

## 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	26-016
Project title	Lion Carbon: creating biodiversity value and sustainable management through REDD+
Country/ies	Zambia
Lead organisation	University of Oxford
Partner institution(s)	BioCarbon Partners, Lion Landscapes
Darwin grant value	£337,474
Start/end dates of project	1 <sup>st</sup> May 2019 – 30 <sup>th</sup> Oct 2021
Reporting period (e.g. Apr 2019 – Mar 2020) and number (e.g. Annual Report 1, 2, 3)	Annual report 1: May 2019-Mar2020
Project Leader name	Prof David Macdonald
Project website/blog/social media	There is not yet any specific project social media but all three project partners have websites and related social media: <a href="http://www.lionlandscapes.org">www.lionlandscapes.org</a> , <a href="http://www.biocarbonpartners.com">www.biocarbonpartners.com</a> , <a href="http://www.wildcru.org">www.wildcru.org</a>
Report author(s) and date	Prof David Macdonald, Dr. Alayne Cotterill, Dr. Hassan Sachedina

### 1. Project summary

Lion Carbon is a scalable and sustainable biodiversity conservation model, which links payment to local communities (generated through the REDD+ avoided deforestation mechanism) to 30-year Community Forest Management Agreements. Lion Carbon addresses the proximate threats to biodiversity (poaching, habitat loss, and poor management) through strengthening local and regional capacity to manage natural resources, and the social threats (poverty and undervalued biodiversity) through job creation and the distribution of benefits from verified forest carbon offsets to local communities.

An estimated 428 million people depend on African dryland forests for subsistence. Destruction of these forests contributes to climate change, threatens biodiversity and exacerbates local poverty. Zambia has the highest deforestation rate in Africa, losing forest four times the size of New York City every year for charcoal and timber.

BCP has secured 30-year Community Forest Management Agreements with local chiefdoms over 1 million hectares of the Luangwa-Zambezi ecosystem in Zambia - home to several endangered and vulnerable species (including lion, African wild dog and Southern ground-hornbill) and some of the country's poorest communities. In return for forest protection activity, communities receive income from the sale of REDD+ offsets, while alternative livelihood interventions direct communities away from destructive practices including unsustainable charcoal production and forest felling.

Baseline surveys carried out by BCP to understand perceptions, values and social norms with regards to the use of natural resources indicate that forest protection alone, however, is not enough to conserve biodiversity. Poverty, human population growth, and a lack of wildlife management capacity cause unsustainable bushmeat poaching, resulting in 'empty forests'. Wide ranging pinnacle carnivores such as the African Lion are often the first species to be extirpated, impacted by the loss of prey and habitat, and by unsustainable human offtakes (snaring and poorly managed trophy hunting). The Lion Carbon model augments BCP's REDD+ activities by including the protection of wildlife and building local and regional capacity to manage the sustainable use of natural resources. As a wide-ranging pinnacle carnivore with approximately 20,000 left on the planet and classed as vulnerable on the IUCN Red List, the African lion is an umbrella species for the Lion Carbon project; a growing population of lions being indicative of biodiversity conservation success.

## **2. Project partnerships**

Lion Carbon is a collaboration between the lead organisation (University of Oxford), a Zambian community forest program (BioCarbon Partners - BCP) and an international large carnivore NGO (Lion Landscapes - LL). There has been no significant changes in the roles and relationships between these project partners to those described in our original proposal.

This project also includes partnerships that are not formally part of the project. The most important of these partnerships are with the Zambian Department of Parks and Wildlife (DNPW) and the Community Resource Boards.

*Zambian Department of National Parks and Wildlife:* DNPW is a key partner in the selection, training and management of community scouts, and in the formation of the annual Community Resource Board Work Plans. This formal partnership between DNPW and BCP is described in the renewed Memorandum of Understanding for 5 years signed 07 February 2020 (supplementary materials). The basis of this partnership is the protection of wildlife habitat and implementation of wildlife conservation projects and specific objectives of this MoU are in line with outcomes from the Darwin project initiative.

*Community Resource Boards (CRB's):* CRB's are the local institution with the legal mandate to manage natural resources in the project areas. CRBs also represent a fair and democratically elected representation of the local communities living in the project area. All project activities are therefore directed through the CRB's or in close partnership with them. BCP holds 30 year agreements in the form of Community Forest Management Agreements (CFMA's) with each of the CRB's within the project area.

