



Department  
for Environment  
Food & Rural Affairs



## Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance:  
(<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report  
will be a **maximum** of 20 pages in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2020**

### Darwin Project Information

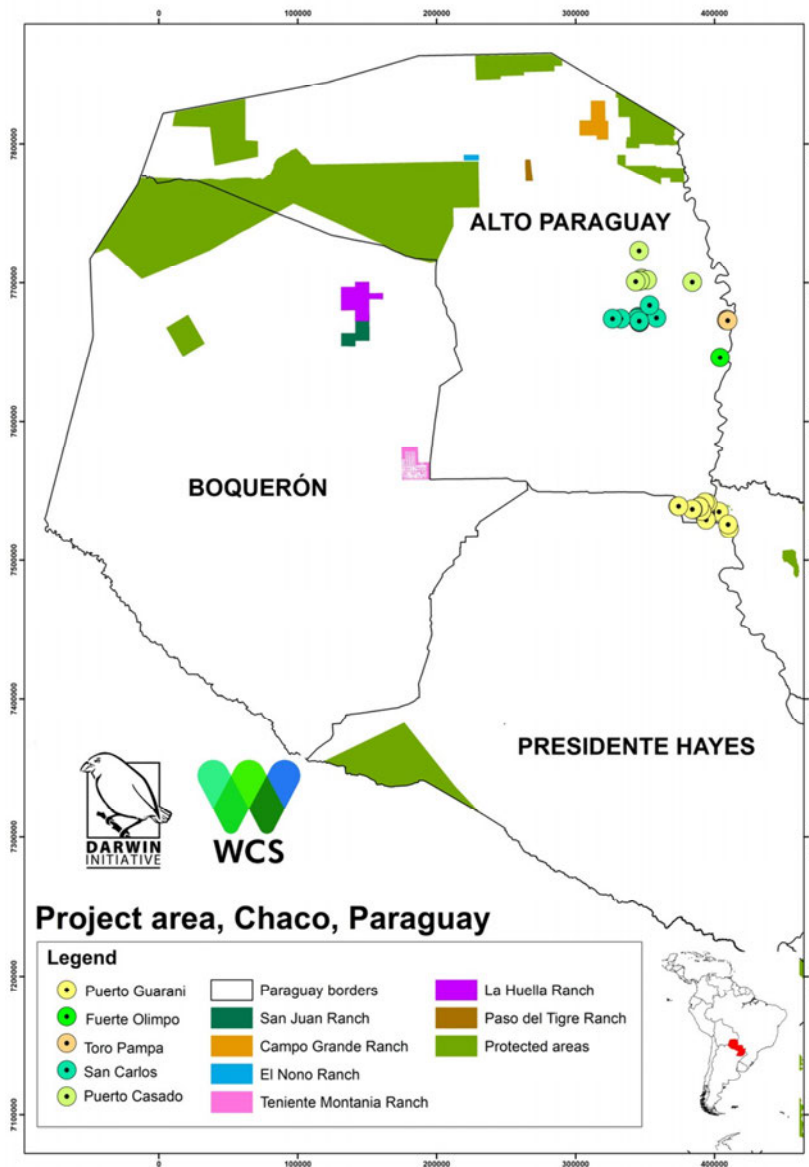
Project reference	26-013
Project title	Conservation and poverty alleviation through sustainable ranching in Paraguay
Country/ies	Paraguay – Chaco
Lead organisation	Wildlife Conservation Society - WCS
Partner institution(s)	Minerva Foods; National Vice-Ministry of Livestock; Faculty of Veterinarian Sciences - The National University of Asuncion; Government of the Department of Alto Paraguay
Darwin grant value	£399,132
Start/end dates of project	1 June 2019 – 31 March 2022
Reporting period (e.g. Apr 2019 – Mar 2020) and number (e.g. Annual Report 1, 2, 3)	1 June 2019 – 31 March 2020 Annual Report 1
Project Leader name	Maria del Carmen Fleytas
Project website/blog/social media	paraguay.wcs.org / facebook.com/wcsparaguay
Report author(s) and date	Maria del Carmen Fleytas, 30 April 2020

### 1. Project summary

Spanning over 1,000,000 km<sup>2</sup>, the Gran Chaco is the second-largest forest and second-largest jaguar stronghold in the Americas. Paraguay holds 25% of the Gran Chaco, home to additional priority wildlife including the Chacoan peccary, giant armadillo, and giant anteater. The Chaco is also home to 170,000 km<sup>2</sup> of cattle ranches, which exert a significant environmental impact. Land conversion for cattle has resulted in the fastest global deforestation rate of over 3,000 km<sup>2</sup> of forests per year. Biodiversity loss is exacerbated by habitat fragmentation and human-wildlife conflict, including retaliatory killing of carnivores by ranchers. Negative impacts are significantly higher from large ranches covering over 136,000 km<sup>2</sup>, than in small ranches covering less than 34,000 km<sup>2</sup>.

Despite Paraguay being the world's sixth beef exporter, many of the 182,000 Chaco inhabitants have unmet rudimentary needs. In Alto Paraguay, where we are focusing our work with small ranchers, ranching employs 49.5% of the population and the Basic Unsatisfied Needs (NBI) index shows over 40% of its population has at least two basic needs unsatisfied in housing, water and sanitation, education and/or subsistence capacity, being the highest percentage in the country. This situation is aggravated by the area's relative geographical isolation, and weak government technical assistance.

To address the coupled issues of biodiversity loss and access to basic needs, WCS supports environmentally responsible and efficient livestock management, with a minimum of 8 large ranchers and 150 small ranchers, increasing production efficiency, access to markets and subsequently, income, and decreasing overexploitation of natural resources and conflict with wildlife. Project beneficiaries are already committing to conservation actions in exchange for receiving assistance with livestock management and access to clean water, through agreements signed with WCS. This model, explicitly tying improved ranching practices with broader biodiversity benefits via technical support and shared responsibility can be scaled across the region.



## 2. Project partnerships

Our formal partnerships in this project are with: Minerva Foods; National Vice-Ministry of Livestock; Faculty of Veterinarian Sciences from the National University of Asuncion; and the Government of the Department of Alto Paraguay. These partnerships were thought as the most adequate and necessary to advance the project objectives, taking into account their areas of

expertise and their coverage in some cases, given the distance to the highly isolated area where the project is taking place. All of our partners are aligned in their policies, statutes and/or other institutional documents with sustainable development and/or poverty reduction, as stated in their support letters submitted with our application.

The first year of our Darwin project has been mainly one of planning and baseline-setting. During this first year, we have met to that end with all of our partners, with the exception of the Faculty of Veterinarian Sciences, as our planning activities with them will take place during year 2, as the entire baseline data and all beneficiaries are characterized. We have regular virtual meetings with our Brazilian partner, Taciano Custodio, Minerva Foods Head of Sustainability, who is based in San Pablo, Brazil, to plan how technical assistance will be delivered, an action that will also start from Year 2 on. We have also started planning actions regarding water management training with the Government of Alto Paraguay, whose head, Governor Mr. Domingo Adorno, met with WCS Laura Villalba during the month of December 2019 (**Annex 1 – Pictures and list of attendance of planning meetings with partners**), and he has committed to reinforce their support on safe water, one of the main problems of this region, through the provision of water filters with resources of the Government. We also met with Mrs. Claudia González and her team from the Sustainable Ranching Department of the Vice Ministry of Livestock (list of attendance and pictures in **Annex 1**) and planned the first joint technical assistance field trip for early March, which was afterwards cancelled due to health quarantine (COVID-19).

### 3. Project progress

#### 3.1 Progress in carrying out project Activities

During this first Year of the project we have centered our actions in presenting the project to potential beneficiaries, measuring their level of interest in taking part of it and starting to secure those alliances through signature of conservation agreements.

##### Output 1: Improved sustainable ranching systems

**1.1. Conduct baseline economic, social and environmental surveys:** we have tailored the survey tool to best fit either small or large producers. During Year 1, we visited obtained 87 surveys completed by small ranchers (58% of the total planned) and 6 large ranchers (75% of the total planned) as it can be seen in **Annex 2** and **Annex 3**. Since surveys are the last part of a larger process constructing trust and a solid relationship with producers. March, a key period to finalize this process, was a month with no field visits, since from March 9 on, the Presidency of Paraguay emitted a series of decrees available at <https://www.mspbs.gov.py/decretos-covid19.html> banning most activities, including internal and external travel and asking to stay home due to a health quarantine imposed by COVID-19 (coronavirus). Therefore, the planned visits to collect the remaining surveys could not be performed. In spite of these difficulties, there is a list of small ranchers that expressed their interest in being part of the project and submitted a letter to voice that intention (**Annex 4**). Some 19 women were surveyed, representing 22% out of the total surveyed so far, which is more than expected initially. Pictures of the process of data collection are in **Annex 5** and the lists of attendance are in **Annex 6**.

