

Darwin Project Information

Project Ref Number	16-004
Project Title	Conservation of the Cerrados of Eastern Bolivia
Country(ies)	BOLIVIA (with involvement of Brazil)
UK Contract Holder Institution	Department of Plant Sciences, University of Oxford
UK Partner Institution(s)	Royal Botanic Gardens, Kew
Host country Partner Institution(s)	Herbario del Oriente Boliviano, Museo de Historia Natural, Santa Cruz, Bolivia Fundación para la Conservación del Bosque Chiquitano, Santa Cruz, Bolivia Herbario Nacional de Bolivia, La Paz, Bolivia Univsidade de Brasilia, Brazil
Darwin Grant Value	£265,405
Start/End dates of Project	1 May 2007 – 30 April 2010
Reporting period	1 May 2007 – 31 March 2008 Annual Report No. 1
Project Leader Name	Dr R.W. Scotland & Dr C.E. Hughes
Project website	Under construction
Author,date	John R.I. Wood

1. Project Background

The cerrado vegetation of South America is one of the principal tropical savannah formations, occupying extensive areas of central Brazil and eastern Bolivia with an estimated flora of 6500-10,000 species, of which about 35% of the trees and 70% of the herbs are estimated to be endemic to the biome, making it one of the richest of the world's top 25 biodiversity hotspots. While the cerrados of Brazil have been the focus of considerable botanical research in recent years, the extensive areas in Bolivia remain neglected in terms of botanical inventory and data. There are many undescribed species, no checklist of Bolivian cerrado species, little data on species distribution and almost none on patterns of endemism or what species are

endangered. Some areas are totally unexplored botanically. There is an urgent need for more detailed scientific information to underpin conservation planning.

In recent years the cerrados have come under intense pressure principally through soya cultivation in Brazil and cattle ranching in Bolivia. Observations by the FCBC and the Museo Noel Kempff Mercado (MNKM) have drawn attention to the ease and rapidity by which the cerrados are being grubbed up and sown with imported grasses resulting in the loss of the original vegetation and fauna. Only very few cerrados are currently within protected areas and effective conservation action within the next decade is likely to be critical, thus it is a matter of urgency to explore the region and identify the most important cerrados for conservation. Previous studies by the MNKM on the Serrania de Huanchaca in the extreme NE of the region suggest that hilltop mesetas are especially rich in endemics and still largely immune from grazing. The mesetas could play an important role in conservation planning and our project would ascertain how far they could fulfil this role. The FCBC is anxious for well-founded scientific data to help promote more sustainable grazing practices so traditional grazing can be combined with conservation.

The need for the project has grown out of the long-standing involvement of all parties in the cerrados and their awareness of the need for information on specific threats to species and habitats to help the Bolivian government fulfil its commitments under the CBD. MNKM is the Bolivian institution with prime responsibility for biological research in eastern Bolivia and has conducted surveys and other projects in the region but, like all similar Bolivian institutions, lacks resources to carry out survey work of the kind proposed here.

The project operates essentially within Santa Cruz Department of Bolivia as outlined in the accompanying map (Appendix 1). Although a few cerrado-like vegetation types occur in other departments all major areas of cerrado are within the project area. It should be noted that the project area is in fact a mosaic of vegetation types and is covered predominantly with Chiquitano dry forest (although often cleared for cattle ranching in some areas) with chaco lying to the south and Amazonian rainforest to the north. The cerrado biome lies within the Chiquitano forest region and consists of a range of subtypes or physiognomies, known by their Brazilian names as campo limpo, campo sujo, campo cerrado (*sensu stricto*), cerradao, campo humedo and campo rupestre. All except the last are characterised by periodic burning (both natural and anthropogenic) and soils low in nutrients and high levels of aluminium, all derived from the rocks of the Pre-Cambrian Shield. The project studies all these types and also pays attention to the granite domes and "lajas" (rock platforms), which are a feature of the Bolivian part of the biome. Additionally we pay some attention to a vegetation form known as "Abayoy" or Cerrado Chaqueño" which lies between the true cerrados and the chaco and contains significant chaco elements. However it differs in physiognomy being essentially a dense scrub formation on sandy soils and is largely immune from burning.