## **3. Project progress**

### **3.1 Progress in carrying out project Activities**

***Activity 1.1. Hold quarterly CRB led conservation planning review meetings for each GMA (3) in the phase one project area. During which, performance of the CRB and BCP are reviewed against CRB Conservation Work Plans and Community Forest Management Agreements.***

Quarterly meetings for 2019 were more regular (normally monthly rather than quarterly) and less formal than originally planned as our sector managers and chiefdom leads engaged regularly with the CRB's throughout the year to build capacity and focus on topics such as governance, Livelihood Programs and Natural Resource Management. More frequent and less formal meetings have been found to be a more successful way to discuss progress on activities outlined in the Annual Work Plans during this first year, and as a way for BCP to follow up on these activities and ensure that funds received by the communities from the sale of carbon offsets in the form of 'Conservation Fees' are being expended correctly. At the beginning of each year, BCP, along with each CRB and members for the Forestry Department and DNPW meet to develop an agreed Annual Work Plan which details how conservation fees will be expended throughout the year and the specific activities

that will be implemented using the conservation fees. The Annual Work Plan formation is not a BCP exclusive document/exercise as funding from other sources is also included (for example, hunting fees). This is an important exercise and critical to the success of the REDD+ Project. This is the starting point to building capacity within the CRB's to effectively budget and manage climate finance funding. Meetings were held with each of the 3 CRB's in this project during January 2020 and Annual Work Plans were constructed and finalized (example supplementary materials).

***Activity 2.1. Design, agree with stakeholders and publish detailed biodiversity monitoring methods, protocols, and sampling framework for the phase 1 project area.***

The impact of Lion-Carbon project activities on local biodiversity is evaluated using regular biodiversity monitoring surveys. As this project involves taking on the management of highly depleted areas, monitoring methods need to capture wildlife recovery from low densities of all species. Monitoring rare, low density species over large areas is challenging from both a logistical and a statistical perspective. Biodiversity monitoring methods must be scout-based, low cost and able to handle low sample sizes. Scientifically robust, logistically feasible and cost-effective Biodiversity Monitoring Plans have been developed by Lion Landscapes (LL) and University of Oxford (supplementary materials). These plans include detailed methods, protocols and a sampling framework for the project area. This Biodiversity Monitoring Plan was reviewed by BCP in November as planned. This plan is currently being reviewed again with regards to activities during the COVID-19 pandemic.

***Activity 2.2. Purchase all biodiversity monitoring equipment required as outlined in the biodiversity monitoring methods and protocols in 2.1.***

In order to carry out biodiversity monitoring surveys outlined in the Biodiversity Monitoring Plan, the necessary monitoring equipment had to be purchased in time for the first set of surveys scheduled for late dry season (October 2019). As mentioned in our half year report, biodiversity monitoring equipment could not be bought in time for the first set of surveys due to delays in receiving funding (please see section 11 for details of this challenge). This problem was mostly mitigated by borrowing equipment for the distance sampling and occupancy modelling walked transects from other project sites so these surveys could go ahead. Camera traps, however, could not be purchased or borrowed and so the camera survey start was delayed (Activity 2.4). The lack of cameras was somewhat mitigated by collecting data for occupancy modelling during walked transects. Please see list of equipment supplied in supplementary materials.

***Activity 2.3. Carry out initial biodiversity monitoring training for 100 scouts and 3 managers in year 1, and initial training for 30 new scouts and refresher training for 100 existing scouts during year 2. Biodiversity monitoring will form part of the in-service training all scouts will receive annually (see 3.2.).***

The biodiversity monitoring methods take a layered approach, using both structured distance sampling and occupancy modelling surveys, and the daily recording of wildlife and illegal activity data by scouts on their patrols using SMART. In our original proposal, all scouts were going to be trained to collect biodiversity monitoring data, as part of their basic training. Due to the importance of consistency and accuracy needed during the formal surveys, and problems with skill-fade when it comes to the protocols needed to be followed, we decided that it was better to have smaller specialist teams of scouts collecting distance sampling and occupancy modelling data, and training to be provided immediately before every formal survey. Four days of intense training, given immediately prior to the distance sampling and occupancy modelling surveys, has therefore been provided by Lion Landscapes to a smaller group of scouts (24) specifically chosen to run these structured biodiversity monitoring surveys. Training consisted of a background of why biodiversity monitoring is being carried out, methods used, proper use and maintenance of the equipment needed, and 2 days of running practice transects to make sure everyone involved was familiar and confident with the survey protocols. Extra training was given to the managers on how to manage the surveys and how to troubleshoot common problems that arise. More regular, intense training provided to a select group of scouts should increase the accuracy of the data collected during the structured surveys and we expect better progression towards Output 2 through this approach. The one exception to this will be the SMART data collection (Activity 3.5), which will be carried out by all active scouts. Training in the proper use of SMART will be given to all scouts with on-going monthly reviews, which is considered to be the best way of ensuring that good quality and consistent data is collected from SMART. SMART training is delayed because of covid-19 (Section 11) but all the

planning is in place and so will start as soon as possible in the next reporting period (see Activity 3.5 below).