**1.2. Deliver training for sustainable ranching:** even though this activity is planned for Year 2, we have already started providing technical advice to rural communities, through our two field staff appointed to the project, Laura Villalba (Biologist) and Angel Brusquetti (Agronomy Engineer), taking advantage of the field visits that could be done. As a result, we have installed demonstration plots in two properties, to show the proprietors and their neighboring communities that practices such as rotational grazing and improved pastures do result in rapid weight gain and increased beef productivity, without the need to further forest conversion (**Annex 7**). Another important result achieved in advance was the organization of a field day in one of the large ranches with signed conservation agreement with the project (La Huella Ranch, Boquerón, Chaco) whose pictures and list of attendance are in **Annex 8**. Themes developed included sustainable cattle management, rotational grazing, water

collection, (both theoretical and practical), and good management practices to avoid losses in the slaughter process, developed by Athena Foods. They also talked about market tendencies, in line with what the project is seeking to contribute to producers.

**1.3. Deliver training for water management and treatment:** we have purchased 40 artisanal water filters (10 units or 33% more than original target, due to negotiation with the manufacturer that led to a reduction in price); elaborated educational materials to accompany their use (**Annex 9**) and elaborated a list of 40 female beneficiaries that will receive practical and theoretical training on water treatment, empowering them by increasing their knowledge, and surpassing by 10 (an additional 33%) the initial target of 30 families receiving this benefit. An important additional achievement in this component was the signature of a cooperation agreement with a new partner, the Health Office of Puerto Casado, which has already resulted in technical cooperation for the elaboration of the educational material, and which will support training and assistance to the families benefitted. The agreement is in **Annex 10**.

**1.4. Assist ranchers for on-the-field implementation:** as mentioned in 1.2 above, we have already started this assistance on a case-by-case basis, applying a good example of adaptive management, since field visits were not as often as we planned. Then at each visit we tried to provide each beneficiary the practical solutions adapted to their specific situation and context. In Year 2, we expect to continue doing this at a larger scale, supported by our partners Minerva Foods, the Vice Ministry of Livestock and the Faculty of Veterinarian Sciences.

## **Output 2: Conservation Agreements:**

**2.1. Generate Conservation Agreements:** even though there was a target of a tailored conservation agreement signed with 150 small ranchers and 8 large ranchers from Year 2 on, we took advantage of the level of trust achieved with some of them and already signed conservation agreements with 3 large producers and 22 small producers (**Annex 11**) including commitments to reduce lethal carnivore control, reducing forest conversion and others. This is another successful example of adaptive management in practice.

**2.2. Monitor performance of Conservation Agreements;** the 158 agreements to be signed will be monitored by WCS from Year 2 on, to identify and amend deviations (if any) in time and manner.

## **Output 3: Diffusion and replication of best practices**

**3.1. Elaboration of a final publication:** this activity is to be completed by Year 3.

**3.2. Local, national and regional diffusion of best practices:** We have already started promoting best practices through a local radio station, "Frecuencia Pantanal", which covers most of the project area where small beneficiaries are located, reaching not only them but also other people listening to the radio. The link to the first radio programme is: [https://m.facebook.com/story.php?story\\_fbid=632010420897294&id=100022650262891](https://m.facebook.com/story.php?story_fbid=632010420897294&id=100022650262891)  
Other activities for local, national and regional diffusion are planned for the upcoming years.

**3.3. Field exchange visits:** we have already held the first field day, where small, medium and large ranchers attended to appreciate first-hand the cattle production system in a large ranch like La Huella (Boquerón, Chaco). We have more than 30 participants, from very different backgrounds, and they took the opportunity to share sustainable ranching concepts and practices, discuss challenges and successes, and thus promote wider adoption of the best practices. All the information related to this activity is in **Annex 8**. An article featuring our field day was included in the Annual Summary Edition of the national ranchers' association, Asociacion Rural del Paraguay (ARP) magazine, which devoted pages 36-43 to the field trip organized at Agroganadera la Huella, available at this link: [https://arp.org.py/images/ima2019/Rural\\_361\\_dic\\_FINAL.pdf](https://arp.org.py/images/ima2019/Rural_361_dic_FINAL.pdf)

## 3.2 Progress towards project Outputs

**Output 1 - Improved sustainable ranching systems:** During Year 1, we were devoted to designing specific surveys for large and small ranchers, and then performing the baseline economic, social and environmental data collection of 150 small cattle producers and 8 large ranchers in two Departments of the Chacoan region. However, a number of factors prevented us from reaching the total of beneficiaries planned yet, namely:

a) Heavy rainfall registered in the project area since December, as seen in these links:

<https://www.ultimahora.com/temporadas-lluvia-empiezan-clausurar-caminos-el-chaco-n2859288.html>;

<https://www.abc.com.py/edicion-impresa/interior/2020/02/05/lluvias-de-hasta-150-mm-en-el-alto-chaco/>

b) COVID-19 restrictions imposed by the Government to all kind of activities, including travel and transportation, available at: <https://www.mspbs.gov.py/decretos-covid19.html>

Nevertheless, we managed to complete 87 surveys (58% of the total planned) with small beneficiaries, and 6 large ranchers. (75% of total planned), as shown in **Annexes 2 and 3**. We also have a list of 45 interested people (**Annex 4**), who were contacted by WCS staff and told about the project during the February field trip, and then their community leader submitted a letter of interest, most with their ID numbers. These people were to be surveyed in March, but this field trip was cancelled due to the health quarantine. We will continue collecting baseline data during Year 2 and considering we have now all the contacts initiated, the remaining surveys will now be easier to collect.

From the analysis of data collected from 87 small producers, we reached these conclusions:

- 78% has a clear need for technical assistance, demonstrated by the low productivity of their lands, and the subsequent low economic income, aggravated by geographic isolation. They have to appeal to other economic activities to survive.
- More than 90% has at least one basic need not covered such as safe water, housing, and others, resulting in low quality of life.
- Women bear a heavier load, since they lack access to maternal and reproductive health and 68% of families do not have access to safe water for their families and daily tasks: cooking, cleaning, others.

We will work to positively impact these indicators during the remaining period of the project.

Regarding large ranchers, we have collected 6 surveys, totaling 154,042.37 hectares of land, all of them in the proximities of the Defensores del Chaco National Park, between the Departments of Boquerón and Alto Paraguay. 100% of them are devoted to cattle ranching (breeding and fattening) and the number of cattle ranges from 1,300 to 25,000 heads per ranch. They all have the necessary infrastructure for production and access to basic services. The common trait among them (5 out of 6 ranches) is the conflict with large felids, causing economic losses due to cattle killing. Therefore, it was easy to drive their conservation agreements towards protecting these carnivores if we propose to them ways to diminish those losses, as they have also expressed their interest in conserving the existing biodiversity.

**Output 2 - Conservation Agreements:** originally, Conservation Agreements were thought to be signed during Year 2. Despite this, 3 large ranchers and 22 small producers already signed them, due to their agreement of the participatory system to define these commitments (WCS-proprietor) and their will to preserve biodiversity while producing in an economically sound manner.

**Output 3 - Diffusion and replication:** there is scarce knowledge on sustainable production practices in Paraguay, yet most producers think that in order to obtain more economic gain, they have to produce more animal units and/or expand their usable area, and just a few of them are aware of practices to increase their productivity in harmony with the surrounding nature. We have started releasing these messages through a local radio with ample coverage in the project area, named Frecuencia Pantanal, as shown in the link below:

[https://m.facebook.com/story.php?story\\_fbid=632010420897294&id=100022650262891](https://m.facebook.com/story.php?story_fbid=632010420897294&id=100022650262891). And we have also organized with Athena Foods (local branch of Minerva Foods) and the

Paraguayan Roundtable of Sustainable Beef (MPCS) a field day with demonstration of sustainable practices and exchange of experiences between producers, as shown in **Annex 8**.

