foreign Affairs, 2 with National Secretary of Environment; in Bolivia: 2 with biodiversity and PA authority DGBYAP (Dirección General de Biodiversidad y Áreas Protegidas) 4 meetings with regional authorities in Argentina (Jujuy Province, Secretaría Gestión Ambiental) 11 meetings with local communities in Vilama (Cusi-Cusi, Lagunillas del Farallón, Liviara, Rosario de Collahuayma, Abra Pampa) 1 meeting of project team in REA, Bolivia, with PA staff and local authorities and communities 4 meetings to agree on transfrontier collaborations (in Chile & Argentina) 1 community-based tourism workshop with local communities from Argentina and Chile. 2 workshops <i>Huella Única</i> project, in Bolivia 1 Final International Workshop (Arg- Bol-Chi) in San Pedro de Atacama, Chile

Code	Description	Totals (plus additional detail as required)
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	<p>7 presentations at international conference or symposium (<i>*presentations available on request</i>)</p> <p>2 in I Congreso Latinoamericano de Conservación de la Biodiversidad. Tucumán, Argentina, Julio 2010</p> <p>1 in Simposio Internacional Flamencos sin Fronteras. Arica, Chile, Setiembre 2011</p> <p>1 in IX Congreso de Ornitología Neotropical. Cusco, Perú, Noviembre 2011</p> <p>1 in X Congreso Internacional de Manejo de Fauna Silvestre en la Amazonía y Latinoamérica. Salta, Argentina, Mayo 2012.</p> <p>1 Spatial Ecology & Conservation, International Conference, Birmingham, UK, September 2011</p> <p>1 Advances in Biogeography Conference, Oxford, UK September 2011</p>
15a	Number of national press releases or publicity articles in host country(s)	<p>3</p> <p>2 in Chile, in CONAF website on international workshop: http://www.conaf.cl/destacado-exitoso-taller-ecosistemas-altoandinos-conservacion-sin-fronteras-1478.html</p> <p>and SoyCalama online news: http://www.soychile.cl/Calama/Sociedad/2012/04/25/87151/Conaf-de-la-Provincia-El-Loa-participo-en-taller-para-la-conservacion-de-los-ecosistemas.aspx</p> <p>1 in Bolivia: article in newspaper of national coverage (printed and digital) http://www.paginasiete.bo/Generales/Imprimir.aspx?id=252572</p>
15b	Number of local press releases or publicity articles in host country(s)	<p>2</p> <p>1 press release announcing international workshop http://www.cebem.org/cmsfiles/articulos/Nota_Reunion_San_Pedro_De_Atacama_2012.pdf</p> <p>1 article in electronic newsletter REDESMA announcing international workshop http://www.redesma.org/nboletin.php?ID=259&IDSitio=25</p>
15c	Number of national press releases or publicity articles in UK	
15d	Number of local press releases or publicity articles in UK	
16a	Number of issues of newsletters produced in the host country(s)	<p>4 (<i>*digital copies annexed</i>)</p> <p>1 project presentation document (printed)</p> <p>3 project newsletters</p>
16b	Estimated circulation of each newsletter in the host country(s)	100 approx. (AGA & GCFA networks, authorities and technical staff at local, regional and national level, universities & other project

Code	Description	Totals (plus additional detail as required)
		partners)
16c	Estimated circulation of each newsletter in the UK	Available online at WildCRU, Oxford University website
17a	Number of dissemination networks established	3 Grupo Zapaleri email list (http://ar.groups.yahoo.com/group/Lista-Zapaleri/?yguid=43116162) <i>Huella Única</i> blog <i>NoAlDakar</i> blog: http://noaldakar2011.blogspot.co.uk/
17b	Number of dissemination networks enhanced or extended	2 (GCFA, AGA)
18a	Number of national TV programmes/features in host country(s)	
18c	Number of local TV programme/features in host country	
19a	Number of national radio interviews/features in host country(s)	
19c	Number of local radio interviews/features in host country (s)	3 in Argentina (2 in Salta, 1 in Abra Pampa)
Physical Measures		
20	Estimated value (£s) of physical assets handed over to host country(s)	£3,000
22	Number of permanent field plots established	
23	Value of additional resources raised for project	
Other Measures used by the project and not currently including in DI standard measures		
24	Information/education material to be used by PAs in host countries	Brochures for use in REA with information on biodiversity, the protected area, and off-road impacts (6,000 copies)
25	Signs to control off-road driving in PAs in the hoist countries	

Annex 5 Publications

Electronic copies under 'Annex 5' folder. ** We require these theses and paper drafts not to be made available online, until a definitive or a peer reviewed version is produced

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
* Peer reviewed publication, journal <i>Diversity and Distributions</i>	Bioclimatic constraints to Andean cat distribution: a modelling application for rare species (Marino et al. 2011)	Blackwell Publishing Ltd		
* Peer reviewed publication, journal <i>Flamingo</i> (Bulletin of the Flamenco Specialist Group)	Fourth simultaneous flamingo census in South America: preliminary results. (Marconi et al. 2011)	IUCN /Wetlands International		
* Peer reviewed publication, <i>Journal of Mammalogy</i>	Estimating detection and density of the Andean cat in the High Andes. (Reppucci et al. 2011)	American Society of Mammalogists		
*Technical report	Status of Knowledge and Conservation in the Triple Frontier (Darwin Initiative Team 2012)	Darwin Initiative Project		
*Pocket Guide (500 units)	Plantas de la Reserva Nacional de Fauna Andina Eduardo Avaroa, Bolivia (Ortuño et al. 2012)	Potosi		
Pocket Guide (500 Units)	Fauna de la Reserva Nacional de Fauna Andina Eduardo Avaroa, Bolivia. (Villalba et al. in preparation).			
Thesis	Communities of the Puna of Jujuy and community-based tourism: Vilama case study (Clark 2012)			
Thesis chapter drafts (2)	Land use and climate change in the High Andes: Effects on biodiversity and natural resources (Bennett 2012)			
Thesis	Study of animal carrying capacity in Salar de Tara and surroundings, Provincia del Loa, Región de Antofagasta (Correa 2012)			
Thesis progress report	Spatio-temporal interactions between vicuñas (<i>Vicugna vicugna</i>) y llamas (<i>Lama glama</i>) in Sector de Tara, Región de Antofagasta, Chile (Valencia 2012)		**attached -not online	
Thesis progress report	Environmental factors conditioning interactions between plants and		**attached -not online	

	invertebrates in <i>bofedales</i> of Quetena Grande, Sud Lipez, Potosi (Gonzales 2012)		
Paper draft	Ecology of carnivores in dry highlands: applications for transfrontier conservation of Andean cats (Marino et al. in prep.)	**attached -not online	
Paper draft	Monitoring of 2011-2012 breeding colonies and populations of High-Andean Flamingos <i>Phoenicoparrus andinus</i> y <i>P. jamesi</i> in Argentina and Bolivia (Marconi et al. in prep.)	** attached -not online	
Progress report	Patterns of occurrence of mountain viscachas and Andean carnivores in Vilama (Darwin Initiative Team 2012)		

Annex 6 Darwin Contacts

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