



## Darwin Initiative/Darwin Plus Projects Half Year Report (due 31<sup>st</sup> October 2021)

<b>Project reference</b>	26-021
<b>Project title</b>	Biodiversity conservation, vicuña health and local livelihoods in Apolobamba, Bolivia
<b>Country(ies)/territory(ies)</b>	Bolivia
<b>Lead organisation</b>	Wildlife Conservation Society (WCS)
<b>Partner(s)</b>	Marka Cololo Copacabana Antaquilla, Apolobamba protected area
<b>Project leader</b>	Oscar Loayza Cossio
<b>Report date and number (e.g. HYR1)</b>	April 1 <sup>st</sup> to September 30 <sup>th</sup> 2021, (HYR1)
<b>Project website/blog/social media</b>	<a href="https://bolivia.wcs.org/">https://bolivia.wcs.org/</a>

**1. Outline progress over the last 6 months (April – Sept) against the agreed project implementation timetable (if your project has started less than 6 months ago, please report on the period since start up to end September).**

**Output 1: Completed diagnostic of peatland and pasture condition and associated biodiversity indicator species.**

**1.1.** Baseline evaluation on the condition and stocking rates over 100,000 hectares of native pastures and 1,400 hectares of peatlands and their water sources established in Year. [Reported in the Year 2 Annual Report.](#)

**1.2.** Exit evaluation on the condition and stocking rates over 100,000 hectares of native pastures and 1,400 hectares of peatlands and their water sources is established in Year 3. [The evaluation will be carried out between December 2021 and February 2022 at the end of the shearing season.](#)

**1.3.** Baseline survey of biodiversity indicator species in peatlands and native grasslands is established in Year 1. [Reported in the Year 1 Annual Report.](#)

**1.4.** Exit evaluation of biodiversity indicator species in peatlands and native grasslands is established in Year 3. [The final results will be presented in the final report.](#) During this semester, training has been provided in the monitoring of biodiversity indicator species in wetlands and native pastures in vicuña evaluation sites in the Apolobamba National Integrated Management Natural Area (ANNEX 1). A team of 5 park rangers were trained at La Cabaña (Ulla Ulla), the central camp of ANMIN Apolobamba and surrounding areas, in May 2021. This training was aimed at establishing a team, so that the park guards will be in charge of following up on the data collection for indicator species and can be incorporated into the monitoring reports of the protected area. Eight indicator species of the Apolobamba wetlands and grasslands of ANMIN Apolobamba have been incorporated into the protected area's Integrated Monitoring Program: *Vultur gryphus*, *Oressochen melanopterus*, *Phoenicopterus chilensis*, *Fulica gigantea*, *Leopardus jacobita*, *Lagidium viscacia*, *Hippocamelus antisensis*, and *Vicugna vicugna*.

**Output 2: Completed diagnostic of vicuña health condition and mange prevalence as an indicator of carrying capacity and climatic trends.**

**2.1.** Baseline of vicuña mange prevalence and health condition is established in Year 1. [Reported in the Year 2 Annual Report.](#)

**2.2.** By Year 3, exit evaluation shows improved health condition of wild vicuña or a reduction of at least 10% in mange prevalence in vicuña. [The 2021 shearing campaign is scheduled between September 20<sup>th</sup> and November 24<sup>th</sup>, 2021 \(ANNEX 2\), and the final results will be presented in the project's final report.](#) During this semester, biological sampling has begun for health studies on the vicuña (*Vicugna vicugna*) populations of ANMIN Apolobamba since September 20<sup>th</sup>. To date, samples were taken from 136 vicuñas in 6 communities (30 in Puyo Puyo, 31 in Hilo Hilo, 10 in Amarka, 25 in Ulla Ulla, 25 in Chari and 15 in Medallani). [Samples include mouth swabs, blood smears, feces,](#)