### 3.3 Progress towards the project Outcome

OUTCOME: Reduced deforestation and reduced biodiversity loss are achieved through implementation of sustainable, efficient and scalable ranching practices in the Chaco, which protect biodiversity while improving the welfare of vulnerable rural populations. During Year 1, we are setting the basis for the rest of the project, collecting key data to shape the rest of the activities accordingly. These are the preliminary information and results:

- 1. Local Livelihoods (income):** As shown by surveys (**Annex 2**), 80% of project communities lack technical assistance for production or other type to enable them a higher income level. 78% reported a low level of productivity, having other economic activities to complement their income. Even when we have not started the main assistance component, we have already provided some technical guidance for small landowners to obtain increases in production efficiency (more kilos of meat per hectare), during field visits and also by installing pilot production models in two of the properties, to serve as demonstration plots, as shown in **Annex 7**.
- 2. Local livelihoods (access to clean water):** From surveys (**Annex 2**), we know 68% of the households do not have access to safe water, and as said by the local Health Centre representative, most have incidence of water quality-related diseases, especially diarrhoea. We have made progress towards providing a solution to that through the purchase of 40 water filters, the elaboration of an educational material (**Annex 9**), and the signature of an agreement with the local Health Centre (**Annex 10**), who will support the production of a data base on each family benefitted with the water filter in order to monitor the effectiveness of the assistance provided, and will also contribute to the training modules, as stated in the agreement.
- 3. Biodiversity:** We have collected baseline data through various methods, including current camera trapping results, interviews with ranch workers and studies from previous years in the same sites. We will use these preliminary results, presented in **Annex 14**, to perform comparative analysis in the next two years. The first conclusions show that large ranches have a rich biodiversity, compared to that of the Defensores del Chaco National Park. We will continue to analyze these registers in the next period, as we have collected more than 5,000 pictures per property and need to analyze them to obtain useful information. From the 6 properties surveyed, 83% (5 ranches) have conflicts with large carnivores, namely jaguars and pumas (**Annex 3 – Surveys**). We have also made a communication effort, mainly through our social networks, to promote the adoption of sustainable ranching practices and to raise awareness about the importance and feasibility of harmonizing production and conservation (**Annex 14**).
- 4. Forest Cover:** our baseline data indicates that with the 6 ranches surveyed so far, we are covering a total area of 153,583.67 hectares, with a total forest cover of 52,962.27 hectares, representing 34% of the total (**Annex 13**). We expect that, through the adoption of the sustainable practices, the need of further conversion of forest to pasture will be reduced in 60% compared to the baseline forest area, enabling habitat conservation and diminishing fragmentation for the benefit of biodiversity, also favouring the biological connectivity with the giant Defensores del Chaco National Park, which is in the vicinity of all the large properties.

### 3.4 Monitoring of assumptions

OUTCOME LEVEL:

**Assumption 1: Local Livelihoods (income):** changes due to improved ranching practices are effective and measurable and no significant disease, climatic or market conditions diminishing cattle production during the lifespan of the project.

**Comments:** although it is not a cattle disease, COVID-19 (coronavirus) is having a significant impact in the meat markets. Prices have significantly decreasing, due to people prioritizing its basic needs and limited budget, avoiding high-quality meat cuts and going for the more economic ones. There is also a diminished demand from restaurants since most are closed or with very few customers. Some links related to these trends are below, and we will continue to monitor them throughout the project to adjust our planning in case it is necessary:

<https://www.lanacion.com.py/negocios/2020/04/08/el-coronavirus-ya-repercute-en-precio-de-la-carne/>  
<https://www.abc.com.py/nacionales/2020/02/12/crisis-por-coronavirus-ya-impacta-a-carne-paraguaya/>

**Assumption 2: Local livelihoods (access to clean water):** changes due to training and subsequent improved knowledge are effective and measurable during the lifespan of the project.

**Comments:** we are confident this assumption will experience no change, and this is reinforced by the fact that we have signed an agreement with the local Health Centre (**Annex 10**) which will support us in the monitoring of indicators for the water-related component.

**Assumption 3: Biodiversity:** Fluctuations due to climatic conditions, major disease outbreaks and/or forest fires are not significantly to diminish wildlife populations during the project. Participant responses to baseline and final jaguar killing surveys are honest.

**Comments:** in the same line as the local livelihoods assumption, there is currently a coronavirus pandemic worldwide, which, even though it does not affect directly wildlife, will probably have some kind of impact in their environment, considering the economic impact in employment, market prices and other areas that are being experienced by producers. WCS is committed to closely monitor those impacts, and will proceed to adjust project activities accordingly as soon as impacts are clearer and if needed. We are also confident our relationships with producers are close enough to continue permitting honest responses to our questionnaires.

**Assumption 4: Forest Cover:** There are no extreme climatic conditions, major disease outbreaks and/or forest fires that significantly diminish forest cover. Satellite imagery is available for window of project execution

**Comments:** same comment as previous assumption. Regarding availability of satellite imagery, there are no envisaged changes.

#### **OUTPUT LEVEL:**

**Assumption:** Small and large ranchers are willing to participate in project activities.

**Comments:** as mentioned in Assumption 1 above, with the current pandemic in progress, and especially after it, we foresee an increased interest of ranchers to interact with the project, since the Paraguayan economy is suffering a significant decline with lower sales of goods and services in all areas, and any assistance will be welcome.

**Assumption:** Women are not culturally banned from participating in training events.

**Comments:** during the field visits performed in Year 1, our staff noted a significant improvement in cultural ban towards women, as it can be seen in pictures of the data collection process (**Annex 5**) where many women participated in an active role, so this assumption will probably prove true.

**Assumption:** Women will feel comfortable participating, and will have adequate time to contribute in a way that will not negatively impact completion of their normal daily tasks.

**Comments:** we have already discussed this issue with women themselves, and internally in our team, and there is a will from both sides to adapt training schedules in the best way/hours that will enable higher participation from them.

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

The desired impact of our project was: Implementing sustainable cattle ranching in the Paraguayan Chaco results in reduced deforestation and land conversion, improved biodiversity conservation, and strengthened livelihoods of the most vulnerable socio-economic sectors.

To date, the project has reached more than 4,000 people with messaging about how improved management practices results in conservation of forests, ecosystem services and biodiversity. This calculation is the result of adding 87 surveyed small beneficiaries (**Annex 2**), 6 large ranchers (**Annex 3**), 45 people interested in becoming project beneficiaries (**Annex 4**), 30 people participating in our field day (**Annex 8**) and at least an estimated 4,000 or more people that are listeners of the *Frecuencia Pantanal* radio station. We are still in the baseline collection stage, but at each field visit, during the initial meetings, we have delivered those messages to potential beneficiaries, and the conservation agreements already signed (**Annex 11**) prove our beneficiaries understand our objectives, share our project targets and are committed to increase production efficiency per hectare, avoiding the need for further forest conversion and thus reducing the rate of forest clearing, as we have done in a previous Darwin project we executed, also through the implementation of sustainable practices, The agreements also include the commitment to reduce jaguar killings, so there will be a benefit for this species as the project progresses.

Regarding human development and wellbeing, through the improved production practices we are transferring to our beneficiaries, there will be an increase in income per hectare, by increasing kilos of meat produced per hectare and thus the related income. This in turn will have a positive impact to strengthen livelihood in vulnerable sectors. Another action planned by the project is increasing access to safe water through the distribution of water filters and accompanied by capacity building in water treatment to improve quality of life for these vulnerable communities.

And finally, the transversal training to be provided in areas such as sustainable cattle production, water treatment, and others will greatly help to sustain these mentioned impacts in the long term.

## **4. Contribution to the Global Goals for Sustainable Development (SDGs)**

### **Goal 1 - End poverty**

We are now collecting the baseline data necessary (**Annex 2**) to outline our extension program aimed at transferring knowledge and inputs on animal health/husbandry and improved ranching practices to small ranchers in collaboration with our project partners that we expect will result in higher **income** for these families. From Year 2 we will start working with the national Government partner and Minerva Foods in a strategy to promote an increased access to markets of the beef produced by these communities.

As poverty is not limited to the lack of income, we are also making progress towards:

- **Improving health conditions** of our beneficiaries: we are doing so through the provision of clean water, by purchasing water filters, elaborating educational materials and planning the upcoming training events for our beneficiaries. This is further described under **Goal 6** below.
- **Gender equality:** from the total of small beneficiaries surveyed, 22% were women, heads of families. We will also foster gender equality through the water component, where women will be the sole beneficiaries of the water filters and will receive specific training in family water management

### **Goal 2 – Zero hunger**



We have collected the baseline data of 87 small ranchers (**Annex 2**) which will help tailor our project activities to directly impact on food production, as from Year 2 on, we will work towards increasing agricultural productivity for small ranchers by providing extension services, knowledge and market opportunities for more efficient use of natural resources, which will directly impact their income and provide food security.

