

Darwin Initiative Main Project Annual Report

Submission Deadline: 30 April 2016

Darwin Project Information

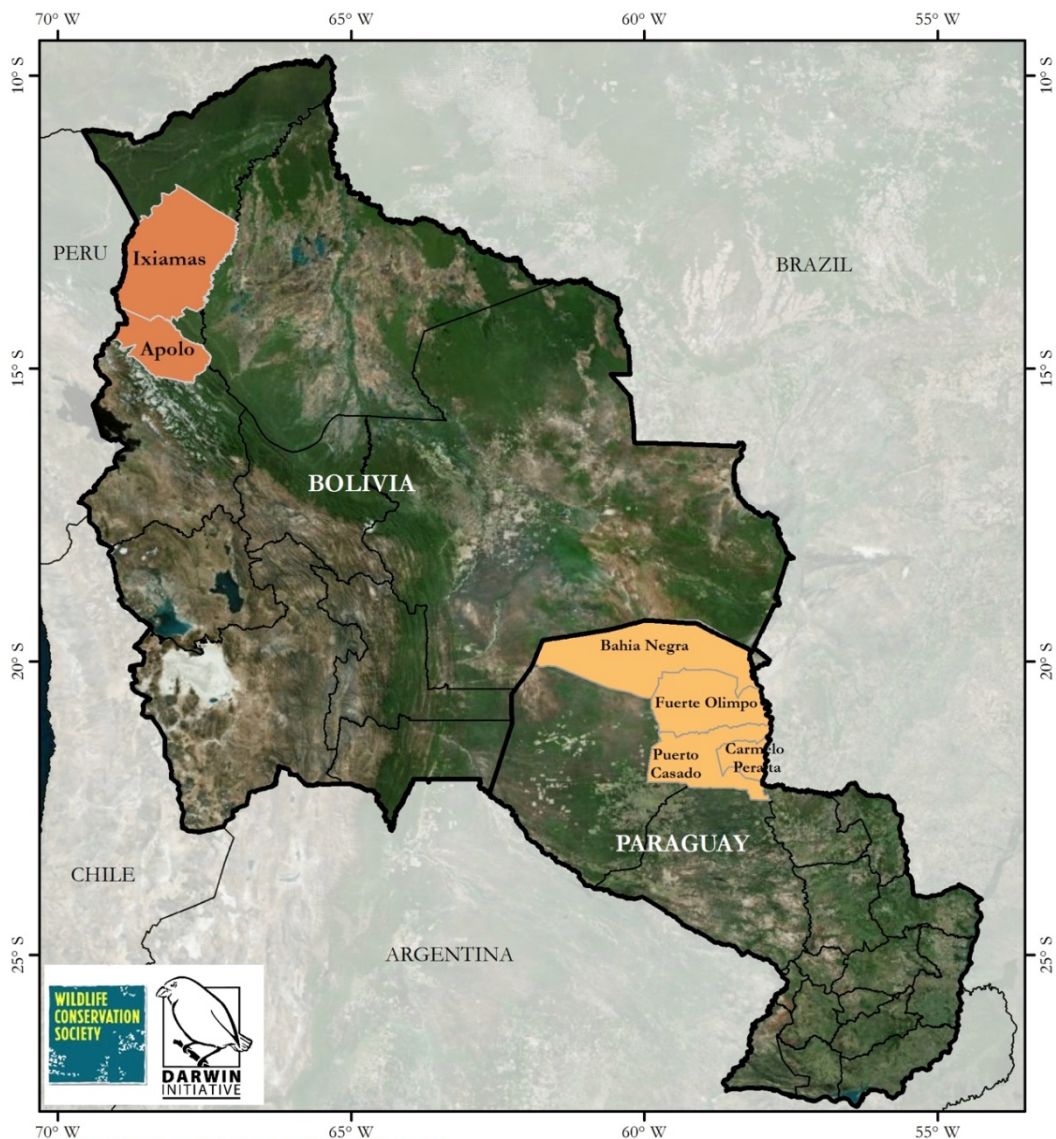
Project Reference	21-004
Project Title	Sustainable Ranching and Participatory Land Use Planning in Bolivia and Paraguay
Host Country/ies	Bolivia and Paraguay
Contract Holder Institution	Wildlife Conservation Society
Partner institutions	Bolivia: Tacana People's Indigenous Council (CIPTA), Lecos Apolo Indigenous Organization (CIPLA), T'simane Mosekene Regional Council (CRTM) and municipalities of Apolo and Ixiamas; Paraguay: The Environmental Law and Economics Institute (IDEA) (Note: only in Year 1), and local municipalities of Puerto Casado, Carmelo Peralta and Fuerte Olimpo.
Darwin Grant Value	£ 297,274
Funder (DFID/Defra)	Defra
Start/end dates of project	1 Apr. 2014 – 30 Sep. 2016
Reporting period (e.g., Apr 2015 – Mar 2016) and number (e.g., Annual Report 1, 2, 3)	April 2015 – March 2016. Annual Report 2
Project Leader name	Lilian Painter Ph.D. Maria del Carmen Fleytas
Project website/blog/Twitter	www.wcsbolivia.org ; www.wcsparaguay.org
Report author(s) and date	Nuria Bernal, Maria del Carmen Fleytas, Lilian Painter, Wolfgang Rolón, Laura Villalba April 30, 2016

1. Project Rationale

Livestock and derived products are important commodities in Latin America and ranching is a key economic activity. However, ranching is associated with negative environmental impacts including biodiversity loss, wildlife-human conflicts, deforestation, fires, soil degradation, loss of water quality and quantity, and greenhouse gas emissions. Ranching can also exacerbate social inequality by displacing vulnerable rural populations from access to land, natural resources and ecosystem services, and by excluding their interests from being taken into account in land use decisions.

Across Latin America, ranching spreads and intensifies as human populations grow, roads are improved, and meat consumption rises. The large-scale ranching typical of the Paraguayan Chaco, and the small-scale ranching typical of north-western Bolivia, represent the two archetypal patterns of livestock expansion in Latin America.

Because of their distinct contexts, Bolivia and Paraguay provide an ideal setting in which to implement and evaluate best practices for sustainable ranching at different scales. In this project, WCS is working to achieve “win-wins” for conservation and development by (a) improving ranching practices at the scale of the ranch; (b) engaging stakeholders in participatory land-use planning processes at the landscape scale; and (c) evaluating the effectiveness of interventions for future applications at the local and national scales.



DARWIN PROJECT WORK AREAS

LEGEND	
	International boundaries
	Departmental boundaries
	Municipal (Bolivia) and District lines (Paraguay)
Darwin Project	
	Bolivia - Darwin project work areas
	Paraguay - Darwin project work areas

CARTOGRAPHIC INFORMATION	
	N
	0 100 200 300 400 Km
	1:9.800.000

2. Project Partnerships

WCS designed this Darwin Initiative project to be implemented in coordination with two territorial indigenous organizations in Bolivia and two municipalities in Paraguay. In Paraguay, the municipalities of Puerto Casado and Fuerte Olimpo have participated fully in project planning and implementation but progress in the Carmelo Peralta municipality has been slower because of contrasting visions between the mayor and the municipal council. Puerto Casado requested and signed an agreement for the delegation of some environmental responsibilities to the municipal jurisdiction by the Secretary of Environment (SEAM) and with support from this project has begun developing the necessary capacities. WCS was able to successfully approach new municipal authorities after the municipal elections held in November 2015, with the exception of Carmelo Peralta. In Bolivia WCS is working closely with the Lecos Apolo indigenous organization CIPLA; the Tacana organization CIPTA, and the T'simane Mosekene indigenous organization CRTM. These organizations are the property right holders of the indigenous lands where activities are implemented in Bolivia and are critical to present indigenous concerns in municipal planning processes. Members of the directorates of these territorial organizations have

participated actively in project planning and implementation, including convening and participating in all community workshops.

3. Project Progress

3.1 Progress in carrying out project activities

Output 1: 20 projects to improve livestock management (Activities 1.1, 1.2, 1.3 and 1.4)

In Paraguay, baseline information and ranch management plans were developed during the first year. The second year was devoted to implementing these plans in each of the 8 ranches where WCS is working. Since April 2015, WCS has provided technical assistance on the ground to each of these properties in the Department of Alto Paraguay, Northern Chaco, over an area of 93,004.16 hectares. Technical assistance packages have focused on shifting their traditional practices towards more environmentally friendly practices and monitoring the performance of ranch management plans (Annex 1). A report on each ranch management plan and its level of performance will be presented in the final project report.