***Activity 2.4. Complete 2 years of biodiversity monitoring data collection in the phase 1 project area. Exact methods and protocols to be determined in 2.1. but will include distance sampling and occupancy modelling using camera traps.***

Distance sampling and occupancy modelling surveys have been run twice in the first year of this project and will continue to be run twice per year (early dry season and late dry season) every year for the next 30 years. The number of survey areas and related sampling frames will grow over time. In this first year two survey areas were covered, Rufunsa (390 km<sup>2</sup> and Munyamadzi (180 km<sup>2</sup>). These areas represent the two main habitat types in the wider area; *valley floor* made up of riverine and mopani woodland, and *escarpment* areas covered predominantly with miombo woodland. The deployment of the camera traps, which arrived late (see Activity 2.2) did not happen this year and will be deployed during the following reporting period. This year's occupancy modelling was instead done by recording fresh sign of animals during the walked distance sampling transects. While this mitigated the delay, the use of camera traps will increase our probability of detecting the rarer, more elusive or nocturnal species from this point on. Formal surveys will be augmented by SMART data collection throughout the wider area during anti-poaching patrols, starting during the next reporting period (see Activity 3.5).

***Activity 2.5. Analyse survey data annually and report results back to all stakeholders in project areas in annual reports.***

Data from the biodiversity monitoring surveys is in the process of being analysed and a report produced. This report will be shared with all stakeholders. In following years, this data analysis and report will be moved to Q3 (Oct-Dec) so results can be used to inform CRB Annual Work Plans.

***Activity 3.1. Provide basic training for 30 new CRB scouts in year 1. Basic training is a 3-month approved curriculum course run with the Zambian Department of Parks and Wildlife.***

This project endeavors to partner with the local communities to protect natural resources by sponsoring Community Resource Board Scouts, covering training costs, equipment, uniforms, on-going management support and monthly salaries. This improves the livelihoods of rural communities through job creation as well as increasing the capacity of Community Resource Boards to implement their Annual Work Plans and reduce the main threats to biodiversity (bushmeat poaching and deforestation). At the start of this project, the first two intakes of CRB scouts had been completed (Alpha and Beta scout intakes) with a total of 37 trained scouts on this project's payroll as the baseline. During this reporting period, one more scout intake was completed (Charlie scouts) and the Delta scout selection began. The number of scouts trained during this reporting period was 32 (2 more than proposed). By the end of the reporting period 56 scouts were on this project's payroll.

*Charlie Scout Selection and Training:* On the 25 July 2019, 32 Community Scouts (26 Males and 6 Females), graduated after completing a 14 week intensive training course under the supervision of the Department of National Parks and Wildlife (DNPW) at the Nyamaluma Training School. An impressive 517 candidates applied and undertook physical tests (in the form of an 8km run), medical tests and interviews with DNPW and Forestry Department. The successful graduates achieved TAVETA certification and GRZ endorsement as front-line enforcers of Zambia's wildlife and forest protection laws and regulations.

*Delta Scout Selection and Training:* The 2020 "Delta" CRB scout selection process was completed by the end of February 2020. A total 717 community members from partner CRBs were considered and 76 applicants (53 men and 23 women) were shortlisted as the applicants BCP will sponsor to complete the course during the next reporting period. The three-month training course on "Basic training in wildlife and forest conservation management" was set to begin on 29 March 2020 at Chunga Training School, facilitated by Department of National Parks and Wildlife (DNPW) in conjunction with Forestry Department (FD) and in consultation with BioCarbon Partners (BCP). However, due to the global COVID-19 pandemic, the course has been put on hold until further notice from the Zambian Government.

The "Basic training in wildlife and forest conservation management" course taken by all new scouts recruited by this project is a TEVETA (Technical Education, Vocational and Entrepreneurship Training Authority Zambia) accredited basic wildlife management training course to empower community scouts to conduct law enforcement activities, as well as learn about the proper

management of their natural resources. The course instructors are government officers under the Department of National Parks and Wildlife (DNPW). The course content consists of basic wildlife and forestry management with community sensitization as well as human/wildlife conflict resolution. Topics covered include: Botany and Mammalogy, Law and Human Rights, Community Based Natural Resources Management, Prosecution and investigations, Field crafts and survival, Ballistics and weapon handling, Patrol systems and techniques.

***Activity 3.2. Provide in-service training for 60 CRB scouts and 40 partner organisation scouts in year 1. In-service training is 2 weeks of intense refresher training run with external consultants and the Department of Parks and Wildlife, designed to be run annually to avoid skill fade, refresh knowledge on protocols to be followed, and identify and address problems.***

In-service refresher training was provided to Charlie Scouts during August 2019. The course was run on a twenty-eight (28) day program in Rufunsa Conservancy starting on 28 August 2019. 32 community Scouts attended the training (26 Females and 5 Males). Evidence of this training has been compiled into a full report attached as supplementary materials. Additionally, 10 Community Scouts (7 males and 3 females) that had originally graduated in 2018 were due to undergo refresher training (a compressed version of the basic training outlined in Activity 3.1 above) at Chunga Training School starting March 2020. This course has been postponed due to COVID-19.

***Activity 3.3. Provide additional equipment revealed as necessary for all scouts during the recent CRB Work Plan development process (3.1.).***

All necessary equipment for the Charlie and Delta Selection Scouts has been purchased using Darwin and co-funding and issued (Charlie Scouts) or will be issued on graduation (Delta Scouts). Please refer to the list of all equipment bought during YR1 provided in supplementary materials.