ectoparasites, skin scrapings and blood serum, **in order to evaluate scabies and other external and internal parasites during captures, shearing and releases of vicuña in communities of ANMIN Apolobamba.** In addition, nasal and rectal swabs will be obtained to study **emerging viral pathogens** and, as part of a master's thesis (ANNEX 3), oral swabs and blood smears will be taken **to measure the genotoxicological risk of mining in vicuñas in ANMIN Apolobamba.** The analysis of parasites in the samples will be carried out at the WCS laboratory in La Paz and the genotoxicological study will be carried out at the Environmental Monitoring and Genotoxicology Unit of the Molecular Biology and Biotechnology Laboratory of the Biology Department of the Universidad Mayor de San Andrés. The vicuña sampling work will continue in Apolobamba until the end of the shearing season and then technical reports will be prepared.

Also, as part of the evaluation of the health and conservation status of the vicuña populations, a workshop for the vicuña population estimation (census) was held on July 22<sup>nd</sup> and 23<sup>rd</sup>, 2021, with the objective of training park rangers, community guards and community directors in the application of the technique and instruments for the Vicuña Population Estimation. A total of 84 people participated in this workshop, including 9 women (11%) and 75 men (89%) from the 18 communities that manage vicuñas (ANNEX 4).

After the workshop, on August 16<sup>th</sup> and 17<sup>th</sup>, 2021, a vicuña population estimate (census) was conducted by the Apolobamba Regional Association, with the participation of 99 people (94 men and 5 women), of which 62 people (63%) were from the local communities, 28 park rangers and 9 people from support institutions (WCS, DGBAP, GAD La Paz, Municipality of Pelechuco). A total of 13,692 vicuñas were counted. The social structure of the vicuñas is made up of 59% family groups, 39% male herds, 1% solitary males or females, and 1% undifferentiated social groups. The family structure is made up of 61% females or mothers, 24% offspring, and 15% breeding males (ANNEX 5).

**2.3.** Participatory identification of climate change scenarios, with 40% women participants, and their influence on the condition of pastures, peatlands and their water sources; mange prevalence and vicuña fiber production are completed in Year 1. **Reported in the Year 1 Annual Report.**

**Output 3:** Apolobamba protected area, Marka Cololo indigenous organization, and the regional association of vicuña managers establish a pasture, peatlands and their water sources, and vicuña health management plan.

**3.1.** Pasture, peatlands and their water sources management plan (including monitoring program) established between the Apolobamba protected area, the Marka indigenous organization, and the regional association of vicuña managers, with 40% women's participation, is approved by Year 2. We have advanced versions of the Technical Instrument to support the use of vicuñas in ANMIN Apolobamba (Vicuña Management Plan) (ANNEX 6), which is already guiding the 2021 shearing campaign, and the plan for the sustainable use of wetlands and pastures of Apolobamba (ANNEX 7). As part of the implementation, distribution maps were prepared and included for all flora and fauna species of the mentioned indicators in the study area. The maps and information generated are already included in the monitoring report of the protected area for the first semester of 2021. The expertise of the park rangers with respect to their knowledge of these species has been corroborated through their identification in the field. Field-generated points will be superimposed on these maps and included in the next monitoring report (December) in order to obtain more relevant data for this indicator. The data obtained by the park rangers will be evaluated on an ongoing basis, not only for follow-up, but also to support the correct application of the information collection methodologies provided through field visits during the month of October, training sessions and verification of the application of the indicator evaluation method. In addition, the data collection form has been validated with the park rangers, incorporating the common names of the species to be monitored, and the species distribution maps will be complemented by obtaining data through the use of the iNaturalist application, which will be an identification and recording tool for the park rangers and will also allow constant monitoring of the data collected (ANNEX 8). Training on this tool will be provided in October 2021. On the other hand, the methodologies are expected to be complemented with drone overflights in November or December. So far, a total of 6,011 images have been recorded, which are being processed and will be presented to the area's personnel during the next drone overflight.