In Bolivia seven new communities were added as beneficiaries during the second year; three communities in the Tacana indigenous land (Carmen Pecha, San Pedro and Macahua) and four communities in the neighboring T'simane and Mosekene indigenous land (Puente Yucumo, Yacumita, San Jose and Alto Colorado). Three ranch sustainable pasture intervention maps and work plans have been developed for each region (Annex 12). However, because of the collective nature of indigenous land tenure, work plans have not been developed for each of the seventeen communities but for each of the three indigenous lands. Final management plans, based on the technical manuals are still pending because of the need to first develop basic capacity at the community level. Technical assistance in this second year has reached 294 local people (158 men and 136 women; Annex 14) and has focused on sustainable pasture management as well as small domestic animal feeding; the later is a complement to provide specific support to women's livelihoods (Annex 13, Annex 19).

In this second year four additional pilot pasture and cattle management plots have been established with DANIDA funds (adding to the plot established in Tupili that was reported last year): Chirimayu in the Lecos Apolo indigenous land, Puente Yucumo and Alto Colorado in the T'simane Mosekene territory and San Pedro in the Tacana territory. In the first three of these plots pastures are under management and protein banks have been improved using legumes. Additionally, we have established nurseries for native trees in Tupili and Yacumita (Annex 1). Species selection for the agroforestry systems is being supported by information based on surveys of the natural vegetation found in the three indigenous lands. The pastures in San Pedro are not degraded and improving the sanitary treatment of cattle is the management priority. The corral established in San Pedro will allow for greater control of the animals, improved sanitation and reduced jaguar predation risk to calves.

Output 2: 5 blueprints for municipal land use plans and 8 ranch zoning plans (Activities 2.1, 2.2, 2.3, 2.4 and 2.5)

This year land use workshops were conducted in Paraguay in the districts of Puerto Casado, Fuerte Olimpo and Carmelo Peralta. Despite delays caused by unfavorable weather conditions these workshops were carried out during March and April 2016 and different stakeholder groups were represented by 204 participants (134 women, representing 66%)(Annex 9, and Annex 2). The new municipal authorities in Puerto Casado have responded most favorably to the technical support and have established an Environmental Technical Unit. The project has provided this unit with basic equipment as well as theoretical and practical training to 3 municipal officers on the use of Geographic Information Systems (GIS) for monitoring of natural resources. A by-law will formally create the Environmental Office in the next semester and this will establish the institutional framework to allow the municipality to develop additional by-laws to safeguard natural resources in their territory. These additional by-laws will be informed by a methodological guide to improve municipal management (Annex 3) that was produced previously by IDEA and delivered by WCS to each municipality. One of the clear priorities identified in this guide is the establishment of a local tax on certain land uses, such as cattle ranching, in order to provide the municipality with additional funds for their Environmental Technical Unit. In Fuerte Olimpo, the Environmental Office has also been created but the recent elections have slowed down its full operation. Unfortunately, Carmelo Peralta authorities have yet to prioritize strategic environmental actions but have benefited from some training opportunities that we hope will create greater interest.

In Bolivia, efforts this year have focused on supporting Apolo and Ixiamas municipality respond to the

change in legislation (Law 777) which replaces municipal development plans with Integral Territorial Plans (PDTI). We have adjusted and complemented the diagnostic developed for the Municipal Development Plan and produced a draft Programme for Climate Change in Ixiamas as a blueprint to guide the development of land use plans under this new legal framework (Annex 15). We also supported workshops in both Ixiamas and Apolo municipalities to promote dialogue between the APMT (Plurinational Authority of Mother Earth) and municipal authorities, indigenous territorial organizations and other stakeholders. Agreements to support actions promoting forest conservation under the Joint Mechanism of Climate Change Mitigation and Adaptation were signed in both Ixiamas and Apolo (Annex 15 and 16). In Apolo, a municipal by-law (007/2013) to implement this agreement was approved by the municipal council and is under implementation.

DANIDA counterpart funds were used to support a planning meeting of the Association of Municipalities of Northern Tropical La Paz (MMNPT) as a first step towards implementing these agreements. The MMNPT identified opportunities for engagement with departmental and national programs that could further support sustainable ranching (Annex 17).

Output 3: Report on the impacts of sustainable ranching projects (Activities 3.1 and 3.2)

In Paraguay, data analysis has begun on the impacts of interventions on conservation and development, for example, the status of jaguar populations and their movements as well as the level of adoption of best practices in livestock management. A comparative analysis of changes in land use and deforestation in the first year showed that 7 out of 8 properties (88%) showed no change in their forest cover in comparison to the baseline developed in the first year; only one property showed forest loss due to an action that was planned before the project and included in the property's approved land use plan (Annex 4). WCS continued placing camera traps and monitoring wildlife in 3 of the properties. We have records indicating the presence of big cats and their potential prey from the sites we could access. During the rest of the program we will be able to obtain more data from camera traps at least for a period of three months (Annex 5).

In Bolivia, jaguar corridors have been identified within all three indigenous lands through interview, camera trap and sign data. No new forest clearings have been observed in the area of project intervention within the indigenous lands. However, GIS is being used to update deforestation information using images that became available in September 2015 and will allow formal confirmation of these field observations (Annex 18). The impact on productivity of project interventions will be evaluated in August comparing the carrying capacity of the pilot plots with the baseline of 1 head of cattle per 30 hectares. The intended result is 1 head of cattle in 1 or 2 hectares and the resulting impact on income generated per hectare.

Output 4: Outreach materials

In Paraguay a manual on sustainable farming was developed. This material will be adapted for several audiences during the next 2 months, and will also be presented to groups of interest (Annex 6). In Bolivia, the manual is in the process of final review and illustration. Remaining materials will be developed once the success of project interventions has been evaluated. Alliances in both Paraguay and Bolivia exist for broad dissemination across private ranchers and indigenous organizations, departmental and national government agencies and Amazon wide technical platforms.

Output 5: Policy recommendations

In Paraguay, a detailed compilation of development plans at a national level, agricultural sector plans, national wildlife strategies, and poverty relief strategies was carried out by the former Ministry of Environment (2013-2015). The document includes suggested policy guidelines for the integration of sustainable farming techniques and land use planning processes in biodiversity strategies (Annex 7). In Bolivia the MMNPT has carried out a review of relevant government policies and specific national and departmental level programs that are relevant to obtain support for sustainable ranching in Apolo and Ixiamas. In the coming months the MMNPT will develop a funding proposal to access government funds to support sustainable cattle ranching in Apolo, through the engagement with the Joint Mechanism for Climate Change. Final policy recommendations will be concluded in the next 3 months.

3.2 Progress towards project outputs

Output 1:	20 projects to improve livestock management			Comments (if necessary)
Indicator	Baseline	Change recorded by 2016	Source of evidence	
1.1 Ranch management plans developed and approved by 8 large-scale ranches and 12 communities by year 1	8 private ranches produced management plans in Yr. 1. Engagement with 17 communities from 3 different indigenous lands.	Three indigenous territories developed work plans.	Annex 12	3 work plans at the indigenous territorial level including 17 communities and backed by training manuals.
1.2. Sustainable ranching techniques are adopted and implemented by ranchers, with technical assistance from WCS, by year 3	Inefficient cattle ranching with low productivity/hectare recorded in baseline Yr 1.	WCS is assisting 8 ranches and 17 communities.	Annex 1	
1.4: Forest loss, retaliatory killing of jaguars, and illegal hunting of ungulates are reduced by year 3	An initial baseline was obtained through surveys, maps and observations in the field in YR 1.	Minimum forest loss in 8 ranches and in the area under management by 17 indigenous communities. No retaliatory killing of jaguars.	Annex 4 and 18	
Output 2:	5 blueprints for municipal land use plans and 8 ranch zoning plans			Comments (if necessary)
2.2: Land use planning meetings (stage 2) involving all relevant stakeholders – including community representatives – are held in all 5 municipalities by year 3	218 people (48% women) participated of Stage 1 meetings about land use planning processes.	204 people (66% women) participated of the workshops at the three municipalities, representing all groups of relevant stakeholders.	Annex 2	Rainfall and floods delayed activities in Paraguay.
2.4: Information and maps are synthesized and 5 blueprints to guide the development of municipal land use plans are completed	No information and/or maps available to guide the development of municipal land use plans in any of these 3 municipalities	Baseline information for three districts and GIS training. Draft Climate Change Program in Ixiamas using Yr. 1 diagnostic information.	Annex 2 Annex 3 Annex 15	
2.5: At least 1 municipal diagnosis, annual plan or municipal by-law related to sustainable land use is developed in each of the 5	No municipal diagnosis, annual plan or municipal by-law related to sustainable land use in any municipality.	Draft municipal by-law in Puerto Casado creating the Environment Monitoring Unit. Agreements between Apolo	Annex 3 Annex 15 and 16	