***Activity 3.4. Provide the required management support for anti-poaching activities in phase 1 project areas revealed in the recent CRB Annual Work Plan development process.***

CRB scouts are tasked to address the greatest threats within the project area by BCP's Conservation Manager, based in BCP's Operations Room. Threatened areas are identified through 45 hrs/mth of surveillance flights provided by BCP, which are able to record locations of illegal poacher's camps and areas of deforestation from the air, and feed this information back to the BCP Ops room. Anti-poaching teams are issued with specific "task orders" prior to a patrol, based on information received during aerial surveillance flights, and from community members, allowing for a targeted approach to the anti-poaching operations. Scouts continue to be deployed by BCP's Conservation Officer in an area with evidence of poaching activity, encroachment etc. until data shows an improvement in these affected areas. Good information flow allows scouts to be deployed into areas of most need and redeployed as circumstances change. This adaptive approach and strategic deployment allow the security provided to have a meaningful presence in very large areas while scout numbers are still low. The anti-poaching management team is available 24/7 to support the teams on the ground. Additionally, face-to-face engagement is kept up between the management and the scout teams during resupplies and post patrol debriefs. This adaptive deployment of anti-poaching effort will be facilitated by the planned implementation of SMART (see Activity 3.5).

***Activity 3.5. Review and improve SMART model for data collection by scouts.***

Consistent and good quality data collection during biodiversity monitoring surveys and anti-poaching patrols is key to adaptive management and project evaluation. Equally, as explained in Activity 3.4. above, the capacity to monitor scout patrols enables management to better plan anti-poaching efforts across the landscape. Developed by a consortium of NGOs, SMART (Spatial Monitoring and Reporting Tool) is a computer-based platform used to measure, evaluate, and improve the effectiveness of wildlife law enforcement patrols. At the start of this project SMART had only been used for collecting biodiversity monitoring data, and the model built was amateur. The proposed internal review and improvement of SMART was carried out as planned. During this process however, it was decided that external professional help was needed, as in-house expertise were not felt to be good enough to build a SMART data model good enough for all monitoring teams and anti-poaching scouts to effectively use to record data in a way that was simple to use, limits mistakes and feeds into one central database for ease of review and management. External professional help for this was not in our original budget but extra co-funding was raised, and a new SMART data model has been custom

built by a SMART expert in consultation with anti-poaching and biodiversity monitoring managers. This model has been custom designed to serve an array of adaptive management needs, from biodiversity monitoring to optimising security efforts. The model is complete and currently being tested. Training for CRB scouts, monitoring teams and data managers (and members of the Department of National Parks and Wildlife and government Forest Department supported by BCP) was due to start in March 2020 but is now postponed until COVID-19 restrictions are lifted. In the meantime, on-line training will be given to data managers with review sessions given by the SMART expert via Zoom meetings. These managers will then do training with very small groups of the more technologically able scouts. The objective being to have at least some scouts beginning to collect data using SMART in June 2020, with the rest undergoing training and starting to use SMART as soon as COVID-19 allows.

***Activity 3.6. Review SMART patrol data and produce a quarterly report on scout activities to review during the quarterly meeting with CRBs.***

SMART data recorded by biodiversity monitoring teams has been reviewed as planned and is currently in the process of being analysed (see Activity 2.5). Once the SMART training is complete for CRB scouts then patrol data will also be collected and regularly reviewed. Data stored centrally will allow regularly monthly feedback sessions with the anti-poaching teams, and quarterly reporting of anti-poaching efforts. This will be used to improve the management and effectiveness of these teams, and provide valuable data to contribute to biodiversity monitoring (as discussed in Activity 3.4. above).

***Activity 4.1. Design and carry out social surveys to provide a baseline on the value standing forests and living wildlife has for local communities in the areas where the community camera trapping will be piloted, prior to the start of this pilot.***

***Activity 4.2. Secure agreements with two villages, inside the project phase 1 area, for a community camera trapping pilot.***

***Activity 4.3. Select village representatives to manage cameras and deploy cameras for community camera trapping pilot.***

***Activity 4.4. Review camera trap data with participant village representatives monthly.***

This Output was delayed because funds to buy camera traps were received late (see section 11). Activity 4.1 was completed in one area but Activities 4.2 4.3 and 4.4 were therefore not started until February 2020. Villages chosen to take part in this pilot study have been identified and Activity 4.2 and 4.3 completed for one of the two villages. This pilot study has now been postponed (approved via change request form) until WHO and Zambian government guidelines on COVID-19 suggest that non-essential travel to villages with limited medical care is responsible.

## **3.2 Progress towards project Outputs**

**Output 1. Appropriate and adaptive resource management planning at the Community Resource Board (CRB) level in all phase 1 project General Management Areas (GMAs).**  
***Measurable Indicators: 1.1. Eight (quarterly) CRB led conservation planning review meetings for each GMA (3) in the phase one project area by project end. During which, performance of the CRB and BCP are reviewed against CRB Work Plans.***

During this reporting period we have put in place key processes needed for appropriate and adaptive resources management at the CRB level i.e. CRB Annual Work Plans (see supplementary materials for an example) and regular minuted meetings to review progress against these plans. We recognise that, while we can put all these processes in place with agreement from the Community Resource Boards and Government departments, it is likely that guidance from project partners will be needed for some time after the Darwin Grant end date to ensure CRB Work Plans are followed (see section 9).