2. Project Partnerships

The principal partner of Oxford's Department of Plant Sciences in Bolivia is the Museo de Historia Natural "Noel Kempff Mercado", which is a dependency of the public university in Santa Cruz (Universidad Gabriel René Moreno). Our main contacts in the Museum are the director, Patricia Herrera, and the director of the Herbarium, which is housed in the Museum. The project's office is in the Museum building and three of the project's four Bolivian staff members are drawn from research associates of the Museum. Oxford and the Museum have signed a formal agreement for collaboration for the project's life and the Museum has provided

administrative support to the project with work space and help in obtaining all necessary permits and other documents from national and regional authorities. It is also the recognised scientific authority for applying the CITES regulations in Bolivia. The three staff members who work with the project are all qualified, enthusiastic and with a good range of skills. Increasingly they feel part of a team and all should benefit from the training offered by the project. All project specimens are deposited in this herbarium. Capacity building in terms of purchase of equipment, installation of the BRAHMS data base and staff training is well underway but tangible benefits will not be obvious until during the second year of the project.

Another important project partner is the National Herbarium in La Paz, where our principal contacts are the director Dr Stephan Beck and his deputy Rosa Meneses. Likewise we support the National Herbarium, albeit more modestly in terms of staff training, purchase of equipment, donation of a complete set of project specimens and support for their data basing through BRAHMS. One of the four project workers is an associate of the National Herbarium and is very well integrated into the team. Because of its location in La Paz the National Herbarium has helped with our links with the Dirección General de Biodiversidad (DGB), which is the CBD focal point in Bolivia. Another important link here is with Rosa Meneses, who will collaborate closely with one of the project's outputs, the red data book of rare, threatened and endemic species of Eastern Bolivia. She has collaborated in similar I.U.C.N. projects over a number of years and this will tie in the project's outputs closely with wider conservation work.

Our second principal partner is the Fundación para la Conservación del Bosque Chiquitano (FCBC), with which Oxford also has a formal agreement for the duration of the Project. The Fundación was established in 2000 to promote the conservation of the whole region where the project works. It is relatively well-funded with support from the E.U. amongst others. We have regular meetings with their staff and use their knowledge of the region to make contacts and avoid possible areas of conflict. They are willing to help with transport and workshop facilities when needed. However their main role is to help implement the project's findings after the end of the project. Consequently, the present state of close, cordial relationships with the interchange of information is an important investment for the project's long-term impact.

Another project partner is the Universidade de Brasilia. We have had meetings with the director of the Botany Department, Carolyn Proença, and have agreed plans for regular visits beginning in May 2008. The Universidade de Brasilia will play an important role in providing consultancy visits bibliography and advice based on their experience of similar work on the cerrados of Brasil.

Our other UK partner is the Royal Botanic Garden at Kew with whom we have close relations. They provide the project with help in identifying specimens and, in particular, a series of expert consultants to be used in both UK and Bolivian training courses. They are also helping by the donation of books and microscopes for the herbaria in Bolivia.

In summary all our partnerships are functioning well and becoming increasingly involved in and committed to the project's success. There are problems. Our principal partner in Bolivia suffers from management problems and lack of staff employed over the long-term. This potentially weakens its capacity to benefit fully from the project. This is a common problem of many Bolivian state institutions and is not easily solved. It is to be hoped that as in the cases of Sucre and Cochabamba in an earlier Darwin project, the positive profile of the project will motivate university authorities to address this problem.

Oxford Plant Sciences continues to retain all key staff members identified to work with the project in terms of management, taxonomy, botanical survey, data-basing and botanical illustration. Obvious gaps in Oxford's capacity were allowed for in the project design by bringing in skills from Kew and the Universidade de Brasilia.