municipalities by year 3		and Ixiamas and APMT to support sustainable territorial management.		
Output 3:	Report on the impacts of sustainable ranching projects		Comments (if necessary)	
3.1: Conservation and development impacts are rigorously analysed and compared at different ranching scales	A baseline was obtained through interviews; camera trap monitoring and initial forest cover maps of the project sites.	7 out of 8 private private properties and community-managed areas showed no forest loss. Jaguar corridors identified in 3 indigenous lands.	Annex 4 Annex 8 Annex 18	Comparison across different ranching scales and analysis of 2015 satellite imagery is pending.
Output 4:	Outreach materials		Comments (if necessary)	
4.1: Manual on sustainable ranching is developed by year 3	Consultant hired in 2015, draft presented in December 2015	Paraguay manual finished and available in digital version. Bolivia in progress using several training materials that have already been developed and that will be important inputs.	Annex 6	Alliances for leveraging additional funds for broader distribution have been established in both countries and additional funds leveraged in Paraguay
Output 5:	Policy recommendations		Comments (if necessary)	
Indicator 5.1: Policy recommendations for scaling up sustainable ranching interventions are developed	Paraguay: Consultant (former Minister of Environment) presented draft policy recommendations. Bolivia: MMNPT policy analysis and engagement with the Joint Mechanism for Climate Change Mitigation and Adaptation Mechanism for Climate Change. The Joint Mechanism is one of the most important environmental policies in Bolivia and operates through the Authority of Mother Earth within the Ministry of Environment. This engagement will allow us to share our policy recommendations widely beyond the focus Municipalities in Bolivia.	Available in digital version.	Annex 7 Annex 15, 16 and 17	

3.3 Progress towards the project Outcome

Outcome:	Sustainable ranching techniques and land-use planning processes are successfully implemented in small-scale ranches in Bolivia and large-scale ranches in Paraguay and conservation and development impacts are rigorously evaluated and compared.		
	Baseline	Change by 2016	Source of evidence
Indicator 1: During the project lifetime, 1000+ indigenous people in Bolivia and 200 rural people in Paraguay (30% of whom are women) will have directly participated in local municipal land use planning processes. At least 60% of sampled participants report satisfaction with inclusion of their vision and local needs in decision-making processes.	Paraguay: No local population participated in any local municipal land use planning before. 100% of the surveyed people were highly unsatisfied with this issue and wanted more involvement. Bolivia: Indigenous land use visions were poorly included in local land use plans and local land use plans not supported by departmental or national authorities.	204 people (66% women) participated of meetings held by the project. In Bolivia 110 people participated in land use plans in Yr. 1. Final survey is to be performed in the last semester.	Annex 2. Workshop report, lists of participants and photos.
Indicator 2: Over 50,000 people in Bolivia and Paraguay will indirectly benefit from the protection of important watersheds and ecosystem services that they depend on.	The total population of the three districts in Paraguay (about 19,000 people) and that of Apolo, Ixiamas, and neighbouring areas to the T'simane Mosekene indigenous land (30,000 people) depend on the watersheds and ecosystem services for their livelihoods.	Critical watersheds and conservation priorities included in land use plans in Paraguay and Bolivia (reported on last year).	Annex 2. Workshop report in stage 2, lists of participants and photos.
Indicator 3: By the end of the project 800 local people (~200 families) will directly benefit from a 40% increase in income as a result of increased livestock productivity and improved land management.	Land use and production are not efficient in the project area, especially regarding carrying capacity and this motivates further land conversion	Sustainable management plans and training resulting in more efficiency and less land conversion, as shown by the percentage of deforestation in the project area and increased carrying capacity (to be assessed in August 2016). We are reaching 304 Leco, Tacana and T'simane Mosekene families with training.	Annex 1. Photographs of work with landowners Annex 4. Deforestation monitoring.
Indicator 4: By the end of the project 170,000+ hectares in a mosaic landscape of ranchlands, grasslands and globally significant forests, will be under improved management	WCS elaborated management plans with 8 landowners totaling 93,004.16 hectares and 141,964 community lands. These mostly showed low efficiency.	After implementing the plans, 6 private properties and 17 communities are implementing improved management practices. Exit assessment will establish increase in carrying capacity.	Annex 1. Photographs of field work
Indicator 5: By the end of the project 9,000+	Baseline of 8 private properties and 17	Remote monitoring was performed in Paraguay	Annex 4. Deforestation

hectares* of forest cover will be maintained that – without intervention - would likely have been deforested for cattle ranching.	communities was taken through forest cover and land use maps.	and showed forest loss of 1.03% in one property. Field observations in the community lands have not registered any forest loss but verification through GIS is pending because of availability of satellite images.	monitoring Annex 8. Land use maps
Indicator 6: By the end of the project, documented retaliatory killing of jaguars and illegal hunting of peccaries, tapir and deer will have been reduced by 50% in target sites.	Baseline was taken through interviews with farmers and their staff, annual records of each monitoring site and camera traps, showing a high level of retaliatory jaguar killing as a method of solving predation.	Informal surveys revealed that 100% of retaliatory jaguar killing was eliminated in the project sites. A final survey will allow a more detailed comparison.	Surveys and initial interviews presented in the previous period. Final surveys will be conducted during the exit evaluation.

3.4 Monitoring of assumptions

During this second year, three of the outcome level assumptions were relevant and valid:

- *Extreme climatic conditions will not impede interest in the project.* The team has adapted to the earlier timing of the rainy season in the Chaco, which started in March instead of May, by using alternative roads, as well as by adjusting training, and camera trapping campaign dates. Similarly, road access in Apolo was made very difficult by rains in January and training events had to be delayed (Annex 9).
- *Political instability in local municipal governments or within indigenous organizations do not inhibit democratic consultation processes.* Municipal government changes took place in Bolivia in May 2015 and in Paraguay in November 2015 (Annex 10). Changes in local authorities meant additional efforts were necessary to secure their active engagement.
- *Governments and authorities are receptive to policy recommendations.* Sustainable ranching management practices have been included in land use planning processes.

In terms of output level assumptions, we believe all remain true, but many will be testable only once the final systematization of results is concluded and shared. The participant lists from various events can be used to verify the interest from ranchers and communities. Additionally, the agreements signed in Apolo and Ixiamas municipality between the APMT and municipal governments show that local interests have been given due consideration by national policies.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

The policy changes and recommendations made in conjunction with municipal governments, including the creation of local technical units and the activities to involve civil society in natural resource management can make important contributions to national biodiversity and poverty alleviation strategies if replicated on a larger scale. We have worked in both Paraguay and Bolivia to empower vulnerable communities to participate in land use planning efforts at the municipal scale, and in turn to strengthen municipal capacity for sustainable land and natural resource use whilst also engaging with policies at the national level. Greater efficiency in land use through improved and sustainable cattle ranching practices will benefit local indigenous livelihoods. In the case of large properties emphasis is placed on biodiversity and ecosystem conservation and monitoring.

A final evaluation on the impacts on biodiversity and poverty will be carried out between May and August through a comparison with the established baseline. Baselines for deforestation rates and forest cover have been established in the areas of intervention. In total, we are covering 234,968 hectares of ranchlands, grasslands and globally significant forests that will be under improved management and will have reduced forest loss by the end of the project. In terms of beneficiaries, we are reaching 304 families from vulnerable indigenous groups.

4. Contribution to SDGs

The project contributes to the following SDGs: **Goal 1.** End poverty in all its forms everywhere; **Goal 2.** End hunger, achieve food security and improved nutrition and promote sustainable agriculture; **Goal 8.** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; **Goal 12.** Ensure sustainable consumption and production patterns; **Goal 13.** Take urgent action to combat climate change; **Goal 15.** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

5. Project support to the Conventions, Treaties or Agreements

The Project supports the Convention on Biological Diversity (CBD); and the Convention on the Conservation of Migratory Species of Wild Animals (CMS). WCS has a direct interaction with the focal points for the CBD of both Paraguay and Bolivia. WCS Paraguay has a signed cooperation agreement with the Ministry of Environment (SEAM) and WCS Bolivia has approved work plans with both the Ministry of the Environment and the Protected Area Service. Regarding the Convention on Biological Diversity (CBD), this Darwin Initiative project specifically contributes to the Strategic Plan for Biological Diversity 2011-2020, and Aichi goals, to "incorporate the needs and vision of local vulnerable groups in local planning processes" (Objective 14 – Strategic Goal D: increase the benefits of biodiversity and ecosystem services for everyone.); and secondly, "capacity building, communication and outreach with such groups " (Objective 19 – Strategic Goal E: participative planning, knowledge management an capacity building).