**Output 2. A Biodiversity Monitoring Plan, capable of informing a process of adaptive biodiversity management, embedded in CRB Annual Work Plans in the phase 1 project area.**  
***Measurable Indicators: 2.1. Biodiversity Monitoring Plan document 2.2. Results from the annual analysis of all biodiversity monitoring data.***

The key elements for long-term cost-effective biodiversity monitoring have also been put in place this year. As with all long-term monitoring plans, consistency and quality are key to success and so regular and frequent training and review is a core part of achieving this output. This frequent training coupled with a comprehensive, approved Biodiversity Monitoring Plan (see supplementary material) and the equipment and tools to collect good quality data, we believe that data will be provided for the next 30 years capable of informing adaptive management. The challenge over the next reporting period will be expanding to include more sampling frames within the larger area whilst maintaining data quality. Methods have been chosen to feasibly provide robust data over very large areas however, so we feel confident that this can be done.

**Output 3. Increased capacity of Community Resource Board to implement their Annual Work Plans and reduce the main threats to biodiversity (bushmeat poaching and deforestation) across the phase 1 project area. *Measurable Indicators 3.1. BCP and CRB employment records. 3.2. Scout training records 3.3. SMART data collected on patrols by scouts. 3.4. Biannual biodiversity monitoring data generated during the life of the project and Scout patrol data recorded on SMART. 3.5. GIS data and analyses done as part of the monitoring required for the carbon verification process.***

The capacity of the Community Resource Boards to implement their Annual Work Plans and reduce the main threats to biodiversity has been considerably increased over this first year. The number of new scouts selected and graduated from 3 months of basic training went from 37 to 69, exceeding our goal of 60. At time of writing, 56 CRB scouts are still in full-time service as CRB scouts on the payroll of this project. These scouts are soon to be increased by the next intake starting their basic training as soon as the COVID-19 epidemic allows. Proper salaries, uniforms, equipment and purpose means that scouts are willing and able to do their jobs. CRB capacity to effectively manage natural resources has further been built by the proper management of these scouts, and the provision of data to inform adaptive management from biodiversity monitoring, detailed forest monitoring and GIS analysis carried out as part of the REDD+ verification process. and the wider implementation of SMART as a data collection and scout management tool (all described in section 3.1).

### **3.3 Progress towards the project Outcome**

**Outcome: A scalable and sustainable biodiversity conservation model that increases the value of biodiversity to local communities and develops local and regional capacity for the sustainable management of natural resources. *Measurable Indicators: 0.1. All activities relevant to ongoing CRB functioning and adaptive biodiversity management (excluding the community camera trapping pilot, which is not yet tested) in the phase 1 project area 100% funded by the sale of REDD+ carbon offsets by 2022. 0.2. Agreed plans to expand the outputs listed below across Phase 2 of the REDD+ managed area (Fig.1) by project end. 0.3. 52,000 community beneficiaries from REDD+ carbon investment into honey production, conservation agriculture, other farming support, clean water and health in the phase 1 project area by project end.***

The Outputs in this project described in the section above are an important aspect of reaching our desired Outcome but not the only outputs required. A meaningful source of income for local communities, linked to the protection of biodiversity is also needed. In this project, that source of income comes from the sale of REDD+ carbon offsets in exchange for 30 year Community Forest Management Agreements. Verification of the Luangwa Community Forests Program (LCFP) area for the sale of REDD+ carbon offsets was achieved during this reporting period. This is, to the best of our knowledge, the biggest REDD+ project in the world in terms of beneficiaries with 222,000 people (108,642 in the phase 1 project area funded by Darwin) benefiting from the REDD+ funded community projects. This is considerably more than the proposed 52,000 community beneficiaries at project end. Discussions are also already underway for the expansion of all the activities listed in this project over larger area, and support for all activities linked to Outputs 1 and 3 are on schedule to be covered by REDD+ carbon financing by the end of this year.

### **3.4 Monitoring of assumptions**

**Assumption 1: *Wildlife conservation will remain an important goal for BioCarbon Partners after this project period:*** This still holds true as this forms part of BCP's ongoing mission as a company.

**Assumption 2:** *Current Ministry of Justice Approved Memorandum of Understanding with the Department of National Parks and Wildlife (DNPW) and the Forestry Department to implement REDD+ in project areas, and work with Community Resource Boards on enforcement is not revoked:* This was renewed and re-signed during February 2020.

**Assumption 3:** *Current projected income (timeframe and amounts) from the sale of REDD+ carbon is realistic:* This assumption still holds true. Although Covid-19 related financial stresses in the global REDD+ market will no doubt impact BCP's carbon sales, our projections for this project were very conservative and so we hope we will remain on track.