**Goal 6 - Clean water and sanitation:** we will provide greater access to clean water by providing water filters to 40 families (33% more than originally planned) as we managed to get a more convenient price from the manufacturer of these artisanal filters. We have also elaborated an educational brochure to be distributed among these families, showing the correct use of filters and providing information on the importance of clean water and sanitation (**Annex 9**). From Year 2 on, we will start increasing women's knowledge through training and provide equipment for water treatment and management, supported by our partner, the local Government of Alto Paraguay will help us identify and convene women-based training events.

**Goal 15: Life on land:**

During this year, we have set the basis for mitigating deforestation by collecting the baseline data of our large beneficiaries (**Annex 3 – Surveys to large ranchers and Annex 13 - Forest cover of these properties**), from which we will monitor the variation we expect will not be significant by implementing ranching practices that improve efficiency per hectare without further need to convert forest into pasture. This will in turn protect biodiversity habitats and help prevent the extinction of threatened species while reducing ranchers' conflict with wildlife.

## **5. Project support to the Conventions, Treaties or Agreements**

CBD, Aichi Strategic Goals:

**Goal A, mainstream biodiversity:**

We have been working with our partners from the Government (Vice Ministry of Livestock), local level government (Government of Alto Paraguay), Minerva Foods as a market stakeholder, and ranchers at all scales, to start the process towards implementing plans for sustainable production, to reduce the impacts of use of natural resources well within safe ecological limits (Target 4). This is the main objective of our project and for that aim we have started collecting baseline data this year.

**Goal B, reduce direct pressures on biodiversity and promoting sustainable use:**

Sustainable cattle ranching practices to be introduced will increase efficiency in already converted areas, thus reducing pressure on unconverted habitats, mitigating further forest loss (Target 5). Areas under ranching will be managed sustainably through conservation agreements, of which this past year WCS has already signed 25 (3 with large ranchers and 22 with small ranchers), ensuring biodiversity conservation by reducing conflict with wildlife, and will continue signing in the next two years (Target 7).

**Goal C, improve biodiversity status:**

By working with sustainable ranching practices and large ranchers surrounding the Defensores del Chaco National Park, a large area of particular importance for biodiversity and ecosystem services will be conserved. We have so far secured interventions in 6 large ranches, totalling 153,583.67 hectares of which 34% (52,962.27 hectares) are still standing forests. We work to maintain the connection between these properties and systems of protected areas (including Defensores and its neighbour Teniente Enciso National Park) by transforming the production systems to more sustainable ones, introducing effective area-based conservation measures to improve productivity and avoid horizontal expansion of production, such as increased stocking rate, rotational grazing, and improved management leading to higher birth rate (Target 11).

With the installation of non-lethal carnivore control techniques, extinction of known threatened species, such as jaguars, will be prevented through decreased human-cattle-carnivore conflict. Their conservation status will be improved and sustained (Target 12).

**Goal D, enhance the benefits to all from biodiversity and ecosystem services:**

The needs of rural groups, especially women and local communities, are addressed by safeguarding ecosystems that provide essential services, including water, that contribute to health, livelihoods and wellbeing (Target 14). Reduced deforestation through sustainable ranching practices will result in improved conservation of degraded ecosystems, whereas reduced risk of fires contributes to better quality of life, carbon stock conservation and mitigation of climate change (Target 15).

**Goal E, enhance implementation through participatory planning, knowledge management and capacity building:**

Sustainable ranching will be improved by incorporating and disseminating local lessons of small and large ranchers and knowledge of project partners (Target 18), and building the capacity of ranching communities and natural resource managers (Target 19), focusing on the most vulnerable socio-economic sectors.

We also support:

**The CBD Programme of Work on Agricultural Biodiversity**, as we promote the positive effects and mitigation of the negative impacts of agricultural practices on biodiversity in agro-ecosystems in our project messages diffused through the local radio, the field demonstration day and during the field visits (previously mentioned in other sections).

**The CBD Programme of Work on Forest Biodiversity**: in the same line as stated above, our interventions are aimed at the conservation of forest biodiversity through the transformation of ranching practices towards more efficient ones, diminishing the need for further forest conversion and thus protecting habitats for biodiversity, and these are the messages we have been diffusing to various audiences this past year.

Finally, we have had an important and fruitful interaction with Paraguay's CBD focal point, Dario Mandelburger as shown in **Annex 15**. Between the last part of 2019 and early 2020, we asked and obtained Paraguay's Ministry of Environment endorsement of two important documents for jaguar conservation:

1) Support to the postulation of this species for its inclusion in Appendix I and II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) (*Note: which was later approved by CMS*); and

2) The Jaguar Road Map 2030, a multi-country commitment that defines actions lines to preserve jaguars in all range countries.

Both are highly relevant for this project, since they establish further conservation measures for the species, present in the project area and focus species for WCS, and they also include the need for specific measures to harmonize productive activities with jaguar conservation, as we have in this project.

## **6. Project support to poverty alleviation**

The Paraguayan Chaco is a region characterized by its rich biodiversity, low population density (less than 1.3 persons/square kilometre), isolation and large cattle ranches. Hosting a large part of the 15 million head of cattle that made Paraguay the world's sixth beef exporter, many of the 182,000 Chaco inhabitants still have unmet rudimentary needs. The Basic Unsatisfied Needs (NBI) index shows over 40% of the entire Chaco population has at least two basic needs unsatisfied in housing, water and sanitation, education and/or subsistence capacity, being the highest percentage in the country. Due to isolation, the coverage of public services, including governmental technical assistance, is almost inexistent. To address the coupled issues of biodiversity loss and access to basic needs, WCS has conceived an environmentally responsible program of livestock management, including some 8 large ranchers and 150 small ranchers, where WCS and partners will transfer knowledge to increase production efficiency, access to markets and subsequently, have a positive direct impact on income, and indirectly decrease overexploitation of natural resources and conflict with wildlife. Some 25 project beneficiaries (3 large ranchers and 22 small ranchers) have already committed to conservation actions in exchange for receiving assistance with livestock management and access to clean water, through conservation agreements signed with WCS. So far, we are working with 5 small communities: Puerto Guaraní, Fuerte Olimpo, Toro Pampa, Puerto Casado and San Carlos (**Annex 12**), all of them in the Department of Alto Paraguay, where we are still collecting the baseline data, and will start assistance from Year 2 on. Other dimensions of poverty will be also addressed, such as health through the provision of clean water; gender equality through women-specific training in family water management; and knowledge on animal

health/husbandry and improved ranching practices in partnership with academia, national Government and Minerva Foods.

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## **7. Consideration of gender equality issues**

The project includes a specific component to approach gender equality: We will provide direct training and inputs for improved water management and training in related issues, such as organizational skills, participatory decision making and sustainable resource use, to a minimum of 40 women (33% more than planned). We have already purchased 40 water filters and elaborated educational material for them. Women will be focal points for water management within the participating households, ensuring project benefits are more equally distributed across genders, and starting a more equitable division of responsibilities and leadership in overall ranching.

Other ways we have considered gender inclusion from the start was by ensuring female participation in the baseline development (surveys), resulting in 22% (19 women) from 87 beneficiaries answering the surveys. This is 2% more than expected in the logframe. We will facilitate their participation in all project activities by adapting times and dates considering their other tasks

We will disaggregate data by gender from the baseline collection to the end of the project and within the final evaluation of success indicators.

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## **8. Monitoring and evaluation**

In this project we will evaluate and compare the relative effectiveness of sustainable ranching interventions at two different scales: small and large ranches. This will help conservation and development organizations and the host country government promote sustainable ranching across Latin America. Therefore, monitoring and evaluation will be particularly important for this project in order to demonstrate results and promote adoption of sustainable practices.

So far no changes have been introduced in the original M&E plan. Even though M&E is mainly WCS's role in this project, at least once each year, monitoring data will be reviewed with ranchers, communities, project partners, local governments, NGOs and other stakeholders and compared against expected results to adapt each subsequent year's work plan. Changes in local livelihoods and environmental status will be closely monitored to ensure improvements are introduced in time and manner if needed.

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## **9. Lessons learnt**

The effort required in earning trust and building a relationship with community groups and large ranchers must not be underestimated. It can take longer than expected and in some cases can prove challenging and might yield different levels of success. We should plan ahead and devote more time in the schedule to this process

Even when we planned for long periods of heavy rain, the weather is becoming more and more unpredictable, with rainfall periods completely out of previsions, in some cases taking longer than expected, and in other cases arising in opposition to the weather forecast. Due to this situation coupled with the bad conditions of dirt roads, field trips had to be delayed many times during this year. As a lesson learned, we will have to concentrate field trips on the 9 months of the year when the weather tends to be more favourable (March to November) and leave December to February completely free of field activities, as they have mostly proved non achievable.