6. Project support to poverty alleviation

We are benefitting 304 families from 17 indigenous communities with improved cattle ranching management, have promoted the inclusion of territorial visions in land use plans and are also supporting interventions to reduce impact on critical resources. At the end of the project we will be able to evaluate and document our impact.

7. Project support to gender equity issues

This year women participants in training workshops in Bolivia represented 46% of participants. In Apolo, WCS, the Lecos Apolo indigenous organization and the municipality of Apolo have worked together to develop a proposal for the Biocultura Program of the Swiss Cooperation and the Ministry of the Environment. This project focuses on good husbandry practices for backyard animals and bee keeping in the Leco indigenous communities and is in the final stages of approval with implementation due to begin in mid May. The proposal was developed on the back of WCS's training workshops on good husbandry practices for backyard animals (Annex 19), an activity that generally is under the responsibility of women. Mostly men conduct cattle management activities in the area. Therefore, complementing these activities with support for small animal management ensures broader participation of women and consequently, a larger impact on poverty alleviation. It also benefits conservation by keeping domestic animals healthier and thus reducing risk of disease transmission to wildlife, as well as reducing hunting pressure through the production of alternative protein sources.

In Paraguay, the project strongly support participation of local women in the decision making process on the use of their natural resources, as a direct measure to increase their empowerment and social inclusion and this year women represented 66% of participants in meetings and interviews on land use.

8. Monitoring and evaluation

The legacy of the project will be a robust evaluation and comparison of the relative effectiveness of sustainable ranching interventions in different contexts, which will help conservation and development organizations and host country governments promote sustainable ranching across Latin America. Therefore, monitoring and evaluation is particularly important for this project in order to demonstrate results and promote adoption of sustainable practices. To assess progress made until this stage of the project, we used primarily indicators at the output level, such as generation of documents, surveys, interviews, lists of workshop participants, zoning maps, camera trap surveys and others. We have collected baseline data for all outcome level indicators and will use these to carry out an exit evaluation to assess the final impact on biodiversity, poverty, and changes in attitudes towards improved resource management.

9. Lessons learnt

The effort required for organizational strengthening of rural productive associations and engagement with policy cycles at the local and national levels must not be underestimated. In order for results to become institutionalized locally they must respond to the appropriate planning instruments, even when these change because of changes in legislation. Technical diagnostics are necessary in any planning process and can be adjusted rapidly. Small indigenous cattle ranchers need to collaborate to improve their practices but this requires a change in culture from a previously individually held resource (cattle) to that of a collectively held resource (pasture). Developing local municipal capacity for territorial management requires long-term commitments, extending over 6-10 years; nevertheless important steps can be taken towards generating information and providing guidance for institutionalizing more democratic land use planning processes.

10. Actions taken in response to previous reviews (if applicable)

N/A

11. Other comments on progress not covered elsewhere

In Paraguay, conditions for environmental management at a municipal scale have changed positively since the beginning of the project as a result of a new legal requirement for municipalities to have a land use plan to access their budgets. As a result, the assistance given by the project to make environmental units functional is highly desirable. In Bolivia we have been engaging with the Joint Mechanism for Climate Change Adaptation and Mitigation in a similar way, including indigenous territorial visions and conservation considerations within the new planning instruments replacing Municipal Development Plans.

The most important challenge is developing local capacity for territorial management, despite the great level of interest generated in the new municipal authorities, indigenous territorial organizations and cattle rancher associations. Important efforts have been made to leverage additional resources from DANIDA and COSUDE in Bolivia to institutionalize actions to support sustainable cattle ranching, indigenous territorial visions and conservation considerations by what is still a technically weak municipal sector.

12. Sustainability and legacy

In order to provide a sustained legacy, the project must show livelihood and conservation benefits that will engage the interest and commitment of local, national and regional stakeholders. The principal strategy for ensuring a sustained legacy remains threefold: 1) providing technical recommendations to be incorporated into policy at the local, national and regional scale; 2) providing technical capacity to promote sustainable ranching practices that reconcile poverty alleviation and biodiversity conservation objectives; and 3) documenting and communicating both the inclusive land use planning processes and the sustainable ranching practices.

We have made efforts to promote our work at two levels: at the national authority level, by visiting and presenting the project to the Ministry of Environment in Paraguay, grass roots organizations in Bolivia and municipal authorities in both countries. We have also established an agreement with the association of cattle ranchers in Beni, Bolivia. We have made efforts to document all the processes and have developed materials that can allow replication. Nevertheless, in the next six months we will focus on sharing knowledge and lessons learned widely through a technical white paper and policy recommendations arising from project results and analysis of impacts on biodiversity and poverty alleviation; and a peer reviewed scientific article. A six month no cost extension would allow us to consolidate this legacy.

13. Darwin Identity

WCS printed a banner to use at training events in Paraguay, showing the Darwin Initiative logo next to the WCS logo and explaining at each event the project support to local initiatives that combine biodiversity conservation and poverty reduction (Annex 2. Workshop report in stage 2, lists of participants and photos). All the furniture, computers and equipment provided to Puerto Casado Municipality with Darwin funds were also similarly marked (Annex 11). In Bolivia meetings are convened under the branding of one of the indigenous organizations or the municipal governments. However, all maps, reports and manuals developed by the project use the Darwin logo.

The Darwin initiative is well known by NGOs and central government biodiversity staff. However, at the local level municipal governments and indigenous organizations are less familiar with the objectives and mechanisms of the Darwin Initiative. The Darwin project description and logo is used at our local websites www.wcsparaguay.org and www.wcsbolivia.org. The last six months of the project will focus on

communication of results and leveraging these to the policy level, which will be an opportunity to raise the Darwin identity.

14. Project Expenditure

Table 1 Project expenditure during the reporting period (1 April 2015 – 31 March 2016)

Project spend (indicative) since last annual report	2015/16 Grant (£)	2015/16 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs			-4,58%	
Consultancy costs			4,54%	
Overhead Costs			-0,15%	
Travel and subsistence			-4,65%	
Operating Costs			9,86%	Greater coverage from matching funds
Capital items			1,51%	
Others			18,77%	Greater coverage from matching funds
TOTAL				

Highlight any agreed changes to the budget and **fully** explain any variation in expenditure where this is +/- 10% of the budget. Have these changes been discussed with and approved by Darwin?

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2015-2016

Project summary	Measurable Indicators	Progress and Achievements April 2015 – March 2016	Actions required/planned for next period
<p>Impact Sustainable ranching techniques and land-use planning processes are successfully implemented across Latin America’s lowlands, leading to a reduction in negative environmental impacts, and improved welfare and inclusion of vulnerable communities.</p>		<p>Bolivia: Greater capacity of indigenous small-scale ranchers for managing cattle in existing grasslands through appropriate pasture management. Support from the Joint Mechanism of Climate Change to municipal and indigenous territorial visions in Ixiamas and Apolo.</p> <p>Paraguay: First steps towards more sustainable management of natural resources by district authorities through the inclusion and participation of local stakeholders. Private ranchers are applying management plans.</p>	<p>Evaluation of impacts and leveraging of lessons learnt.</p>