**Assumption 4:** *The theft/destruction of cameras can be kept within workable limits – only important for the camera trap surveys:* This assumption still holds true although it is not yet tested. Cameras are still to be widely deployed. Those that have been deployed so far have not yet been stolen.

**Assumption 5:** *Road penetration of the project areas makes a defensible sampling of project areas logistically feasible:* This assumption still holds true. The road penetration in the project areas is low and patchy but we have chosen sampling frames that are representative of the wider area, which do have reasonable road penetration. Methods also allow the unbiased sampling of cells in larger or harder to reach areas in such a way that these areas can still be sampled but with a lower sampling effort to allow surveys to be logistically feasible.

**Assumption 6:** *The Biodiversity Monitoring Plan developed in this project is embedded in all long-term CRB Annual Work Plans:* Effective long-term monitoring needs to be consistently carried out over long time periods. Our Biodiversity Monitoring Plan has been developed in a way that makes methods community scout-based and logistically and financially feasible over large areas, maximising the probability that biodiversity monitoring remains a core part of the CRB Work Plan (supported by project partners) for the length of the Community Forest Management Agreements i.e. a minimum of 30 years.

**Assumption 7:** *A larger number of scouts, and better training, equipment and management for those scouts, will result in reduced poaching and deforestation:* This assumption still holds true and SMART data collection will allow this to be better tracked.

**Assumption 8:** *Trends in bushmeat poaching and deforestation are detectable during the life of the project:* This assumption still holds true and SMART data collection will allow this to be better tracked.

**Assumption 9:** *Allowing villages to monitor their own wildlife in their village area, and have some of the benefits received from the sale of REDD+ offsets linked to the results of that monitoring, leads to a stronger connection between wildlife conservation and benefits, and ultimately reduces poaching of wildlife:* This assumption remains true although still not fully tested. This pilot is based on a longer running project in Tanzania where allowing villages to monitor their own wildlife and tying aspects of the benefits paid to the wildlife captured on these cameras, is leading to a reduction in human-wildlife conflict. Although the relative importance of the threats to biodiversity are different between Tanzania and this project area, the basic premise that biodiversity is better protected where it is perceived to be of more value should remain the same.

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

**Stated impact in original proposal:** A landscape where local communities sufficiently benefit from viable populations of wildlife and healthy habitat to ensure the long-term recovery and survival of wildlife and standing forests.

*Biodiversity conservation:* All three CRBs included in this Darwin Funded Project form part of a large contiguous wildlife corridor extending over almost 1 million hectares of threatened forest areas, linking two globally significant Transfrontier Conservation Areas (Lower Zambezi-Mana Pools to Luangwa-Nyika) critical to biodiversity connectivity for Zambia, Malawi, Zimbabwe, and Mozambique (see map in supplementary materials). In 2012, BCP assumed direct control of "Rufunsa Conservancy" a private 40,000 Hectare game reserve, and the first area to be verified for REDD+



carbon. Despite bordering the Lower Zambezi National Park; one of the most wildlife rich in Zambia, the Conservancy was severely depleted of wildlife due to poaching. From 2012, BCP invested heavily in community scouts to patrol the Conservancy, and into community projects in villages next to the Conservancy. In 2012-2014, each patrol collected snares. Nowadays, the scout teams rarely collect snares despite increased patrol efforts. Additionally, the number of wildlife sightings reported by scouts has significantly increased. Lions, which had not been seen in this area for over 10 years have started to use the area again, indicating an increase in prey and a decrease in disturbance.

*Poverty alleviation:* This Darwin project involves two REDD+ Carbon projects (Lower Zambezi Redd+ Project – LZRP and Lungwa Community Forests Project - LCFP) successfully verified and validated by BCP (see map). Both Projects exhibit exceptional social impact and have been awarded CCBA Triple Gold – The highest level of social impact. The LZRP is the only project in Africa to successfully receive 6 consecutive verifications to Verified Carbon Standard (VCS) global standards and the first project in Africa (second project in the World) to achieve triple gold validation with the Climate, Community and Biodiversity Standard for community level impacts. The more recent LCFP is Africa's largest REDD+ project, and to the best of our knowledge the largest REDD+ project in the world, by quantified social beneficiaries of 222,000 beneficiaries, 108,642 of which full in the phase 1 area covered in the Darwin project. BCP predict that the global economic crisis linked to the COVID-19 pandemic will reduce income from carbon sales by 15%. However, when compared to the other wildlife-based income streams in the project area i.e. philanthropy (predicted to decline by a minimum of 20%) and consumptive and non-consumptive nature tourism (completely stopped), REDD+ carbon is likely to be significantly more secure through this crisis. This will ensure that there are funds available for governments, communities and project partners to continue biodiversity protection and monitoring efforts, and income for local communities in exchange for the protection of their biodiversity.

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

This project has significantly contributed to the following Global Goals for Sustainable Development (SDGs) during the 2019-20 period.