Other Collaboration:

The project collaborates informally with other related projects in Bolivia, notably the UNEP-GEP project “Conservación *in situ* de Parientes Silvestres de Especies Cultivados”, whose work sometimes overlaps with ours. We also collaborate with projects and personnel from Missouri Botanical Garden and Cochabamba and Sucre herbaria. Collaboration takes the form of participation in field trips and workshops as well as interchange of information and purchase of materials. The project is formally approved by the Dirección General de Biodiversidad (DGB), which is the CBD focal point in Bolivia. We report annually to the DGB as also to the National Park Service (SERNAP) and the environmental office of the Santa Cruz Departmental Prefecture.

3. Project progress

3.1 Progress in carrying out project activities

The project has been very successful in implementing its activities during the year although start-up was somewhat delayed, partly owing to unusually dry weather until October but more particularly owing to some delay in getting formal approval from the Bolivian government for the project, which did not come through until September 2007. Despite these delays we have completed all our tasks in the project implementation timetable for the first year with the exception of having our project webpage on line. This is under construction and should be up very shortly.

The project office was established by September 2007 and computers were installed and functioning soon after. All essential field equipment such as cameras, GPS, plant presses were purchased by this time as was the project vehicle allowing serious field work to begin in October 2007. Money was also invested in improving the Santa Cruz herbarium's air-conditioning system (with approval from the Darwin secretariat) and in the purchase of a large amount of paper and other materials for mounting herbarium specimens although delivery of the paper from the United States has been delayed. Some furniture has been acquired but herbarium cabinets will be purchased later in the project when greater space will be needed for storing the additional specimens collected by the project (Activity 8).

Field work is planned to take place mainly in the post-burn season (mid September to mid December) and post-rainy season (March to May) with limited activity during the height of the rains when travel is difficult or during the very dry cool season. A full programme of field work took place in the first of these periods and another began in March 2008. Some 990 plant specimens have been collected up to 31 March 2008. Our strategy was to focus initially on potentially interesting cerrados identified through our principal partners in Bolivia, individuals with knowledge of the area, both biologists and pilots, and through map data where available. Although we have already visited many promising areas, predominantly in the south of our region and including a number which were hitherto unexplored botanically, many yet remain to be visited. We have perhaps underestimated the ephemeral nature and seasonality of many species as well as the logistical problems of visiting some areas (helicopter transport would seem almost the only way of getting to some places of potential high interest). Nevertheless, the project has already recorded many species for the first time in Bolivia and amongst our unidentified specimens there are likely to be species new to science. Progress in identifying material is at an early stage but our formal links to Kew and a network of international contacts should enable us to make progress with this as the project advances (Activities 1-2).

We are making steady progress in data collecting and in building up a large bank of photographs, this latter a vital prerequisite for the successful completion of several of the project's outputs. Project staff have received training in the botanical database system BRAHMS and all project collection data is being entered using this system. Digital images are linked to the collections as well as being stored separately. Both the National Herbarium and the UNEP-GEP project are also using BRAHMS so there is a high potential for linking up a

much wider range of data including images of herbarium specimens leading eventually to the establishment of a virtual herbarium, an output beyond those included in the project document. We are also in the process of constructing a data base of indicator cerrado species by community/municipality based on literature and herbarium collections as well as our own collections. This will be an important tool in achieving the project purpose both in identifying geographical areas of conservation importance and in linking this to local community involvement (Activity 3).

Training is focussed on the four principal project workers: Fabiana Mamani, Daniel Villarroel, Daniel Soto (all three from Santa Cruz) and Paola Pozo (from La Paz). The three from Santa Cruz started work with the project in September 2007 and Paola Poza began in October 2007. All have been involved in all project activities since joining and a major component of their training is through work with John Wood in the herbarium and field covering areas such as field planning, collecting methods, field identification, photography, data recording etc. Success can be evaluated by reference to collection quality, nature of data recorded, photograph quality, willingness to go on field trips, work outside hours etc. The quality of material collected, processed and identified by them when Wood was in the U.K. is especially reassuring. All are being encouraged to work towards individual research projects and are being put in touch with potential advisers or supervisors in advance of possible training in the UK or Brazil. More formal workshops have taken place on BRAHMS (with Denis Filer from Oxford) and on Compositae identification (with Nicholas Hind from Kew) with participation of other Bolivian botanical staff. Both visitors also visited La Paz as consultants. The visit by Hind was in progress at the end of this reporting period but the increasing use of BRAHMS for data-basing in Bolivia is a clear indication of the success of the training (Activity 4).