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We have as one of our project partners a local authority, the Governor of Alto Paraguay, who is extremely influenced by politics, and has a previous bureaucratic process for project meetings (ask for an audience, waiting list, etc.) We will have to plan ahead with more time when we need to contact this authority for project purposes, and also avoid being used as a political tool when assisting vulnerable communities.

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

No previous reviews apply in our case. We have already responded in written to feedback received when our project was funded, and submitted the response with the previous half-year report.

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#### **11. Other comments on progress not covered elsewhere**

- We have so far concentrated our efforts in the cattle ranching sector. But when we have reached the communities through field visits, we have seen that most families also have agricultural crops, both for self-consumption and for sale. We can still assist them with technical advice since we have in our staff Agronomic professionals. But we did not foresee this situation and the families, especially women, are also demanding our assistance providing seeds and other inputs, which do not represent a high cost and can have a high impact in both food security and a modestly but equally important increased income. As we have perceived that this type of help will greatly increase also the participation of women in the project, we will try to find synergies and other sources of funding to cover these needs.
- The initial design covered 150 small ranchers, but these resulted to be very isolated one from another, so the efforts to reach them are considerable and higher than expected. Additionally, the dirt roads are difficult to access and the scenario is even worse in rainy periods. Alto Paraguay is covered in 80% by dirt roads and transit is not possible when the rainfall has been abundant. WCS has foreseen this situation, but as we started identifying beneficiaries during the project, we have seen a higher level of difficulty due to the above.

#### **12. Sustainability and legacy**

Our project is in an initial stage, and we plan to further communicate about it once the first results are achieved. 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 is threefold: 1) providing technical capacity to promote sustainable ranching practices that reconcile poverty alleviation and biodiversity conservation objectives; 2) documenting and communicating the sustainable ranching practices and its economic and environmental benefits, and 3) presenting the achievements of the project to the authorities so that they can scale up by being incorporated into local, national and regional policies;

We will make 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, and also at the producers' level, from small to large ranchers, especially sharing knowledge and lessons learned. We will document all the processes and then develop materials for replication.

WCS Paraguay has the Chaco region as its focus landscape, so we will continue working in the area both with small and large ranchers, so that project results will be sustained and enhanced.

### 13. Darwin identity

WCS printed a banner to use at project events in Paraguay, showing the Darwin Initiative logo. WCS staff explains at each event or field visit the project objective, as a distinct project, and how it supports our work to combine biodiversity conservation, sustainable ranching and poverty reduction. During our first technical activity, a field day, Darwin Initiative with its logo was part of a conjunction of partners who co-organized the event (**Annex 8 –Field Day**). Therefore, attendance lists were marked with Darwin and WCS logo, together with other institutions and projects collaborating. We have also marked the attendance lists of meeting with beneficiaries (**Annex 6**) and partners (**Annex 1**), so that the project identify becomes evident. We have elaborated an education material on best practices for water management and it has Darwin logo next to WCS and the Health Centre, showing the collaboration between the three institutions (**Annex 9**), and the water filters will also have stickers showing this alliance before being delivered to communities.

The Darwin initiative is well known by NGOs and central government biodiversity staff. However, at the local level, community groups are less familiar with the objectives and mechanisms of the Darwin Initiative. We will focus the next period on further communication to raise the Darwin identity.

### 14. Safeguarding

WCS's policies and procedures are framed by the organization's Code of Conduct, a revised and updated version of which was formally adopted in February 2019. This provides explicit guidance as to how WCS personnel must comport themselves during their work, and applies to all staff at WCS as well as those that act on behalf of WCS. The Code of Conduct covers diverse issues such as conflicts of interest, safeguarding human rights, combatting human trafficking, sexual harassment, protection of whistleblowers and many others. Under the Code of Conduct WCS, personnel are accountable for their actions and the actions of others under their management authority, and for ensuring compliance with the Code of Conduct. The Code of Conduct prohibits bullying, harassment and sexual exploitation and abuse, and child abuse as well as documents WCS's organizational commitment to comply with human rights standards and human subjects' protections as it undertakes its conservation work. WCS follows established national and global standards for safeguarding human rights including the World Bank Social Framework, the UN Declaration on the Rights of Indigenous Peoples, and the Belmont Report that outlines the ethical principles and guidelines for the protection of human subjects of research. WCS has also established a Global Grievance Redress Mechanism to ensure that we respond in a consistent and timely way across the organization to investigate, document and take appropriate action to address complaints of alleged human rights abuses by WCS staff, partners, consultants or anyone working on our behalf.

### 15. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)**

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	██████	██████	0%	
Consultancy costs	██████	██████	0%	
Overhead Costs	██████	██████	0%	
Travel and subsistence	██████	██████	0%	

Operating Costs	████	████	0%	
Capital items (see below)	████	████	0%	
Monitoring & Evaluation (M&E)				
Others (see below)	████	████	0%	
<b>TOTAL</b>	████	████		

We have submitted a Change Request Form asking to move a remnant amount of £5,856 of total budget from Year 1 into Year 2, motivated by delays due to bad weather conditions and the COVID-19 pandemic, As of April 27, this request was approved, so the figures we are including in this table are the updated numbers.

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<p><b>Impact</b></p> <p>Implementing sustainable cattle ranching in the Paraguayan Chaco results in reduced deforestation and land conversion, improved biodiversity conservation, and strengthened livelihoods of the most vulnerable socio-economic sectors.</p>		<p>The project has reached more than 4,000 people with messaging about how improved ranching practices results in conservation of forests, ecosystem services and biodiversity, through 87 small ranchers (<b>Annex 2</b>) and 6 large ranchers (<b>Annex 3</b>) contacted for surveys; 45 people interested in becoming project beneficiaries (<b>Annex 4</b>), 30 attendants from our field day (<b>Annex 8</b>) and the approximately 4,000 people who are listeners of <i>Frecuencia Pantanal</i> radio station (link to program is provided in section 3.2. and further detail on this number is provided under Output 3 of this logical framework). We are still in the baseline collection level, but at each field visit, during the initial meetings, we have delivered those messages to potential beneficiaries, and the conservation agreements already signed (<b>Annex 11</b>) prove our beneficiaries understand our objectives, share our project targets and are committed to sustainable use of resources.</p>	
<p><b>Outcome</b> Reduced deforestation and biodiversity loss are achieved through implementation of sustainable, efficient and scalable ranching practices in the Chaco, which protect biodiversity while improving the welfare of vulnerable rural populations</p>	<p><b>0.1 Local Livelihoods (income):</b> By the end of the project, at least 150 households (750 people) in rural districts of the Paraguayan Chaco, will directly benefit from a 20% increase in production efficiency (more kilos of meat per hectare), and 20% more sales in local markets, as a result of trainings and knowledge acquired through the project, compared to a baseline survey in 2019.</p> <p><b>0.2 Local livelihoods (access to clean water):</b> At least 20% of the 150 households will experience a reduction in water quality-related diseases, thanks to trainings and knowledge acquired through the project, compared to a baseline survey in 2019.</p>	<p><b>0.1</b> We are still setting the basis for our work by collecting baseline data (surveys are in <b>Annex 2</b>). Preliminary analysis shows that 78% of the surveyed communities (Puerto Guaraní, Fuerte Olimpo, Toro Pampa, Puerto Casado and San Carlos) lack technical assistance for production or other type to enable them a higher income level. Some have received occasional assistance, and all of the surveyed occasionally sells their meat at local butcheries and at low prices. We have not started the technical assistance component, but we have installed two pilot production models in small properties, to serve as demonstration plots for best production practices, as shown in <b>Annex 7</b>.</p> <p><b>0.2</b> From surveys (<b>Annex 2</b>), we know about 68% of the households do not have access to safe water, and according to the Health Centre, most children have water quality-related diseases in the project area, especially diarrhoea. To tackle this matter, we have purchased 40 artisanal water filters, elaborated an educational material (<b>Annex 9</b>), and signed an agreement with the local Health Centre (<b>Annex 10</b>) to develop a training program for 40 women and their</p>	<p><b>0.1</b> The technical assistance component will start in Year 2 supported by our partners Minerva Foods, the Vice Ministry of Livestock and the Faculty of Veterinarian Sciences. We will more towards implementing more efficient production models and tailoring the products for the market.</p> <p><b>0.2</b> We will distribute the water filters, start capacity building with women, and the Health Centre will support us constructing a data base on each family benefitted with the water filter in order to monitor the effectiveness of the</p>