**SDG15:** The 30-year Community Forest Management Agreements with local communities and improved capacity to protect and manage resources, work directly towards ending deforestation, protects biodiversity and natural habitats, and works towards eliminating poaching of threatened and endangered wildlife. **SDG 6:** The protection of forests that border the Luangwa river system also acts to protect and restore a water-related ecosystem. **SDG 15,1:** By generating payments for ecosystems services through the REDD+ mechanism, project activities increase financial resources to conserve and sustainably use ecosystems and biodiversity, incentivises sustainable forest management and helps to eradicate extreme poverty. **SDG 1:** The gender, socially and culturally sensitive way in which payments for ecosystem services are made in this project help ensure that all men and women, in particular the poorest and the most vulnerable, have equal rights to economic resources, ownership and control over natural resources; **SDG 5:** and include women in the ownership and control of natural resources. Both SDGs are still relevant as REDD+ benefit sharing mechanisms have been designed to give women equal rights and access to economic resources. **SDG 15:** Building the capacity of the Community Resource Boards helps to integrate ecosystem and biodiversity in government planning at the local level; **SDG 12:** and achieve the sustainable management and efficient use of natural resources. CRB Annual Work Plans and conservation fee payments wired directly to allocated CRB Accounts are a way in which we build capacity within the CRBs to effectively manage funds and expend these funds in line with the allocated budget items. The CRBs capacity to manage their natural resources sustainably is further increased by providing training, equipment, salaries and management support to 57 (soon to more than double) community scouts. **SDG 4:** The training of community scouts in this project also increases the number of people who have relevant skills for employment in decent jobs. CRB community Scouts currently make up 43% of our payroll as we currently support 57 Community Scouts. This will increase by 60 once Delta training has been concluded increasing this percentage to 61%. All trained scouts will receive TEVETA accredited basic wildlife management training once they have successfully graduated, making a huge impact to their individual careers. Evidence of our payroll is attached as a signed letter from our Senior Finance and Administration Officer. **SDG 13:** Finally, this project increases awareness and promotes mechanisms for raising capacity for effective climate change-related planning and management by demonstrating an effective example to both local and regional governments, and to other countries.

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

This project directly supports the CMS-CITES African Carnivore Initiative by protecting an important remaining stronghold for Lions, Leopards and Wild Dogs, and maintaining connectivity for these (and other species on the CMS list) between four Key Landscapes for Conservation. Lions and wild dog have been regularly sighted in the project area during this project period. These sightings, and our ability to track trends, will be increased over the next period by the use of SMART and camera traps.

Project activities also support 5 of the CBD objectives. Specifically, this project aids Zambia in its commitment to the CBD objectives by identifying the components of biological diversity important for its conservation and wise use, and processes and categories of activities that impact on the conservation and sustainable use of biological diversity, in this case forests and wildlife (CBD Article 7). This project develops institutional capacities and helps to ensure conservation and sustainable use of biodiversity, and to maintain viable populations of species in natural surroundings through building the capacity of Community Resource Boards and the Department of National Parks and Wildlife to manage wildlife and forests (CBD Article 8). Institutional capacity building has been improved through Community Resource Boards within this project period as described in the previous sections. Lion Carbon also involves the private sector (REDD+ mechanism) in developing methods for sustainable use of biological resources and involves local communities in conservation by applying indigenous knowledge systems, again through a partnership with legally mandated Community Resource Boards (CBD Article 9). Additionally, this project adopts economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity through the generation and equitable distribution of income from the sale of REDD+ forest carbon offsets in return for 30 year Community Forest Management Agreements (CBD Article 11). The biodiversity monitoring program developed in this project, and the training of Community Resource Board Scouts to carry out this monitoring, as well as training on how to protect local forests and wildlife, constitutes scientific and technical training that contributes to the conservation and sustainable use of biological diversity (CBD Article 12).

## 6. Project support to poverty alleviation

The beneficiaries from this project are communities within three of the CRB's making up phase 1 of the Luangwa Community Forests Project (LCFP). These communities relied solely on subsistence farming and charcoal production to support their families and had previously found benefit through the destruction of wildlife habitat for charcoal production, logging and agriculture. Wildlife crime was also rife in these areas in the form of illegal poaching of bush meat. The project directly addresses poverty alleviation by tackling the root cause of deforestation and wildlife crime at a community level to create long-term, sustainable, natural resource-based revenue through the REDD+ mechanism. The revenue from carbon sales directly benefits communities through:

- *Performance-based Conservation Fees for livelihood activities* i.e. construction of health-care facilities, educational facilities, access to clean-water, and sustainable agriculture etc. The breakdown of REDD+ payments, referred to as Conservation Fees, allocated to the 3 CRBs
- *Job creation increasing household income*: 56 Community scouts are currently employed equipped and given food rations, making up 43% of BCP's payroll.
- *Capacity building of the Community Resource Boards* to conserve and sustainably manage the natural resources community members are still so dependent on. This is done through the development and implementation of CRB Annual Work Plans, and through providing training, equipment and management to community scouts to be able to implement this plan.