<p>Outcome Sustainable ranching techniques and land-use planning processes are successfully implemented in small-scale ranches in Bolivia and large-scale ranches in Paraguay and conservation and development impacts are rigorously evaluated and compared.</p>	<p>During the project lifetime, 1000+ indigenous people in Bolivia and 200 rural people in Paraguay (30% of whom are women) will have directly participated in local municipal land use planning processes. At least 60% of sampled participants report satisfaction with inclusion of their vision and local needs in decision-making processes.</p>	<p>204 (66% women) participants in Paraguay in municipal planning workshops. A sample of participants (n=30) all expressed their satisfaction with the inclusion of their vision in the planning process.</p> <p>In Yr 1. 110 (19% women) local people participated in municipal planning workshops in Bolivia.</p>	<p>Recent changes in legislation guiding municipal plans in Bolivia have delayed activities in Ixiamas and Apolo. However, we will continue to provide support to indigenous leadership to develop proposals to channel municipal resources to implement indigenous territorial visions.</p> <p>In Paraguay this action is concluded.</p>
	<p>Over 50,000 people in Bolivia and Paraguay will indirectly benefit from the protection of important watersheds and ecosystem services that they depend on.</p>	<p>Important watersheds have been identified and their protection included in diagnostics to guide municipal planning processes.</p>	<p>Continue providing information on watersheds and ecosystem services to municipal governments until September 2016.</p>
	<p>By the end of the project, 800 local people (~200 families) will directly benefit from a 40% increase in income as a result of increased livestock productivity and improved land management.</p>	<p>At present 159 Leco families, 67 Tacana families and 78 T'simane Mosekene families have received training for improved livestock management.</p> <p>Initial interviews on cattle mortality, frequent economic losses, etc. were finished and will be used to compare with final surveys at the end of the Project.</p>	<p>Continue with the implementation of improved management plans and best practices, and technically assisting landowners and communities. Carry out exit evaluation.</p>
	<p>By the end of the project, 170,000+ hectares in a mosaic landscape of ranch lands, grasslands and globally significant forests, will be under improved management.</p>	<p>At present 93,004 hectares in 8 private ranches in Paraguay and 141,964 hectares of Lecos, T'simane Mosekene and Tacana community lands in (Bolivia) have management plans and defined actions to improve</p>	<p>Continue adjusting and implementing improved and more sustainable management plans and best practices at each property and indigenous land.</p>

		ranching practices.	
	By the end of the project 9,000+ hectares* of forest cover will be maintained without intervention, and that would likely have been deforested for cattle ranching.	<p>On the basis of the baseline land cover change and historical trends of deforestation in the 8 private properties we estimate 43,730.87 hectares of forest will be conserved through the implementation of the ranch management plans.</p> <p>Similarly, in Bolivia we project that 83,000 hectares of forest in community managed areas, that would otherwise have been lost (as projected through land change models) will be maintained.</p>	Annual deforestation monitoring and comparisons with projected deforestation rates will allow reporting of this indicator in the final report.
	By the end of the project, documented retaliatory killing of jaguars and illegal hunting of peccaries, tapir and deer will have been reduced by 50% in target sites.	Interviews with local ranchers and their staff, as well as with the indigenous ranchers were conducted. Additionally, camera traps, interviews, occupancy studies and transects have been used to establish wildlife abundance and distribution in the project intervention areas.	Provide technical support to the private ranchers to implement appropriate management actions that reduce conflicts with jaguars and reduce illegal hunting of their prey. In the case of communities actions will focus on maintaining jaguar and wildlife corridors.
Output 1. 20 projects to improve livestock management, benefitting 800 people and covering 170,000 hectares across Bolivia and Paraguay.	Indicator 1.1 Ranch management plans are developed and approved by 8 large-scale ranches and 12 communities of small-scale ranches, in consultation with ranchers and their families by year 1.	Plans for a more sustainable cattle management were implemented, specifically tailored for each site, as developed in prior period. These plans were elaborated taking into account the baseline obtained in each of the 8 target properties. In the case of 17 indigenous communities work plans and intervention maps have been developed for each of the three indigenous lands.	

	<p>Indicator 1.2 Sustainable ranching techniques are adopted and implemented by ranchers, with technical assistance from WCS, by year 3.</p>	<p>The proprietors and communities, except for two private ranchers who have had access to their lands cut by rains, are adopting recommendations.</p>
	<p>Indicator 1.3 Ranchers report improved productivity and reduced losses by year 3.</p>	<p>Baseline developed on productivity in both private ranches and small indigenous ranches, exit evaluation is pending.</p>
	<p>Indicator 1.4 Forest loss, retaliatory killing of jaguars and illegal hunting of ungulates are reduced by year 3.</p>	<p>Monitoring of these indicators will be reported after the exit evaluation, project interventions target these threats.</p>
<p>Activity 1.1 Conduct interviews with ranchers to identify critical obstacles to implement improved practices.</p>	<p>Bolivia: Workshops in 17 indigenous communities</p>	
	<p>Paraguay: Initial surveys and interviews conducted in 8 properties in the Northern Paraguayan Chaco.</p>	
<p>Activity 1.2 Develop specific sustainable cattle management recommendations in consensus with ranchers.</p>	<p>Bolivia: In consultation with the small-scale indigenous ranchers, a teaching package on sustainable cattle management was developed and organized in the form of five training units. The last two units, on pasture management and feeding of small animals, was implemented this year.</p>	
	<p>Paraguay: Specific management recommendations have been developed for 8 private ranches.</p>	
<p>Activity 1.3 Formalize recommendations through ranch management plans that ranchers commit to.</p>	<p>Bolivia: 3 Cattle management work plans for three indigenous lands and 17 communities within them have been developed. The three indigenous organizations have committed to these agreed workplans.</p>	
	<p>Paraguay: This activity has been completed, and cattle management plans were sent in the previous report, for each of the 8 private properties.</p>	
<p>Activity 1.4 Implement a technical assistance program to support implementation of the sustainable cattle management plans.</p>	<p>Bolivia: Five training modules have been designed and implemented to date</p>	
	<p>Paraguay: Priority technical assistance needs have been established and the technical assistance package has begun to be implemented.</p>	

<p>Output 2. 5 blueprints for municipal land use plans and 8 ranch zoning plans developed with the participation of 1200+ local people across Bolivia and Paraguay.</p>	<p>Indicator 2.1 Land use planning meetings (stage 1) involving over 1,200 community members are held in all 5 municipalities by year 3.</p>	<p>Action concluded in previous period.</p>
	<p>Indicator 2.2 Land use planning meetings (stage 2) involving all relevant stakeholders – including community representatives – are held in all 5 municipalities by year 3.</p>	<p>3 workshops held with the participation of 204 people of the 3 municipalities in Paraguay. Annex 2.Workshop report in stage 2, lists of participants and photos.</p>
	<p>Indicator 2.3 Critical watersheds and community natural resource use areas are identified to guide land use planning processes.</p>	<p>Baseline maps showing critical watersheds and key areas for conservation of biodiversity have been developed for 8 private properties and three municipalities in Paraguay and for Ixiamas municipality. In the next months similar information will be provided to Apolo municipality.</p>
	<p>Indicator 2.4 Information and maps are synthesized and 5 blueprints to guide the development of municipal land use plans are completed.</p>	<p>An analysis of the situation of each municipality in relation to the legal tools for land use was developed during this project in Paraguay. This information will be summarized upon project conclusion. In Bolivia information and maps have been synthesized and presented to Ixiamas municipality and are being developed for Apolo municipality.</p>
	<p>Indicator 2.5 At least 1 municipal diagnostic, annual plan or municipal by-law related to sustainable land use is developed in each of the 5 municipalities by year 3.</p>	<p>WCS has achieved progress in the process towards land use ordering at each district, having diagnosis for all three districts in Paraguay. Draft by-laws have been elaborated to guide the development of municipal plans An Environmental Unit has been created in the Municipality of Puerto Casado, in addition to the one from Fuerte Olimpo developed last year. In Bolivia both Apolo and Ixiamas municipal governments have signed an agreement with the Mother Earth Authority to support sustainable natural resource use and forest conservation.</p>

	<p>Indicator 2.6 At least 60% of sampled participants report satisfaction with inclusion of their vision and local needs in municipal diagnostic, annual plan or municipal by-laws.</p>	<p>Initial baseline structured interviews were conducted in Paraguay. Exit evaluation pending in all districts and municipalities.</p>
	<p>Indicator 2.7 Ranch zoning plans are developed and approved for 8 large, private ranches, in close consultation with ranchers, by year 1.</p>	<p>Maps on historical and current uses of land are used for comparison, constant adjustments and recommendations. Based on this, zoning plans were made in consensus with the landowners. Annex 8. Land Use Maps</p>
<p>Activity 2.1 Facilitate stage 1 land use planning meetings, involving over 1,200 community members are held in all 5 municipalities.</p>	<p>Activity completed in the past period</p>	
<p>Activity 2.2 Facilitate stage 2 land use planning meetings involving all stakeholders in all 5 municipalities.</p>	<p>During this period more than 204 people participated in the workshops of land use planning in its stage 2 in the 3 municipalities of Paraguay. These workshops involved all relevant stakeholders in each territory.</p>	
<p>Activity 2.3 Conduct interviews with a representative sample of community participants to gauge satisfaction with participatory processes and adapt accordingly.</p>	<p>Exit evaluation pending.</p>	
<p>Activity 2.4 Complete blueprints to guide the development of land use plans, based on what has been agreed upon in the land use planning meetings.</p>	<p>Diagnostic for Climate Change Program completed for Ixiamas and guide on "Delegation of Competencies" developed in Paraguay. Apolo blueprint will be finished in by August.</p>	