**3.2.** Agreement is established with legal miners on the pasture, peatlands and their water sources management plan by Year 2. In August, a preliminary study was carried out to identify "key areas of water sources, wetlands and pastures for vicuña populations affected by gold mining activities in Apolobamba" (ANNEX 9), which was systematized in geo-referenced maps that were used to define a "preliminary strategy for the construction of agreements between legal gold mining cooperatives and the Apolobamba ARCMV" (ANNEX 10) through a multi-criteria analysis. In September, meetings were organized with leaders of mining federations and representatives of the ARCMV of Apolobamba, in which it was possible to report on the initiative to hold meetings to address the problem and present proposals for reducing the impacts of mining activities superimposed on the areas of density of vicuña presence within the ANMIN Apolobamba. These meetings were accepted and motivated to jointly

organize these events for November (once the shearing season is over), with an initial plan to hold workshops in the communities of Suches, Antaquilla and Puyo Puyo (ANNEX 11).

In parallel, during October, together with partner organizations MEDMIN Foundation, SBGI and thanks to the support of HELVETAS, we are working on the implementation of clean technologies to reduce and/or eliminate the use of mercury for gold recovery, the implementation of mining plans to reduce soil degradation and the proposal of best practices to reduce the impact of mining on endangered species and critical ecosystems (including water sources). In the areas of influence at the micro-basin level of the mining operations of two pilot mining cooperatives, the Águilas de Oro cooperative in the community of Puyo Puyo and the Tierra Hermosa cooperative in the town of Suches, we expect to carry out field schools in December for local stakeholders, mainly representatives of neighboring mining cooperatives, to socialize and motivate the results obtained from this process (ANNEX 12). At the end of these activities and meetings, together with the participating local stakeholders, we will encourage the generation of agreements in the company and collaboration of ANMIN Apolobamba's Management and Park Ranger Protection Corps.

**3.3.** Vicuña health management plan (including monitoring plan) approved between Apolobamba protected area, Marka Cololo indigenous organization, and the regional association of vicuña managers, with 40% women's participation, and their implementation has begun in Year 2. Within the framework of the technical instrument for the use of the vicuña and the protocol of good practices and animal welfare, generated and approved, the 2021 capture and shearing campaign was launched at the national level, in a event held on September 26<sup>th</sup> in the Ayllu Puyo Puyo in the ANMIN Apolobamba. Present at the event were the Vice Minister of Biodiversity, Environment, Climate Change and Forestry Management, Eng. Magín Herrera; the Executive Director of SERNAP, Mr. Teodoro Mamani; the Director of ANMIN Apolobamba, Eng. Ramiro Mayta; the President of ACOFIVB, Mr. René Paca; the President of ARCMV of Apolobamba, Mr. Francisco Huaqui; mayors and councilors of the Pelechuco, Charazani and Curva municipalities; and other national, departmental, municipal and local authorities.

From September 18<sup>th</sup> to 23<sup>rd</sup>, 2021, with the support of ACOFIVB, a training workshop on mechanized shearing of vicuña fiber was held for the Regional Associations of the Department of La Paz, the activity was held at the headquarters of the ARCMV of Apolobamba "Wari Uta", with the participation of 35 people (7 women and 28 men) representing the management communities of the Apolobamba Regional Association, as well as representatives of the management communities of the Regional Associations of San Andrés de Machaca and Calacoto. The workshop was given by the mechanical shearing expert Mr. Emilio Escalante from Peru. The course was developed in three modules: Module 1: Handling of shearing machines and equipment; Module 2: Alpaca shearing; and Module 3: Vicuña shearing. Currently, the practice is being implemented in each Management Community, based on the schedule of herding, capture and shearing of vicuñas.