The project has taken care to inform local officials, community leaders, park guards and landowners and secure their collaboration and, in some cases, their participation in our expeditions. Our main intention at this stage is to give information but at least one landowner is interested in transforming his land into a private reserve and we have been able to raise awareness of plant diversity in general (Activity 6).

Our web-site is under active construction and should be on line by the time this report is received in the UK (Activity 7). However other promotional activities, such as Activities 6, 7 and 9, will take place towards the end of the project.

3.2 Progress towards Project Outputs

The first year of the project's activities is inevitably focussed on laying the foundations for its future outputs and few concrete outputs can be identified at this stage. However a lot of the necessary groundwork is being laid so that we can move smoothly into the production of outputs from late 2008 onwards. The following preliminary and necessarily cautious comments can be made at this stage.

Output 1. Preliminary studies both in the field and herbarium point to two areas as being outstanding in terms of their vegetation and levels of diversity and endemism, the Serrania de Huanchaca and the Serrania de Chiquitos between Chochis and Santiago. No other area comes close to matching these two although few areas have been studied in depth so far. Work on the data base of indicator cerrado species will form the basis for the checklist of cerrado species. It is also apparent that while the hilltop mesetas can potentially form refugias for some species, they are substantially different in composition from the lower altitude cerrados. Detailed vegetation surveys will be carried out later this year to confirm this.

Output 2. A substantial database of images is being built up for possible use in the production of Red data book but photographs will not cover all species to be included. At some stage a decision will have to be made about whether art work should supplement or replace photographs.

Output 3. The database of images will also be used in the production of project leaflets.

Output 4. We are still only at the planning stage in discussing possible research training projects for our Bolivian project staff but possible topics include Myrtaceae of Eastern Bolivia, variation in xylopodium structure, a genus or tribe of Compositae, Rubiaceae or Euphorbiaceae or a survey of a particular vegetation type. Among UK consultants and staff, Hind is working on a checklist of Bolivian Compositae, while Hughes plans to continue work on *Mimosa* with Atahuachi and Wood is working on *Polygala* with Stephan Beck.

Output 5. The capacity of the Bolivian herbaria to carry out botanical survey, taxonomy and conservation work is gradually being expanded and strengthened with training as described above and the collection and identification of plants. All visiting staff and consultants update the names of material in the herbaria as well as identifying project material. Our project workers are increasingly capable of identify project material to plant family and genus and often to species as well.

The project is on target to be able to complete its outputs within the project's life. All basic assumptions remain true.

3.3 Standard Measures

Project Standard Output Measures

Code No	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Total planned from application
4A	Undergraduate work experience	3 x 1 week					10 x 1 week
5	Long term training/work experience	3 x 4 month 1 x 3 month					4 x 18 months
6A	Guided research in UK/Brazil	0					>24 weeks
6B	Bolivian botanists training workshops	3 (BRAHMS workshop)					10
7	Training manuals	Available on line (not project specific)					Not specified
8	UK staff work in host country	16(Wood) 2(Filer) 1(Hind)					80 (Total)
9	Management plans/reports	0					2
10	Field guides	0					1
11	Peer-reviewed papers	0					4
12B	Data bases	Process					2

	enhanced	begun					
13A	Reference collections	c. 980					>3000
13B	Reference collections enhanced i.e renamed	c. 500					0
14A	Symposia	0					2
14B	Public meetings	0					Not specified
15A	Press releases	0					At least 3
15B	Museum newsletter	0					3
15C	Oxford Plant Systematics	0					3
18C	TV programmes	0					Unspecified
20	Value of equipment to be handed over	c. £14000					£21000
23	Funding from other sources	c.£700 for Hind flight					Unspecified

Publications

No project-related publications have appeared in the reporting period.