	<p><b>0.3 Biodiversity:</b> Retaliatory killing of jaguars is reduced in 50% in 8 targeted large ranches; and populations of large and medium sized predator such as the jaguar and ungulate prey species (red deer, collared peccary) will be stable or increasing compared to a 2019 baseline, in 8 target ranches with at least 150,000 hectares, and species composition become significantly more similar to that of the intact Defensores del Chaco National Park forest.</p> <p><b>0.4 Forest Cover:</b> By the end of the project, the rate of deforestation in 150,000 hectares of private ranches in the Defensores del Chaco National Park buffer zone is reduced by 60% from 2019 baseline in the same area.</p>	<p>families.</p> <p><b>0.3 Biodiversity:</b> we installed camera traps and initiated the collection of baseline data collected from various sources (<b>Annex 14</b>) We have concluded from data collected there is a high biodiversity in the targeted ranches, similar to the neighbor Defensores del Chaco National Park. From the 6 properties surveyed, 5 (83%) have conflicts with large carnivores, namely jaguars and pumas (<b>Annex 3 – Surveys</b>). Even when we only have 6 ranches surveyed (75% of target), we have already surpassed the target of 150,000 hectares, with more than 153,000 hectares now covered by the project.</p> <p><b>0.4</b> During this period we have collected baseline data indicating that the 6 ranches surveyed so far have a total area of 154,042.37 hectares, with a total forest cover of 66,082.27 hectares, representing 43% of the total (<b>Annex 13</b>).</p>	<p>assistance provided, and will also contribute to the training modules, as stated in the agreement.</p> <p>0.3 We will use preliminary results, presented in Annex 14, and the rest of results to be processed during the first part of Year 2, to perform comparative analysis in the next two years.</p> <p>0.4 We will initiate work with ranchers to favour the adoption of the sustainable practices, increasing efficiency so that the need of further conversion of forest to pasture will be reduced in 60%, enabling habitat conservation, diminishing fragmentation and enabling connectivity with surrounding protected areas and other private lands, for the benefit of biodiversity.</p>
<p><b>Output 1. Improved sustainable ranching systems:</b> more environmentally sustainable and market-ready production models are designed, tested and adopted by 150 small cattle producers and 8 large ranchers in two Departments of the</p>	<p>1.1 At least 150 small ranchers (20% women) and 8 large ranchers participate in baseline economic, social and environmental surveys by Year 2.</p> <p>1.2 At least 150 small ranchers (20% women) and 8 large ranchers receives a minimum of 20 hours each of practical and theoretical training in improved ranching practices such as stocking rate, rotational grazing, improved pastures, cattle nutritional and reproductive management</p>	<p>1.1. 87 small ranchers have been surveyed (58% of total) and there are other 45 people awaiting our visit (not possible since March 9 due to COVID-19 restrictions and some heavy rainfalls making dirt roads inaccessible). 6 ranchers have also been surveyed. From the total of small ranchers who answered surveys, 22% (19 persons) were women.</p> <p>1.2. This indicator is planned from Year 2 on.</p> <p>1.3. This indicator is planned from Year 2 on.</p> <p>1.4. This indicator is planned from Year 2 on.</p>	



Chacoan region,	<p>improvements, animal health care, reduced livestock-carnivore conflict and others, by Year 2.</p> <p>1.3 At least 30 women (20% of the small ranchers' families receives a minimum of three day training in water treatment and management, in the form of practical and theoretical training by Year 2.</p> <p>1.4 150 small ranchers and 8 large ranchers implement at least <u>three</u> improved production practices each (adequate stocking, rotational grazing, native forest management, non-lethal carnivore control, etc.) in their properties by Year 3 (baseline = 0 in 2019).</p>	
Activity 1.1 <b>Conduct baseline economic, social and environmental surveys: with 150 small ranchers and 8 large ranchers.</b>	We designed two different types of surveys in order to characterize our target populations. 87 small ranchers (22% women) as shown in <b>Annex 2</b> and 6 large ranchers ( <b>Annex 3</b> ) have been surveyed so far.	During this period without field trips due to COVID-19 restrictions, we have been in touch with our potential beneficiaries through phone calls, Whatsapp and e-mails, trying to maintain the contact so that as soon as restrictions are over, and the weather is favourable, we will visit them to collect the remaining surveys. We have letter of interest of some 45 producers from Puerto Guarani, who were previously contacted by WCS staff and are eager to be part of the project. The remaining 18 producers are also identified and they will all be contacted as soon as we are able to travel again.
Activity 1.2. <b>Deliver training for sustainable ranching</b>	<p>Even when the activity is for Year 2, we have already made a field day in conjunction with the Alliance for Sustainable Development, the Roundtable for Sustainable Beef and Athena Foods, the local subsidiary of Minerva Foods (<b>Annex 8</b>)</p> <p>We have also installed two pilot projects to demonstrate the feasibility of higher productivity with small changes in production practices, details on both can be seen in <b>Annex 7</b>:</p>	This activity is planned to start in Year 2, supported by our partners. We will tailor the different activities and contents to either large or small ranchers, with different approaches.

		<p><b>1. Installation of pasture and rotational grazing system:</b> with minimum adjustment supervised by WCS and a sound rotation scheme, it has produced 80 additional kilos of beef per head of cattle.</p> <p><b>2. Pasture maintenance:</b> with a minimum maintenance, consisting of clearing a former pasture, the plot has recovered and is now ready to receive animals without the need of further forest conversion</p>	
<b>Activity 1.3. Deliver training for water management and treatment</b>		<p>Even when the activity is for Year 2, we have already purchased 40 artisanal water filters (10 units or 33% more than original target); elaborated an educational material to accompany their use (<b>Annex 9</b>) and signed a cooperation agreement with a new partner, the Health Office of Puerto Casado, which has already resulted in technical cooperation for the elaboration of the educational material, and which will support training and assistance to the families benefitted. The agreement is in <b>Annex 10</b>.</p>	<p>Training activities will start in Year 2, based on the material already elaborated in Year 1, and supported by Puerto Casado Health Centre as per agreement signed.</p>
<b>Activity 1.4. Assist ranchers for on-the-field implementation:</b>		<p>Activity planned for Year 2, even when we have already started some sort of assistance on a case-by-case basis, trying to provide each beneficiary the practical solutions adapted to their specific situation and context.</p>	<p>In Year 2, we expect to continue and expand the technical assistance in a practical manner, doing this at a larger scale, supported by our partners Minerva Foods, the Vice Ministry of Livestock and the Faculty of Veterinarian Sciences.</p>
<p><b>Output 2. Conservation Agreements:</b> agreements between project beneficiaries and WCS are signed to commit to conservation outcomes by 150 small ranchers and 8 large ranchers from two Departments of the Chaco</p>	<p>2.1. Conservation agreements signed and implemented by Year 2, by 150 small ranchers and 8 large ranchers, including conservation commitments to reduce lethal carnivore control, reducing forest conversion and others. Baseline: 0 conservation agreements.</p> <p>2.2 158 Conservation Agreements (150 with small ranchers and 8 with large ranchers) are officially monitored by WCS once per year each, from Year 2 on, and randomly throughout the year, outside</p>	<p>2.1. This activity is planned for Year 2 but thanks to the level of trust and advanced relationships with some of the landowners, we have now 25 agreements signed (<b>Annex 11</b>) defining mutual responsibilities to develop a consensus model of sustainable ranching respecting the environment and existing biodiversity.</p> <p>2.2. We will monitor this indicator from Year 2 on.</p>	