<p>Activity 2.5 Facilitate the process to sign a municipal diagnostic, annual plan or municipal by-law, in each of the 5 municipalities.</p>	<p>A guide for the development of municipal land use plans was presented last period and it is being executed at different stages in the three municipalities of Paraguay. Apolo and Ixiamas agreements with the Mother Earth Authority and with Association of Municipalities of Northern Tropical La Paz to channel national and departmental resources in support of sustainable land use and indigenous territorial management.</p>	
<p>Output 3. Report on the impacts of sustainable ranching projects, evaluating and comparing biodiversity and poverty reduction impacts and value for money in two distinct contexts (Paraguay & Bolivia).</p>	<p>Indicator 3.1 Conservation and development impacts are rigorously analysed and compared at different ranching scales.</p>	<p>Progress in this component will be measured against the baseline between May and August.</p>
	<p>Indicator 3.2 Working paper outlining the effectiveness of sustainable ranching interventions is drafted by year 3.</p>	<p>Planned for September 2016. Three month extension is required</p>
	<p>Indicator 3.3 Project results are presented to all 5 participating municipalities during last two quarters of project.</p>	<p>Planned between May and August 2016.</p>
	<p>Indicator 3.4 Feedback from the municipalities is incorporated, and a technical white paper is completed by year 3.</p>	<p>Planned for September 2016. Three month extension is required</p>
	<p>Indicator 3.5 White paper is tailored to a scientific audience and peer-reviewed scientific journal article on the conservation and development impacts of interventions at different ranching scales is submitted for publication by year 3.</p>	<p>Planned for September 2016. Three month extension is required</p>

<p>Activity 3.1 Conduct pre- and post- project surveys on livestock mortality, calving rate, off-take data, and income derived from livestock production.</p>	<p>Baseline surveys have been carried out in 8 private ranches in Paraguay and with 17 communities in Bolivia.</p>				
<p>Activity 3.2 Annually monitor land use change, deforestation, and densities of target wildlife species in project intervention areas.</p>	<p>Bolivia and Paraguay: Baseline deforestation and land use maps have been developed using remote sensing. In Paraguay the forest conservation areas have been mapped. A wildlife distribution and abundance baseline has been established for both Bolivia and Paraguay.</p>				
<p>Activity 3.3 Conduct data analysis of the impacts of interventions on conservation and development.</p>	<p>Baseline established, completion will be carried out with the exit evaluation.</p>				
<p>Activity 3.4 Hold workshops with the participating municipalities, community groups, and indigenous organizations to discuss results and get feedback.</p>	<p>N/A for this reporting period. Three month no cost extension is required.</p>				
<p>Activity 3.5 Complete technical white paper.</p>	<p>N/A for this reporting period. Three month no cost extension is required.</p>				
<p>Activity 3.6 Write and submit peer-reviewed scientific article for publication.</p>	<p>N/A for this reporting period. Three month no cost extension is required.</p>				
<p>Output 4. Outreach materials to disseminate lessons learned, each uniquely targeted toward a different audience (community cattle managers, large cattle ranchers, local municipal governments, and national agencies in charge of agriculture, forests, and biodiversity conservation) and distributed according to audience (print vs. web-based).</p>	<table border="1"> <tr> <td data-bbox="636 796 1155 1139"> <p>Indicator 4.1 Manual on sustainable ranching is developed by year 3.</p> </td> <td data-bbox="1155 796 2136 1139"> <p>Paraguay: Manual of Best Farming Practices concluded and ready for printing. In Bolivia manual in the process of illustration using inputs from four technical manuals.</p> </td> </tr> <tr> <td data-bbox="636 1139 1155 1422"> <p>Indicator 4.2 Manual on sustainable ranching is uniquely tailored for different audiences (e.g. agriculture government authorities, NGOs) and different mediums of distribution (e.g. social networks, websites, print) by year 3.</p> </td> <td data-bbox="1155 1139 2136 1422"> <p>Adaptation to different audiences is being developed.</p> </td> </tr> </table>	<p>Indicator 4.1 Manual on sustainable ranching is developed by year 3.</p>	<p>Paraguay: Manual of Best Farming Practices concluded and ready for printing. In Bolivia manual in the process of illustration using inputs from four technical manuals.</p>	<p>Indicator 4.2 Manual on sustainable ranching is uniquely tailored for different audiences (e.g. agriculture government authorities, NGOs) and different mediums of distribution (e.g. social networks, websites, print) by year 3.</p>	<p>Adaptation to different audiences is being developed.</p>
<p>Indicator 4.1 Manual on sustainable ranching is developed by year 3.</p>	<p>Paraguay: Manual of Best Farming Practices concluded and ready for printing. In Bolivia manual in the process of illustration using inputs from four technical manuals.</p>				
<p>Indicator 4.2 Manual on sustainable ranching is uniquely tailored for different audiences (e.g. agriculture government authorities, NGOs) and different mediums of distribution (e.g. social networks, websites, print) by year 3.</p>	<p>Adaptation to different audiences is being developed.</p>				

<p>Activity 4.1 Develop a manual on sustainable ranching.</p>	<p>"The Manual of Best Farming practices" was developed and it is now finalized. Its printing and distribution is planned for the next working period. Annex 6 – Manual in digital version. Bolivia manual is being illustrated.</p>						
<p>Activity 4.2 Tailor the manual to different audiences.</p>	<p>Activity in progress</p>						
<p>Activity 4.3 Present manual to local authorities, NGOs, and biodiversity and agriculture national government institutions.</p>	<p>N/A for this reporting period.</p>						
<p>Activity 4.4 Share manual in electronic form on social networks, websites and partner institution networks.</p>	<p>N/A for this reporting period.</p>						
<p>Output 5. Policy recommendations, developed jointly with local municipalities to facilitate replication of improved livestock management techniques and participatory land use management processes at the national level.</p>	<table border="1"> <tr> <td data-bbox="636 619 1155 836"> <p>Indicator 5.1 Policy recommendations for scaling up sustainable ranching interventions are developed.</p> </td> <td data-bbox="1155 619 2134 836"> <p>Paraguay: The compendium of laws, existing policies and plans is ready, containing also a list of policy guidelines and recommendations for sustainable livestock interventions, and will be disseminated in the next period. Bolivia: The Municipal Association of Northern Tropical La Paz has concluded an analysis of current policy framework and opportunities for support from departmental and national programs.</p> </td> </tr> <tr> <td data-bbox="636 836 1155 1043"> <p>Indicator 5.2 Policy recommendations are shared directly with municipalities and national government entities in Bolivia and Paraguay.</p> </td> <td data-bbox="1155 836 2134 1043"> <p>This material will guide the recommendations to be shared with Municipalities and the Government the next period.</p> </td> </tr> <tr> <td data-bbox="636 1043 1155 1390"> <p>Indicator 5.3 Policy guidelines for integrating sustainable ranching techniques and land-use planning processes into national and regional biodiversity and poverty alleviation strategies are developed and distributed.</p> </td> <td data-bbox="1155 1043 2134 1390"> <p>Paraguay: Material ready for distribution, planned for next semester –available in Annex 7. Bolivia: Document will be produced by August.</p> </td> </tr> </table>	<p>Indicator 5.1 Policy recommendations for scaling up sustainable ranching interventions are developed.</p>	<p>Paraguay: The compendium of laws, existing policies and plans is ready, containing also a list of policy guidelines and recommendations for sustainable livestock interventions, and will be disseminated in the next period. Bolivia: The Municipal Association of Northern Tropical La Paz has concluded an analysis of current policy framework and opportunities for support from departmental and national programs.</p>	<p>Indicator 5.2 Policy recommendations are shared directly with municipalities and national government entities in Bolivia and Paraguay.</p>	<p>This material will guide the recommendations to be shared with Municipalities and the Government the next period.</p>	<p>Indicator 5.3 Policy guidelines for integrating sustainable ranching techniques and land-use planning processes into national and regional biodiversity and poverty alleviation strategies are developed and distributed.</p>	<p>Paraguay: Material ready for distribution, planned for next semester –available in Annex 7. Bolivia: Document will be produced by August.</p>
<p>Indicator 5.1 Policy recommendations for scaling up sustainable ranching interventions are developed.</p>	<p>Paraguay: The compendium of laws, existing policies and plans is ready, containing also a list of policy guidelines and recommendations for sustainable livestock interventions, and will be disseminated in the next period. Bolivia: The Municipal Association of Northern Tropical La Paz has concluded an analysis of current policy framework and opportunities for support from departmental and national programs.</p>						
<p>Indicator 5.2 Policy recommendations are shared directly with municipalities and national government entities in Bolivia and Paraguay.</p>	<p>This material will guide the recommendations to be shared with Municipalities and the Government the next period.</p>						
<p>Indicator 5.3 Policy guidelines for integrating sustainable ranching techniques and land-use planning processes into national and regional biodiversity and poverty alleviation strategies are developed and distributed.</p>	<p>Paraguay: Material ready for distribution, planned for next semester –available in Annex 7. Bolivia: Document will be produced by August.</p>						