3.4 Progress towards the project purpose and outcomes

All purpose level assumptions still hold good and the indicators are satisfactory for measuring this. We are making steady progress along the lines of the project timetable towards achieving our purpose

3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The project is in its early stages and its present impact is minimal. However its potential impact is considerable by raising awareness of conservation priorities in eastern Bolivia so reducing habitat loss and by promoting sustainable human use of the cerrados.

4. Monitoring, evaluation and lessons

Monitoring has been informal but on-going. Many aspects of the project can be objectively evaluated including the number of specimens collected, quality of specimens, quantity and accuracy of data collected, areas visited, species identified, communities contacted, number of people attending workshops. However many important aspects cannot be evaluated objectively. These include things such as team morale, personal commitment to the project, institutional commitment to project aims, individual capacity to identify plants or to recognise what is new and important, writing skills, presentation skills, time management etc. Every effort is made to monitor these by personal contact, frequent correspondence, inviting suggestions and comments and modifying action in consequence.

5. Actions taken in response to previous reviews

Not applicable

6. Other comments on progress not covered elsewhere

The project has worked well over its first year and there are no immediate problems or threats. However there are a few underlying concerns:

Political instability in Bolivia. There is considerable tension between the central government and regional authorities in Bolivia, reflecting different political views and national aspirations. To date we have maintained good relations with all parties but the situation remains complex and uncertain.

Geography. Significant parts of the project area are very remote and inaccessible geographically. It seems that some areas can only be realistically reached by helicopter transport which is beyond our current budget.

Scope. The scope of the project is considerable and in particular it will be quite challenging to fulfil completely the two key elements of research and conservation promotion. Every effort will be made to ensure that conservation outcomes and promotion are soundly based on research when they are implemented towards the end of the project as the outputs near completion.

7. Sustainability

The project is within its first year of life and enjoys a very positive image within the Bolivian botanical and conservation worlds, especially within eastern Bolivia although its profile nationally is low. As we begin to get results we will publicise the project nationally through the press and other media. The project is undoubtedly giving a stimulus to botanical research and capacity for biodiversity work and is amongst the most significant within the institutions involved.

There is a degree of uncertainty over the long-term benefits in terms of institutional capacity building as most staff are short-term contract employees and may drift away into more lucrative and secure employment when projects end. However, our track record is excellent in this regard and all Bolivian colleagues involved in our earlier project are still actively involved in their institutions and their fields of training. There is no reason to doubt we can have similar success with this project.

8. Dissemination

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The only dissemination activities during the reporting period have been initial meetings with authorities, community leaders and landowners to explain the project and ensure their support. These have all gone smoothly. The project is structured that one of our principal partners (FCBC) will continue promoting the results of the project after it ends.

9. Project expenditure during the reporting period (Defra Financial Year 01 April 2007 to 31 March 2008)

Item	Budget (please indicate which document you refer to if other than your project application)	Expenditure	Balance
Rent, rates, heating, overheads etc			
Office costs (eg postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment			
Others			
Salaries (specify)			
TOTAL			

Notes:

Figures have to be taken as a very good approximation because of exchange rate variations with project expenditure in Bolivia being made in U.S. dollars and Bolivianos.

Figures for expenditure are based on actual expenditure but there is a minor seepage of funds through charges for use of cash cards overseas, purchase and encashment of traveller's cheques and charges for international bank transfers. This will have wiped out most of the apparent final credit balance of £1252.

There is an apparent overspend on local salaries because this money is advanced to our principal Bolivian partner before salaries are paid. This overspend will correct itself automatically near the end of the project.

There is an underspend on travel and subsistence, mainly because the project started field work slightly later than expected (October, rather than September) and because one of our consultants was able to combine his visit with travel to Brazil, which was funded from non-Darwin sources. This underspend has compensated for the overspend on local salaries.