	official monitoring dates.		
Activity 2.1. <b>Generate Conservation Agreements</b>		We have now 25 Conservation agreements signed, 3 with large ranchers and 22 with small ranchers. Each one has been tailored to their needs, possibilities and specific context. These agreements are from two Departments (Alto Paraguay and Boquerón) and 8 different locations: Linea 28, Teniente Picco, Linea 1, Puerto Casado, Puerto Guarani, Toro Pampa, Fuerte Olimpo and San Carlos.	During this period without field trips due to COVID-19 restrictions, we have been in touch with our potential beneficiaries through phone calls, Whatsapp and e-mails, trying to maintain the contact so that as soon as restrictions are over, we will visit them to obtain the remaining agreements which are pending.
Activity 2.2. <b>Monitor performance of Conservation Agreements</b>		Activity is planned for Year 2 on.	We will start to develop this activity
<b>Output 3. Diffusion and replication:</b> the model where improved ranching practices help to achieve broader biodiversity benefits via technical support and shared responsibility is disseminated in order to expand future impact	<p>3.1. By the end of the project, a publication is produced, summarizing livestock management practices, knowledge, attitudes, wildlife-human conflicts and other aspects measured during the project, and outlining the effectiveness of sustainable ranching, and shared at national, regional and/or international events by Year 3.</p> <p>3.2. By Year 3 of the project, at least 600 people (beyond project target beneficiaries) know about sustainable production practices through local radio programming, press reports, national outreach by the Vice-Ministry of Livestock and participation in regional and international conferences, from a zero baseline in 2019.</p> <p>3.3. At least 3 exchange visits, involving a minimum of 100 people, are held between small and large ranchers in the Chaco,</p>	<p>3.1. Activity is planned for Year 3. Nevertheless, we are already gathering data from our activities to feed the publication since day 1.</p> <p>3.2. We will monitor this indicator in Year 3, but we calculate that only through the Frecuencia Pantanal radio programming, we are already reaching at least 4,000 people both for its geographic coverage, which includes Fuerte Olimpo (1600 inhabitants) and Puerto Casado (6,000 inhabitants) and only with a modest estimation of 25% of listeners we easily reach 1,900 people, plus half of the Facebook followers of Frecuencia Pantanal (5,000 followers) is 4,400 people listening to project messages.</p> <p>3.3. We expect to achieve this indicator by Year 3, but we have already gathered more than 30 people in the field day held on November 29, 2019, at La Huella Ranch at Teniente Picco, Boqueron, whose report is on <b>Annex 8</b>.</p>	

	to share sustainable ranching concepts and practices and thus promote wider adoption, by Year 3 (baseline = 0 exchanges).	
<b>Activity 3.1. Elaboration of a final publication:</b>	This indicator is expected to be completed by Year 3. Nevertheless, we are already gathering information from project activities that will serve for that end.	Continue systematizing information from biodiversity, sustainable ranching practices, water management and poverty reduction, between other aspects of the project.
<b>Activity 3.2. Local, national and regional diffusion of best practices:</b>	<p>We will monitor this indicator in Year 3, but we calculate that only through the Frecuencia Pantanal radio programming, we are already reaching at least 4,000 people from Fuerte Olimpo and Puerto Casado, regardless of the followers of their Facebook page, where our message was posted.</p> <p>We continuously post in our Facebook page messages about sustainable ranching, and the project activities we are developing (see <b>Annex 4</b> – Activities on biodiversity)</p> <p>We have uploaded the project’s water educational material to our website so that it can be available for the general public. The website is:  <a href="https://paraguay.wcs.org/en-us/About-Us/Publications.aspx">https://paraguay.wcs.org/en-us/About-Us/Publications.aspx</a></p> <p>Our field day was featured in the main national ranchers’ association Annual Magazine, available at this link:  <a href="https://arp.org.py/images/ima2019/Rural_361_dic_FINAL.pdf">https://arp.org.py/images/ima2019/Rural_361_dic_FINAL.pdf</a> (Page 36-43)</p>	Continue enhancing the coverage and frequency of the radio programmes and finding other ways of diffusing project messages.
<b>Activity 3.3. Field exchange visits:</b>	<p>In advance of this indicator for Year 3, we have already host the first exchange visit, in the form of a field day at La Huella Ranch, one of the first ranches to be surveyed and which already signed a Conservation Agreement with WCS. Some 30 people, from various backgrounds, attended the event, learned new concepts shared by the speakers and also took the opportunity to share their own experiences with other attendants (<b>Annex 8</b>).</p> <p>We have also established two pilot plots in the properties of small ranchers, so that these could serve as demonstration plots to showcase good management practices, more details are provided in <b>Annex 7</b>.</p>	<p>We will organize exchange visits for the small ranchers to the two pilot plots we have installed in Puerto Casado (<b>Annex 7</b>).</p> <p>We will continue searching the best opportunities, speakers and subjects to attract ranchers and achieve high levels of attendance in our upcoming events, to foster replication.</p>

Código de campo cambiado

## Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
<p><b>Impact:</b> (Max 30 words) Implementing sustainable cattle ranching in the Paraguayan Chaco results in reduced deforestation and land conversion, improved biodiversity conservation, and strengthened livelihoods of the most vulnerable socio-economic sectors.</p>			
<p><b>Outcome:</b> (Max 30 words) Reduced deforestation and biodiversity loss are achieved through implementation of sustainable, efficient and scalable ranching practices in the Chaco, which protect biodiversity while improving the welfare of vulnerable rural populations</p>	<p><b>0.4 Local Livelihoods (income):</b> By the end of the project, at least 150 households (750 people) in rural districts of the Paraguayan Chaco, will directly benefit from a 20% increase in production efficiency (more kilos of meat per hectare), and 20% more sales in local markets, as a result of trainings and knowledge acquired through the project, compared to a baseline survey in 2019.</p> <p><b>0.2 Local livelihoods (access to clean water):</b> At least 20% of the 150 households will experience a reduction in water quality-related diseases, thanks to trainings and knowledge acquired through the project, compared to a baseline survey in 2019.</p> <p><b>0.3 Biodiversity:</b> Retaliatory killing of jaguars is reduced in 50% in 8 targeted large ranches; and populations of large and medium sized predator such as the jaguar and ungulate prey species (red deer, collared peccary) will be stable or increasing compared to a 2019 baseline, in 8 target ranches with at least 150,000 hectares, and species composition become significantly more similar to that of the intact Defensores del Chaco National Park forest.</p> <p><b>0.4 Forest Cover:</b> By the end of the project, the rate of deforestation in 150,000 hectares of private ranches in the Defensores del Chaco National Park buffer zone is reduced by 60% from 2019 baseline in the same area.</p>	<p><b>0.1. Local Livelihoods (income):</b> Baseline family survey in 2019 disaggregated by gender and subsequent survey in 2022; calving rate, sales' records. Project reports</p> <p><b>0.2. Local livelihoods (access to clean water):</b> Water analysis and/or local health services reports. Project reports. Surveys to beneficiaries.</p> <p><b>0.3. Biodiversity:</b> Quantitative baseline data in 2019 and subsequent monitoring data in 2020 and 2021, obtained from personal surveys with ranch workers, analysis of camera trap sampling in forests at target ranches to obtain species composition, and comparison with Defensores del Chaco data base. Project reports</p> <p><b>0.4. Forest cover:</b> Baseline remote sensing images from 2019 of each large property showing forest cover and subsequent annual monitoring in 2020 and 2021. Project reports</p>	<p><b>0.1 Local Livelihoods (income):</b> changes due to improved ranching practices are effective and measurable and no significant disease, climatic or market conditions diminishing cattle production during the lifespan of the project.</p> <p><b>0.2. Local livelihoods (access to clean water):</b> changes due to training and subsequent improved knowledge are effective and measurable during the lifespan of the project.</p> <p><b>0.3. Biodiversity:</b> Fluctuations due to climatic conditions, major disease outbreaks and/or forest fires are not significantly to diminish wildlife populations during the project. Participant responses to baseline and final jaguar killing surveys are honest.</p> <p><b>0.4. Forest Cover:</b> There are no extreme climatic conditions, major disease outbreaks and/or forest fires that significantly diminish forest cover. Satellite imagery is available for window of project execution.</p>