<p>Activity 5.1 Conduct a thorough review of the national development plans, agriculture sector plans, national biodiversity strategies, and poverty alleviation strategies of Bolivia and Paraguay.</p>	<p>A detailed compilation of development plans at a national level, agricultural sector plans, wildlife national strategies, and poverty relief strategies in Paraguay was performed as a tool to improve interventions in the country. In Bolivia the Association of Municipalities of Northern Tropical La Paz has carried out a thorough review and has promoted the establishment of a technical platform to support sustainable ranching in Apolo and Ixiamas.</p>
<p>Activity 5.2 Draft policy recommendations for implementation of sustainable ranching practices and participatory land use processes at the national level, for both Bolivia and Paraguay.</p>	<p>Bolivia: Policy recommendations will be finalized using the inputs from the analysis carried out by the MMNPT, after exit evaluation.</p> <p>Paraguay: On the basis of the compilation mentioned above in 5.1., a document was developed with the policy guidelines for integrating sustainable farming techniques and planning land use in national and regional biodiversity strategies.</p> <p>Annex 7</p>
<p>Activity 5.3 Finalize policy recommendations, in consultation with the 5 participating municipal governments and national biodiversity and agricultural sector government authorities.</p>	<p>N/A for this reporting period.</p>
<p>Activity 5.4 Submit policy recommendations to national government entities in Bolivia and Paraguay.</p>	<p>N/A for this reporting period.</p>
<p>Activity 5.5 Share general, widely applicable policy recommendations through social networks, websites and partner institution networks, with the goal of reaching similar contexts in Latin America and beyond.</p>	<p>N/A for this reporting period.</p>

Annex 2 Project's full current logframe

Impact: Sustainable ranching techniques and land-use planning processes are successfully implemented across Latin America's lowlands, leading to a reduction in negative environmental impacts, and improved welfare and inclusion of vulnerable communities.

OUTCOME:	Measurable Indicators	Means of verification	Risks and assumptions
Sustainable ranching techniques and land-use planning processes are successfully implemented in small-scale ranches in Bolivia and large-scale ranches in Paraguay and conservation and development impacts are rigorously evaluated and compared.	1. During the project lifetime, 1000+ indigenous people in Bolivia and 200 rural people in Paraguay (30% of whom are women) will have directly participated in local municipal land use planning processes. At least 60% of sampled participants report satisfaction with inclusion of their vision and local needs in decision-making processes.	Pre- and post-interview data with members of vulnerable communities and their representative organizations to evaluate their satisfaction with participation in local land use planning processes; local land use planning processes reflecting the territorial vision and integrating local livelihood concerns of vulnerable communities; attendance lists from participatory land use workshops and meetings; minutes of participatory evaluation meetings with ranchers, indigenous territorial organizations and municipal authorities.	1. Extreme climatic conditions such as droughts or disease outbreaks will not require emergency actions by ranchers, taking up all of their available time and resources 2. Political instability in local municipal governments or within indigenous territorial organizations will not inhibit their capacity to convene and participate in democratic consultation processes. If this occurs, we will work through civil society organizations. 3. Systematization and dissemination of lessons learned will encourage
	2. Over 50,000 people in Bolivia and Paraguay will indirectly benefit from the protection of important watersheds and ecosystem services that they depend on.	Number of hectares under improved management; maps showing critical watersheds and natural resource use areas	
	3. By the end of the project 800 local people (~200 families) will directly benefit from a 40% increase* in income as a result of increased livestock productivity and improved land management.	Rancher surveys; livestock mortality; calving rate; time to market; records of livestock sales from rancher logs	
	4. By the end of the project 170,000+ hectares in a mosaic landscape of ranchlands, grasslands and globally significant forests, will be under improved management	Project reports and GIS analysis showing the number of ranchers using improved practices and number of hectares under improved management; rancher logs documenting use of improved practices; ranch zoning plans and blueprints of land-use plans	

	5. By the end of the project 9,000+ hectares* of forest cover will be maintained that – without intervention – would likely have been deforested for cattle ranching.	Land change model projections using historical deforestation trends derived from remote sensing analysis as contrasted with actual changes during project duration; ranch zoning plans and land-use plans indicating protected areas		replication of sustainable ranching activities, thus expanding the impact of the project. 4. Governments and other authorities will be receptive to policy recommendations.
	6. By the end of the project, documented retaliatory killing of jaguars and illegal hunting of peccaries, tapir and deer will have been reduced by 50% in target sites.	Interviews with local ranchers and personnel to register wildlife hunting events; camera trap wildlife monitoring data in select ranches and community managed areas to independently verify interview data.		
OUTPUTS	Measurable Indicators	Means of verification	Activities	Risks and assumptions
1: 20 projects to improve livestock management	1.1.Ranch management plans are developed and approved by 8 large-scale ranches and 12 communities of small-scale ranches, in consultation with ranchers and their families by year 1	Ranch management plans; notes of meetings with ranchers	1.1.Conduct interviews with ranchers to identify critical obstacles to implement improved practices	Ranchers and vulnerable communities will be interested and incentivized to participate in project activities
	1.2.Sustainable ranching techniques* are adopted and implemented by ranchers, with technical assistance from WCS, by year 3	Field visit reports and photos; rancher logs documenting use of improved practices	1.2 Develop specific sustainable cattle management recommendations in consensus with ranchers	
	1.3.Ranchers report improved productivity and reduced losses by year 3	Rancher surveys; livestock mortality; calving rate; time to market; records of livestock sales from rancher logs	1.3 Formalize recommendations through ranch management plans that ranchers commit to	
	1.4. Forest loss, retaliatory killing of jaguars, and illegal hunting of ungulates are reduced by year 3	Field visit reports and photos; GIS analysis of forest change, recorded	1.4 Implement a technical assistance program to support implementation of the sustainable cattle management	

		events of hunting events; interviews with ranchers and personnel; camera trap photos	plans	
2: 5 blueprints for municipal land use plans and 8 ranch zoning plans	2.1. Land use planning meetings (stage 1) involving over 1200 community members are held in all 5 municipalities by year 3.	Minutes and attendance lists of participatory meetings.	2.1 Facilitate stage 1 land use planning meetings, involving over 1200 community members are held in all 5 municipalities	During land use planning processes, due consideration will be given to all stakeholder viewpoints
	2.2. Land use planning meetings (stage 2) involving all relevant stakeholders – including community representatives – are held in all 5 municipalities by year 3.		2.2 Facilitate stage 2 land use planning meetings involving all stakeholder in all 5 municipalities	
	2.3. Critical watersheds and community natural resource use areas are identified to guide land use planning processes	Maps identifying critical areas for conservation; minutes of participatory meetings; land use plans	2.3 Conduct interviews with a representative sample of community participants to gauge satisfaction with participatory processes and adapt accordingly	
	2.4. Information and maps are synthesized and 5 blueprints to guide the development of municipal land use plans are completed	Land use plans; municipal diagnostics, annual plans or by-laws	2.4 Complete blueprints to guide the development of land use plans, based on what has been agreed upon in the land use planning meetings	
	2.5. At least 1 municipal diagnostic, annual plan or municipal by-law related to sustainable land use is developed in each of the 5 municipalities by year 3	Interviews with community participants in land-use planning meetings; blueprints for municipal land use plans	2.5 Facilitate the process to sign a municipal diagnostic, annual plan or municipal by-law, in each of the 5 municipalities	
	2.6. At least 60% of sampled participants report satisfaction with inclusion of their vision and local needs in municipal diagnostic, annual plan or municipal by-laws	Ranch zoning plans; notes of meetings with ranchers		