10. Outstanding achievements of your project during the reporting period

Although the project has got off to a sound start, significant achievements cannot be expected until late in the project's life

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2007/08

Project summary	Measurable Indicators	Progress and Achievements April 2007 - March 2008	Actions required/planned for next period
<p>Goal: <i>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</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p><i>It is too early to report on this other than to indicate we have endeavoured to involve all relevant stake holders</i></p>	<p><i>(do not fill not applicable)</i></p>
<p>Purpose</p> <p>The identification of conservation priorities within the cerrado formations of the Chiquitano region of Eastern Bolivia</p>	<p>Acceptance of report by FCBC/government</p> <p>Steps taken to conserve priority areas recognised</p> <p>Progress in meeting CBD commitments by Bolivia</p>	<p>We have made a good start towards achieving the purpose</p>	<p>Visit more remote and inaccessible areas to ensure adequate coverage</p> <p>Persist with a wide range of staff training</p>
<p>Output 1.</p> <p>Report to FCBC and Bolivian government detailing priority cerrados for conservation with map of hotspots, checklist of cerrado species with provisional conservation data, role of mesetas</p>	<p>Completion of comprehensive report and checklist</p> <p>Existence of map</p> <p>Detailed conservation assessment</p>	<p><i>FCBC fully involved in project planning and Bolivian government (national and regional) fully informed but reports, checklist etc. are results of cumulative work over project. Project is working on visits, preliminary lists, data collection, distribution assessment etc building up towards achieving this output. This process will continue throughout the next reporting year with many areas still to visit.</i></p>	

as refugia and assessment of impact of grazing.	of species Existence of assessments of mesetas and grazing impact	<i>The indicators are all sound</i>
Activity 1. Rapid assessment of plant diversity of potentially diverse cerrados.		Good progress in the south of our region but many more inaccessible regions to visit during 2008. Difficult to achieve complete coverage and to see vegetation in optimal conditions
Activity 2. Identification of specimens from zone.		Good initial progress. Kew's involvement and links with international experts should ensure good results but some plant groups very problematic. Team members are being encouraged to take responsibility for specific plant families.
Activity 6. Meetings with cattle ranchers, community representatives and schools to promote conservation and use of posters/pamphlets.		Activity 6 (also 7 and 9) relate more to the goal than the output or purpose and work best as project follow-up activities. At present we have only had preliminary meetings and promotional meetings must wait the final stages of the project
Activity 7. Symposia, website, and exhibition to publicise results		This Activity complements in Output 1 and will mostly be acted on in the final stages of the project. However the project website should be on line within a few weeks
Activity 9. Lobbying of authorities to support conservation		As for Activity 6.
Output 2. A colour illustrated red data book of the endemic/ endangered plants of the zone.	Completion, publication and distribution of book	<i>This is another output of the final stages of the project based on the collection of data, images and illustrations during the first two and a half years of the project's life as well staff training.</i>

		The indicators are sound
Activity 3. Assembly of bank of photographs, artwork and data.		Good progress on assembly of data and photographs. Artwork and artistic training due to start October 2008 after project has identified species for illustration and sites where they can be found.
Activity 2. Identification of specimens from zone.		Good initial progress. Kew's involvement and links with international experts should ensure good results but some plant groups very problematic. Team members are being encouraged to take responsibility for specific plant families.
Activity 4 Training/workshops in plant identification, esp. grasses, use of BRAHMS, botanical illustration, project proposal design, survey methods, conservation priorities and assessment		Description of activity is inadequate as should include research methods, academic writing skills, taxonomic principles and perhaps other elements which would contribute to this output. These are in hand and will gradually be developed through mentoring during the project.
Output 3. Information leaflets and posters on the flora and vegetation of the zone for public education.	Existence of leaflets and posters	<i>This is another output of the final stages of the project based on the collection of data, images and illustrations during the first two and a half years of the project's life as well staff training.</i> <i>Indicators are sound</i>
Activity 3 Assembly of bank of photographs, artwork and data.		Good progress on assembly of data and photographs. Artwork and artistic training due to start October 2008 after project has identified species for illustration and sites where they can be found.
Activity 2. Identification of specimens from zone.		Good initial progress. Kew's involvement and links with international experts should ensure good results but some plant groups very problematic. Team members are being encouraged to take responsibility