<p><b>Outputs:</b>  <b>1. Improved sustainable ranching systems:</b> more environmentally sustainable and market-ready production models are designed, tested and adopted by 150 small cattle producers and 8 large ranchers in two Departments of the Chacoan region,</p>	<p>1.5 At least 150 small ranchers (20% women) and 8 large ranchers participate in baseline economic, social and environmental surveys by Year 2.</p> <p>1.6 At least 150 small ranchers (20% women) and 8 large ranchers receives a minimum of 20 hours each of practical and theoretical training in improved ranching practices such as stocking rate, rotational grazing, improved pastures, cattle nutritional and reproductive management improvements, animal health care, reduced livestock-carnivore conflict and others, by Year 2.</p> <p>1.7 At least 30 women (20% of the small ranchers' families receives a minimum of three day training in water treatment and management, in the form of practical and theoretical training by Year 2.</p> <p>1.8 150 small ranchers and 8 large ranchers implement at least <u>three</u> improved production practices each (adequate stocking, rotational grazing, native forest management, non-lethal carnivore control, etc.) in their properties by Year 3 (baseline = 0 in 2019).</p>	<p>1.1. Digital and/or physical surveys completed. Reports on the findings.</p> <p>1.2. Individual training proceedings / lists of attendance (in the case of group training). Photos of the training. Project reports.</p> <p>1.3. Training proceedings / lists of attendance. Photos of the training. Project reports.</p> <p>1.4. Reports from field visits by WCS and partners, with photos. Ranchers' logs showing improvement in productivity and sales. Changes in knowledge and practices captured by pre and post surveys.</p>	<p>Small and large ranchers are willing to participate in project activities.</p> <p>Women are not culturally banned from participating in training events.</p> <p>Women will feel comfortable participating, and will have adequate time to contribute in a way that will not negatively impact completion of their normal daily tasks.</p>
<p><b>2. Conservation Agreements:</b> agreements between project beneficiaries and WCS are signed to commit to conservation outcomes by 150 small ranchers and 8 large ranchers from two Departments of the Chaco</p>	<p>2.1. Conservation agreements signed and implemented by Year 2, by 150 small ranchers and 8 large ranchers, including conservation commitments to reduce lethal carnivore control, reducing forest conversion and others. Baseline: 0 conservation agreements.</p> <p>2.2 158 Conservation Agreements (150 with small ranchers and 8 with large ranchers) are officially monitored by WCS once per year each, from Year 2 on, and randomly throughout the year, outside official monitoring dates.</p>	<p>2.1 Signed agreements, photos, project reports, list of attendance to preparatory events.</p> <p>2.2 Monitoring visits reports, with photos and list of attendance. Project reports.</p> <p>2.3 Training visits proceedings/lists of attendance (in the case of group assistance), photos of the training. Project reports.</p>	<p>WCS and ranchers are able to reach consensus over the terms of each agreement.</p>

<p><b>3. Diffusion and replication:</b> the model where improved ranching practices help to achieve broader biodiversity benefits via technical support and shared responsibility is disseminated in order to expand future impact</p>	<p>3.1. By the end of the project, a publication is produced, summarizing livestock management practices, knowledge, attitudes, wildlife-human conflicts and other aspects measured during the project, and outlining the effectiveness of sustainable ranching, and shared at national, regional and/or international events by Year 3.</p> <p>3.2. By Year 3 of the project, at least 600 people (beyond project target beneficiaries) know about sustainable production practices through local radio programming, press reports, national outreach by the Vice-Ministry of Livestock and participation in regional and international conferences, from a zero baseline in 2019.</p> <p>3.3. At least 3 exchange visits, involving a minimum of 100 people, are held between small and large ranchers in the Chaco, to share sustainable ranching concepts and practices and thus promote wider adoption, by Year 3 (baseline = 0 exchanges).</p>	<p>3.1. Digital and 500 printed versions of the publication, attendance list and pictures of presentations/knowledge sharing event at national, regional and international level.</p> <p>3.2. Lists of attendance to presentations of project results at national, regional and international events, including presentations to extension agents at the Vice-Ministry of Livestock. Radio campaign media outputs, including number of people reached. Copies of outreach materials (digital and/or printed materials and presentations, leaflets, press, radio spots). Project reports.</p> <p>3.3. Participant lists of field exchange visits. Photos and project reports</p>	
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**ACTIVITIES**

**Output 1: Improved sustainable ranching systems**

**1.1. Conduct baseline economic, social and environmental surveys:** with 150 small ranchers and 8 large ranchers. Some of the questions will be adapted only to target small ranchers and some to large ranches, regarding income level, nutritional status, and others. We will try to secure women's participation in this stage by adapting the time and date of surveys, thus reaching the participation of a minimum of 20% of women at the moment of surveys.

**1.2. Deliver training for sustainable ranching:** we will deliver theoretical and practical training, tailored to the specific contexts, for implementation of improved ranching practices, in areas such as stocking rate, rotational grazing, improved pastures, cattle nutritional and reproductive management improvements, animal health care, reduced livestock-carnivore conflict and others. It is expected that each beneficiary will receive a minimum of reaching some 150 small ranchers (20% women) and 8 large ranchers.

**1.3. Deliver training for water management and treatment:** the targeted small ranchers and their families are highly vulnerable and they lack basic infrastructure and services such as safe water provision, To tackle that, we will take advantage of the series of capacity building activities we will provide them and include a women-specific practical and theoretical training on water treatment, empowering them by increasing their knowledge. At least 30 women (20% of the total small households) will receive this benefit.

**1.4. Assist ranchers for on-the-field implementation:** after training is provided, ranchers willing to implement the improved production practices will need *in situ* assistance to be provided by WCS staff and partners. It is expected that through this technical assistance, implementation of at least a set of three practices will occur

more easily at each ranch, expanding rapidly the adoption of these techniques.

**Output 2: Conservation Agreements:**

**2.1. Generate Conservation Agreements:** through a negotiation process with each rancher, WCS will sign a tailored conservation agreement with 150 small ranchers and 8 large ranchers, from two Departments and at least 6 different communities, including conservation commitments to reduce lethal carnivore control, reducing forest conversion and others.

**2.2. Monitor performance of Conservation Agreements;** the entire group of 158 agreements will be officially monitored by WCS once per year each, from Year 2 on, and randomly throughout the year, outside official monitoring dates. This will help identify any ongoing deviations and implement continuous improvement processes.

**Output 3: Diffusion and replication of best practices**

**3.1. Elaboration of a final publication:** By the end of the project, livestock management practices, knowledge, attitudes, wildlife-human conflicts and other aspects measured during the project, along with the effectiveness of sustainable ranching, will be systematized in a publication with 500 printed units and which will be shared in digital and/or printed format at national, regional and/or international events by Year 3.

**3.2. Local, national and regional diffusion of best practices:** By Year 3 of the project, we aim at reaching at least 600 more people (beyond project target beneficiaries) with the models on sustainable production through local radio programming, national outreach by the Vice-Ministry of Livestock and participation in regional and international conferences. We will also share information through WCS and partner social networks, websites, including at least two events held to share project results with NGOs, government entities including CBD focal points and ranchers, advocating for national policies that favour the adoption of best ranching practices. We also expect to publish at least one press article each year, and in at least one outlet such as National Geographic by Year 3.

**3.3. Field exchange visits:** these are considered as first-hand learning opportunities, and we will organize at least 3 exchange visits, involving a minimum of 100 people, where small ranchers will learn on site and in a participatory way from large ranchers in the Chaco, share sustainable ranching concepts and practices, discussing challenges and successes, and thus promote wider adoption.



## Annex 3: Standard 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	Year 3 Total	Total to date	Total planned during the project
Established codes								
7	Training material on water importance, management and treatment	Female (main editor and target audience)	Paraguayan	1			1	0
22	Permanent field plots to showcase good practices in cattle management, located in private properties of small ranchers	Male (proprietors)	Paraguayan	2			2	0

**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. weblink or publisher if not available online)
Agua limpia: Mejor calidad de vida	Educational brochure	WCS Paraguay, 2020	Female (editor)	Paraguayan	WCS Paraguay, Asuncion	Digital version available in <b>Annex 9</b> and at: <a href="https://paraguay.wcs.org/en-us/About-Us/Publications.aspx">https://paraguay.wcs.org/en-us/About-Us/Publications.aspx</a>

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

We are providing the following supplementary material, available in this link:

[https://drive.google.com/folderview?id=187RMKSPrOXvMHZ2YLQFA85GUVqsjY\\_U](https://drive.google.com/folderview?id=187RMKSPrOXvMHZ2YLQFA85GUVqsjY_U)

- ANNEX 1- Pictures and list of attendance of planning meetings with partners
- ANNEX 2- Surveys to small ranchers
- ANNEX 3- Surveys to large ranchers and maps of land use
- ANNEX 4- Letter of interest of small producers from Puerto Guarani.
- ANNEX 5 – Pictures of the information and data collection process
- ANNEX 6 – Lists of attendance to meetings convened by the project.
- ANNEX 7 – Report on pilot plots installed by the project in small properties
- ANNEX 8 - Pictures and list of attendance of demonstration field day at La Huella Ranch
- ANNEX 9 – Educational material for communities on the importance of water treatment
- ANNEX 10 – Cooperation agreement between WCS and Puerto Casado health office
- ANNEX 11- Conservation agreements signed with small and large landowners
- ANNEX 12 – Location of small cattle ranches
- ANNEX 13 - Forest cover of large cattle ranches
- ANNEX 14 – WCS activities developed in the biodiversity component.
- ANNEX 15 – WCS interaction with Paraguay's CBD focal point.

## Checklist for submission

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	✓
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	X
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	✓
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	