	2.7. Ranch zoning plans are developed and approved for 8 large, private ranches, in close consultation with ranchers by year 1	Landsat images; blueprints for municipal land use plans; ranch zoning plans		
3: Report on the impacts of sustainable ranching projects	3.1. Conservation and development impacts are rigorously analysed and compared at different ranching scales	Data analysis; working paper draft	3.1 Conduct pre- and post- project surveys on livestock mortality, calving rate, off-take data, and income derived from livestock production.	Projects will be successful in increasing income, improving inclusion in decision-making processes, and mitigating environmental harm Results from this project will be applicable and scalable to other similar contexts within lowlands in Latin America
	3.2. Working paper outlining the effectiveness of sustainable ranching interventions is drafted by year 3		3.2 Annually monitor land use change, deforestation, and densities of target wildlife species in project intervention areas	
	3.3. Project results are presented to all 5 participating municipalities during last two quarters of project.	Minutes of meetings with municipalities and stakeholders; evaluation reports from the 5 municipalities	3.3 Conduct data analysis of the impacts of interventions on conservation and development	
	3.4. Feedback from the municipalities is incorporated, and a technical white paper is completed by year 3	Revised working paper draft	3.4 Hold workshops with the participating municipalities, community groups, and indigenous organizations to discuss results and get feedback	
	3.5. White paper is tailored to a scientific audience and peer-reviewed scientific journal article on the conservation and development impacts of interventions at different ranching scales is submitted for publication by year 3	Submission or acceptance letter of peer-reviewed article	3.5 Complete technical white paper	
			3.6 Write and submit peer-reviewed scientific article for publication	
4: Outreach materials	4.1. Manual on sustainable ranching is developed by year 3	Sustainable ranching manual	4.1 Develop a manual on sustainable ranching	Outreach materials will be effective in reaching intended audiences
	4.2. Manual on sustainable ranching is uniquely tailored for different	Digital manuals; print	4.2 Tailor the manual to different audiences	

	audiences (e.g. agriculture government authorities, NGOs) and different mediums of distribution (e.g. social networks, websites, print) by year 3	manuals; social networks; websites	4.3 Present manual to local authorities, NGOs, and biodiversity and agriculture national government institutions 4.4 Share manual in electronic form on social networks, websites and partner institution networks	
5: Policy Recommendations	5.1. Policy recommendations for scaling up sustainable ranching interventions are developed	List of recommendations for municipal and national authorities	5.1 Conduct a thorough review of the national development plans, agriculture sector plans, national biodiversity strategies, and poverty alleviation strategies of Bolivia and Paraguay	Policy recommendations will be given due consideration by decision-makers
	5.2. Policy recommendations are shared directly with municipalities and national government entities in Bolivia and Paraguay	Meeting minutes; photos of policy sharing events	5.2 Draft policy recommendations for implementation of sustainable ranching practices and participatory land use processes at the national level, for both Bolivia and Paraguay.	
	5.3. Policy guidelines for integrating sustainable ranching techniques and land-use planning processes into national and regional biodiversity and poverty alleviation strategies are developed and distributed.	Policy guidelines; direct communications with government officials	5.3 Finalize policy recommendations, in consultation with the 5 participating municipal governments and national biodiversity and agricultural sector government authorities.	
5.4 Submit policy recommendations to national government entities in Bolivia and Paraguay				
			5.5 Share general, widely applicable policy recommendations through social networks, websites and partner institution networks, with the goal of reaching similar contexts in Latin America and beyond	

Annex 3 Standard Measures

Table 1 Project Standard Output Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Total to date	Total planned during the project
Established codes							
6A	39 representatives from Municipalities of Puerto Casado, Carmelo Peralta, and Fuerte Olimpo were trained on "tools provided in the municipal organic law for environmental management in municipalities"	6 women 33 men	Paraguayan 100%	39 local authorities	39 local authorities	39 local authorities	39 local authorities* *Beneficiaries are the same group of people every year
6A	3 people were trained for applying IT monitoring tools to natural resources in their territory	3 men	Paraguayan 100%		3 officers of the municipality of Puerto Casado	3 officers of the municipality of Puerto Casado	
6B	2 weeks						
7	1) Tutorials and procedures for GIS and GPS training in municipalities (3 different volumes). 2) Manual of Best Farming Practices 3) Manual of Guidelines for Public policies 4) Manual on Pasture Management in the Lecos Apolo indigenous land	N/A		5	4	9	15
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country.			1 diagnostic on cattle management by indigenous people in Ixiamas municipality			2 documents
11A	Number of papers to be published in peer reviewed journals.						1 paper published for a scientific audience
11B	Number of papers to be submitted to peer reviewed						2 papers submitted at the end of

	journals.						the project
14A	5 informative workshops on "Participation in territorial planning" (3-4 hours each) – Stage 1. Organized by the project	105 women (48%) 113 men (52%)	Paraguayan 100%	218 local people			200 local people
14A	5 informative workshops on "Participation in territorial planning" (3-4 hours each) - Stage 2. Organized by the project	135 women (66%) 69 men (34%)	Paraguayan 100%		204 local people		200 local people
14A	14 CIPLA communities Module 1: "The 4 pillars of cattle production". (1 day of 8 hours per community). Organized by the project for the project.	Women: 113 (39,5%) Men: 173 (60,5%)	Bolivian 100%	285 local people			285 local people
14A	10 CIPLA communities Module 2: "Livestock husbandry infrastructure". (1 day of 8 hours per community). Organized by the project for the project.	Women: 75 (39,9%) Men: 113 (60,1%)	Bolivian 100%	188 local people			188 local people
14A	9 CIPLA communities Module 3: "Animal health". (1 day of 8 hours per community). Organized by the project for the project.		Bolivian 100%				150 people per module
14A	1 three-day workshop on the assessment of cattle production in the Municipality of Ixiamas (GAMIX)	Women: 21 (19,1%) Men: 89 (80,9%)	Bolivian 100%	110 local people			110 local people
14A	17 communities Module 4: "Pasture Management" (1 day of 4 hours per community). Organized by the project for the project.	Women 136 (46%) Men: 158 (54%)	Bolivian 100%				294 local people
14A	17 communities Module 5: "Feeding our animals" (1 day of 4 hours per community). Organized by the project for the project.	Women 136 (46%) Men: 158 (54%)	Bolivian 100%				294 local people
14B	Number of conferences/seminars/workshops attended at which findings from Darwin						At least one presentation at a Conference

	project work will be presented/ disseminated.						
20	Office furniture; GIS software and field equipment for the Environmental Unit at Puerto Casado Municipality	N/A			£ 2,461	£ 2,461	£ 2,461
22	Pilot pasture and cattle management plots				1	3	4
23	Value of resources raised from other sources (ie. In addition to Darwin funding) for project work.			£92.484	£392.484		£392.484

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. website link or publisher)
Manual of Good Farming Practices*	Manual	Author WCS Paraguay Year: 2016	Not applicable	Paraguayan	WCS Paraguay	Digital version available in Annex 6
Public Policy Guidelines for sustainable livestock management.*	Manual	Author WCS Paraguay Year: 2016	Not applicable	Paraguayan	WCS Paraguay	Digital version available in Annex 7
Module 4. Pasture and cattle management	Manual	Author: WCS Bolivia Year: 2015	Not applicable (institutional publication)	Bolivian	WCS Bolivia	Digital version available (Annex 13)
Module 5. Feeding our animals	Manual	Author: WCS Bolivia Year: 2015	Not applicable (institutional publication)	Bolivian	WCS Bolivia	Digital version available (Annex 19)

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

The following annexes can be accessed at:

https://drive.google.com/folderview?id=0B_ZRUBmGuS7lckJzODNQbWNQR0E&usp=sharing

Annex 1. Photographs of field work

Annex 2. Workshop report of Stage 2, lists of participants and photos. Paraguay

Annex 3. Report on process and content of training, WCS-Municipality addendum signed, pictures, press notes and draft by-law to be promoted. Paraguay.

Annex 4. Deforestation monitoring. Paraguay.

Annex 5. Photos from camera traps in 2016. Paraguay.

Annex 6. Manual on best farming practices. Paraguay.

Annex 7. Policy guidelines for an effective integration of sustainable farming techniques and land use planning processes in biodiversity strategies. Paraguay.

Annex 8. Land use maps. Paraguay.

Annex 9. Photos of roads cut by rain and press report on emergency for Alto Paraguay.

Annex 10. Press report about elections of municipal authorities.

Annex 11. Pictures of the new Environment Unit at Puerto Casado, funded by the project.

Annex 12. Workplans and intervention areas for each indigenous land.

Annex 13. Pasture management manual. Bolivia

Annex 14. List of participants in training workshops. Bolivia

Annex 15. Ixiamas municipality

Annex 16. Apolo municipality

Annex 17. Association of Municipalities of Northern Tropical La Paz

Annex 18. Deforestation and Key Jaguar Areas. Bolivia

Annex 19. Feeding our small animals. Bolivia

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
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.	Yes
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	