		for specific plant families.
<p>Output 4.</p> <p>At least 4 scientific papers related to the plants/vegetation of the Bolivian cerrados</p>	<p>Papers completed and accepted for publishing</p>	<p><i>All four Bolivian team members are being encouraged to select topics for papers and interest is present in morphology (especially of xylopodia and other mechanisms of surviving drought), vegetation survey and taxonomic accounts within Myrtaceae and Compositae. John Wood is also working with Stephan Beck on Polygala and may also study Convolvulaceae of the cerrados. Emphasis is on work by Bolivian team members and it is hoped their research topics can be agreed early in 2009 after discussion with a variety of visiting experts.</i></p> <p><i>Papers should be written and submitted by project end but actual publication cannot be expected.</i></p>
<p>Activity 4 Training/workshops in plant identification, esp. grasses, use of BRAHMS, botanical illustration, project proposal design, survey methods, conservation priorities and assessment</p>		<p>Description of activity is inadequate as should include research methods, academic writing skills, taxonomic principles and perhaps other elements which would contribute to this output. These are in hand and will gradually be developed through mentoring during the project.</p>
<p>Activity 3. Assembly of bank of photographs, artwork and data.</p>		<p>Good progress on assembly of data and photographs. Artwork and artistic training due to start October 2008 after project has identified species for illustration and sites where they can be found.</p>
<p>Output 5</p> <p>Enhanced capacity in botanical survey, conservation assessment,</p>	<p>Number of collections made</p> <p>Number identified</p>	<p><i>Approximately 980 specimens have been collected during approximately 20% of our total collecting time so target of 3000 likely to be exceeded. Identification is advancing but more slowly but an unplanned-for benefit of bringing out experts is the improved naming of collections in Bolivian herbaria. This will undoubtedly enhance capacity</i></p>

taxonomy		The indicators are insufficient as they do not measure team members capacity in research, writing etc. Number of papers, number of plant descriptions, number of reports prepared might be appropriate indicators
Activity 3 Assembly of bank of photographs, artwork and data		Good progress on assembly of data and photographs. Artwork and artistic training due to start October 2008 after project has identified species for illustration and sites where they can be found.
Activity 4 Training/workshops in plant identification, esp. grasses, use of BRAHMS, botanical illustration, project proposal design, survey methods, conservation priorities and assessment		Description of activity is inadequate as should include research methods, academic writing skills, taxonomic principles and perhaps other elements which would contribute to this output. These are in hand and will gradually be developed through mentoring during the project.

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <p>the conservation of biological diversity,</p> <p>the sustainable use of its components, and</p> <p>the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</p>			
<p>Purpose</p> <p>The identification of conservation priorities within the cerrado formations of the Chiquitano region of Eastern Bolivia</p>	<p>Acceptance of report by FCBC/government</p> <p>Steps taken to conserve priority areas recognised</p> <p>Progress in meeting CBD commitments by Bolivia</p>	<p>Report from FCBC/ government agencies</p> <p>Press reports</p>	<p>Bolivia continues to work towards meeting its CBD commitments</p>
<p>Outputs</p> <p>1. Report to FCBC and Bolivian government detailing priority cerrados for conservation with map of hotspots, checklist of cerrado species with provisional conservation data, role of mesetas as refugia and assessment of impact of grazing.</p> <p>2. A colour illustrated red data book of the endemic/endangered plants of the zone.</p>	<p>Completion of comprehensive report and checklist</p> <p>Existence of map</p> <p>Detailed conservation assessment of species</p> <p>Existence of assessments of mesetas and grazing impact</p> <p>Completion, publication and distribution of book</p>	<p>Review of report</p> <p>Reports from Bolivian partners/ government institutions/international Groups/ British Embassy</p> <p>Reviews of book</p> <p>Comments from IUCN</p>	<p>Identification of probable cerrados.</p> <p>Staff available to carry out assessment.</p> <p>Staff with assessment and identification skills.</p> <p>Cooperation offered by local communities</p> <p>Transport available</p> <p>Continued support by MNKM and FCBC.</p> <p>Existence of photographs</p> <p>Collection of</p>