As part of the 2021 vicuña capture and shearing campaign at the national level, the Vice Minister, Magín Herrera, presented and delivered the printed technical instruments that were developed between the Ministry of Environment and Water, SERNAP, ACOFIV and WCS to support the sustainable use and health of vicuñas. These printed technical instruments are:

- a. Practical manual for vicuña management communities-Good animal welfare practices and sanitary measures in the sustainable use of vicuña fiber. It is aimed at vicuña management communities. It includes guidelines on best practices throughout the process, as well as sanitary, preventive and curative measures during the use of vicuña fiber. Digital and printed version (ANNEX 13).
- b. Guide to fleece handling during shearing and pre-dehairing of vicuña fiber for commercialization. It is a document to know the best practices during and after shearing and to pre-dehairing the vicuña fiber, giving it a higher added value. Digital and printed version (ANNEX 14).
- c. Guide to mechanical shearing of vicuña fiber. It provides guidelines on all the steps and stages to perform mechanized shearing of vicuña fiber. Digital and printed version (ANNEX 15).

**3.4.** Health management protocol presented to the Biodiversity authorities (DGB-AP) for formal approval. The Ministry of Environment and Water through the General Directorate of Biodiversity and Protected Areas (DGBAP) revised and approved the "Technical manual on good animal welfare practices and sanitary measures in the sustainable use of vicuña fiber" (ANNEX 16). It is aimed at technical personnel and provides guidelines on the management of vicuñas using animal welfare and animal health standards during herding, capture, shearing and release.

**Output 4:** Increased resilient livelihoods through improved business capacity and quality control of the regional association of vicuña managers of Apolobamba.

**4.1.** Business and organizational plan for the regional association of vicuña managers is completed, with 40% women's participation, by the end of Year 2. With the support of Daniel Maydana, an expert consultant in vicuña harvesting and advisor to ACOFIV Bolivia, the following instruments were developed, validated and approved for the National Association:

- 1) Organizational diagnosis of ACOFIV Bolivia and the current business structure of vicuña harvesting in Bolivia (ANNEX 17).
- 2) Organizational strengthening plan for ACOFIV Bolivia (ANNEX 18).
- 3) Business plan for the community association for the commercialization of vicuña fiber in Bolivia (ACOFIVB) (ANNEX 19).

These instruments have been formally presented, socialized and approved by ACOFIVB (ANNEX 20).

**4.2.** Reduced mange prevalence, improved shearing, and fiber selection increases income of 1,335 vicuña managers (40% women) by at least 20% by the end of Year 3. It will be evaluated at the end of the 2021 shearing season.

**4.3.** Evaluation of increase in effort and additional economic benefit as a result of changes in shearing and fiber selection protocols. It will be evaluated at the end of the 2021 shearing season.

**4.4.** New market linkages with buyers of high-quality fiber. The business plan prepared and approved by ACOFIVB identifies several marketing alternatives for vicuña fiber, and options will be applied in the marketing of the fiber obtained in the 2021 campaign (ANNEX 19).

**Output 5:** Good practices are shared for sustainable and resilient management of pastures, peatlands and their water sources, biodiversity conservation, improved vicuña health, and resilient livelihoods with other vicuña manager associations and in coordination with the biodiversity national authority (DGB-AP).

**5.1.** At least 1 inter-institutional agreement for replication of management of pasture, peatland and their water sources for biodiversity conservation and resilient livelihoods signed with other vicuña manager associations elsewhere in Bolivia is signed by project end. An agreement has been signed between the Asociación Comunitaria para la Comercialización de Fibra de Vicuñas de Bolivia (ACOFIV-Bolivia) and WCS, which since the beginning of the project has allowed activities, information and experiences to be projected at the national level. Several of these activities were reported in past reports, however, within the framework of this agreement, during this semester the following activities were developed in support of other regional organizations that manage vicuña:

- 1) Biological sampling and shearing training during vicuña (*Vicugna vicugna*) harvesting in the regional management associations of Tomave-Potosí and Wila Kollo-Oruro. From August 31<sup>st</sup> to September 4<sup>th</sup>, the WCS technical team took samples to detect scabies and other internal and external parasites in vicuñas and provided shearing training in two communities: Opoco and Suntura of the Regional Association Tomave of the department of Potosí; and the community: Ayllu Collana de Quillacas of the Regional Association Wila Kollo of the department of Oruro, in coordination with the Asociación Comunitaria para la Comercialización de Fibra de Vicuña (ACOFIV) Bolivia. Samples were taken from 92 vicuñas (40 in Opoco, 27 in Tomave and 25 in Ayllu Collana Primero), including skin scrapings, other ectoparasites (lice), and feces. To date, the samples are being analyzed at the WCS laboratory in the city of La Paz (ANNEX 21).
- 2) Delivery of printed technical instruments to ACOFIVB for distribution to all regional organizations nationwide (ANNEX 22).
- 3) Inclusion of San Andres de Machaca and Calacoto in the mechanical shearing training course developed in Apolobamba (ANNEX 4).

**5.2.** Project results available digitally to the IUCN/SSC/SAC network. To be included in Final Report.

**2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months (for COVID-19 specific delays/problems, please use 2b). Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.**

During the last six months, restrictions due to the COVID-19 pandemic have decreased significantly, which has allowed the WCS technical team to support ACOFIVB and ARCMV of Apolobamba in organizing the vicuña population estimate and the vicuña capture and shearing campaign for the 2021 management year almost normally. In this context, both the Apolobamba vicuña population estimation and the capture and shearing campaign have been successfully completed, in the first case, and in the second case, it is developing normally.

**2b. Please outline any specific issues which your project has encountered as a result of COVID-19. Where you have adapted your project activities in response to the pandemic, please briefly outline how you have done so here. Explain what residual impact there may be on your project and whether the changes will affect the budget and timetable of project activities.**

In order to make sustainable use of vicuña viable, the competent authority (DGBAP) has asked ACOFIVB to develop a biosecurity protocol. Within this framework, WCS has supported ACOFIVB's technical team and in coordination with DGBAP in the formulation of this protocol, which has been approved by the competent authority and has been published and distributed to all the regions at the national level through ACOFIVB. The protocol is as follows:

a. Biosecurity protocol for vicuña fiber harvesting activities in Bolivia. The protocol provides guidance on all biosecurity measures that should be adopted by technicians and vicuña handlers during the handling of the species, in the context of the COVID-19 pandemic (ANNEX 23).

**2c. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?**

Discussed with LTS:	Yes/No	
Formal change request submitted:	<u>Yes</u> /No	(29/06/2021)
Received confirmation of change acceptance	<u>Yes</u> /No	(07/07/2021)

**3a. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this year?**

Yes  No  Estimated underspend:

**3b. If yes, then you need to consider your project budget needs carefully.** Please remember that any funds agreed for this financial year are only available to the project in this financial year.

**If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary. Please DO NOT send these in the same email as your report.**

**4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?**

Throughout the execution of the project, there has been permanent support from the WCS communications unit consisting of three main activities: editing, print follow-up and dissemination of five documents produced by the technical team. The editing of the documents was carried out with each of the authors and the revisions corresponded to the team, the coordinator, and later to the state sector agencies in charge of the subject, such as the National Protected Areas Service and the Ministry of Environment and Water, through the General Directorate of Biodiversity. Of the five technical documents produced, three were printed and two were digital. A total of 1,000 copies of each document were printed and delivered to ACOFIV for distribution to state agencies, municipal and protected area authorities, and mainly to the 111 vicuña management communities throughout the country. The dissemination of all digital publications was done through the development of briefing notes and messages to disseminate the documents through posts on the WCS Facebook page. The detailed communication report, the publications and the notes and messages prepared for dissemination can be found at the ANNEX 24.

**If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.**

**Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with LTS International through a Change Request. **Please DO NOT send these in the same email.****

Please send your **completed report by email** to [Darwin-Projects@ltsi.co.uk](mailto:Darwin-Projects@ltsi.co.uk). The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 25-001 Darwin Half Year Report**