<p>3. Information leaflets and posters on the flora and vegetation of the zone for public education.</p> <p>4. At least 4 scientific papers related to the plants/vegetation of the Bolivian cerrados</p> <p>5. Enhanced capacity in botanical survey, conservation assessment, taxonomy</p>	<p>Existence of leaflets and posters</p> <p>Papers completed and accepted for published</p> <p>Number of collections Made</p> <p>Number identified</p>	<p>representatives</p> <p>Review of leaflets and posters</p> <p>Reports from schools, visitors and other users</p> <p>Peer reviews of papers</p> <p>Reports by herbaria</p> <p>Examination of data base and specimens</p>	<p>information on specific species</p> <p>Availability of photographs</p> <p>Oxford and local artist available</p> <p>Information available</p> <p>Discovery of new species</p> <p>Collection of data</p> <p>Problems not overly complex</p> <p>Field work completed</p> <p>Data entered</p>
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Activities	Activity Milestones	Assumptions
1. Rapid assessment of plant diversity of potentially diverse cerrados.	Selection of potential cerrados for study (by 6/07)	Staff and transport available.
2. Identification of specimens from zone.	Training in assessment methods (by 10/07)	Local community co-operative.
3. Assembly of bank of photographs, artwork and data.	Completion of initial assessments (by 12/08)	Weather conditions adequate
4. Training/workshops in plant identification, esp. grasses, use of BRAHMS, botanical illustration, project proposal design, survey methods, conservation priorities and assessment	Follow-up visits to short-listed cerrados (by 12/09) for more detailed study	Key experts (UK, Brazil & Bolivia)
6. Meetings with cattle ranchers, community representatives and schools to promote conservation and use of posters/pamphlets.	Common/indicator species identified (by 12/08)	available to identify material
7 Symposia, website, and exhibition to publicise results	Rarer/more complex taxa identified (by 2/10)	Cameras not lost
8. Institutional capacity building through purchase of equipment and materials.	Basic set of photos/illustrations ready (by 1/09)	Computers available
	Gaps in photos/illustrations filled by 1/10	Skilled illustrators available
	Data entered within 30 days of receipt	Availability of experts in key areas
	Two workshops, one on survey methods and one on BRAHMS and by 1/08	Identification of appropriate taxonomy project for Bolivian researcher
	Four additional workshops including illustration, taxonomy/identification, assessment of survey results by 1/09	Staff available for illustration and taxonomy work
	Three additional workshops including taxonomy/identification, BRAHMS and conservation priorities by 1/10	Cattle ranchers, community representatives can be interested
	At least one UK trained botanist by 3/10 and one through Darwin fellowship programme	Posters and pamphlets completed
	Initial meetings to inform local communities of project activities (by 1/08)	Results ready to be publicised.
	Meetings/Workshops with cattle ranchers, major communities/schools in project area by (by 5/10)	MNKM has sufficient space for additional equipment
	International symposium in Santa Cruz and national one in La Paz (by 5/10)	
	Purchase of vehicle, computers, GPS, cameras (by 9/07)	
	Purchase of herbarium cabinets and equipment (by 9/09)	

<p>9. Lobbying of authorities to support conservation</p>	<p>Meetings with mayors, prefecto, indigenous leaders to win moral/legal support for conservation measures/protected areas</p> <p>Press releases</p>	<p>Political stability at end of project</p> <p>Meetings can be arranged</p> <p>Press can be interested</p>
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Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ectf-ed.org.uk putting the project number in the Subject line.	X
Is your report more than 5MB? If so, please advise Darwin-Projects@ectf-ed.org.uk that the report will be send by post on CD, putting the project number in the Subject line.	
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you completed the Project Expenditure table?	Yes
Do not include claim forms or communications for Defra with this report.	