Through better forest protection and prevention of wildlife crime, the value of Carbon Stocks is protected for future sales and the positive cycle continues.

## 7. Consideration of gender equality issues

The project addresses gender inequality in several ways. The REDD+ benefit-sharing mechanism is designed to give women equal rights and equal access to economic resources. More than half of the beneficiaries are currently women. Elections of the Community Resource Board members (The CRB is the institution to which conservation fees are directly transferred to) are democratic. According to the Zambian Constitution, a minimum number of women are to be included on any committee or board ensuring the women will be represented. Also, despite cultural norms that make law enforcement predominantly a male role, this project is managing to attract women into community scout roles. A large part of the role of the community scouts will be to engage local communities in biodiversity conservation issues. We believe that women community scouts will have a better

understanding of the needs of local women and the factors governing their decision making. Women will be better at engaging other local women within their communities. As it currently stands, 13 of the 56 active community scouts are women, and 18 of the 76 shortlisted Scouts for the new Delta scout intake are women.

## **8. Monitoring and evaluation**

The monitoring and evaluation systems put in place during this project are designed to run alongside 30-year Community Forest Management Agreements as well as measure the effectiveness of our outputs and activities at contributing to the project outcome over the life of this Darwin project. There are several layers to our monitoring and evaluation:

Firstly, there are the impacts that this project has on the CRBs capacity to fulfil their resource management mandate, as measured by the training, equipment and salaries input into the CRBs and the amount of other support given in terms of the development and implementation of effective CRB Annual Work Plans. Other measures such as the number of scout patrol days, areas covered by patrols and distances patrolled will also be readily available through the use of SMART. These indicators are generally easy to track monthly over the life of the project. CRB Monthly Operational Reports are produced to track progress against the CRB Annual Work Plan.

How this increase in capacity impacts illegal activities and biodiversity is harder to track. The impacts of project work on biodiversity are monitored through a combination of the wildlife monitoring supported by this grant (as described in the Biodiversity Monitoring Plan attached), and the in-depth forest monitoring done as part of the REDD+ verification process. This monitoring will demonstrate changes in wildlife species composition, numbers, and distribution, and forest composition, cover and tree size over time. It will also show trends in the size and extent of illegal activities threatening biodiversity e.g. poaching and forest clearance. Methods are robust but monitoring of this type, particularly in depleted areas, takes multiple years of data to reveal accurate trends. Survey results are reported on annually.

Thirdly, to track how project activities work towards achieving our outcome, their impact on the actual and perceived value that conserved biodiversity has for communities living in and around the project forests has to be measured. This is measured by in-depth evaluation surveys of socio-economic factors coupled with BCP company records showing benefit sharing. Details on the indicators for community impact monitoring collected can be found in the overarching Project Design Documents for both REDD+ projects (Luangwa Community Forest Program and Lower Zambezi Forest Program) attached as supplementary materials, and the next survey is due to be run during the next reporting period.

Finally, to achieve project outcome, there needs to be overall resilience of the project partners themselves, so that they can last the 30+ years required, and scale-up over even larger areas (see Section 12 below).

Lion Landscapes and BCP collect monitoring data jointly and M&E reports will be shared with relevant stakeholders and made publicly available online.

## **9. Lessons learnt**

Most project activities have worked well and gone to plan. There have, however, been some governance challenges when sharing REDD+ benefits with communities. The levels of benefits for local communities provided by this project are much greater than provided by NGOs or even tourism operators, and this attracts attention. Preventing elite capture is core to making sure those that would otherwise constitute the greatest threat to biodiversity are the people who are receiving the benefits from forest and wildlife conservation. Considerable effort went into ensuring equitable distribution of benefits before the start of this project and lessons learnt are ongoing. Benefit sharing has been done through a democratic process involving both the Village Action Group – the smallest administrative unit managing natural resources - and the overarching democratically elected Community Resource Boards in each area. Considerable oversight has still been needed to ensure benefits shared with CRB committees are not overloaded with committee level administration costs, taking away from the funds available to Village Action Groups for the projects they have democratically agreed on. This project works closely with the Department of National Parks and Wildlife (DPNW) and are now jointly in the process of hiring a governance specialist to make sure that Community Resource Board Committees comply with their Annual Work Plans, CRB constitution and Wildlife Act.

This project has a very positive relationship with the DPNW, which continues to strengthen as both parties recognise the benefits of working together to address shared goals. DNPW and the Forestry Department already receive 2.5% of BCP's operating budget after tax to help with vehicles, fuel, radios and other operating expenses. These benefits are given at the local level and because they do not pass through the central treasury, these benefits are not always valued at the country or regional level. The DNPW has worked with commercial and private partners (NGOs and tourism operators) for some time, and therefore has the necessary laws in place to work with the REDD+ benefit sharing mechanism. The Forestry Department (FD), however, is more of a regulatory body, governing logging and charcoal extraction and as such does not yet have suitable laws in place to handle the REDD+ benefit sharing. This project is working closely with the FD to draft a forest management law that ensures REDD+ benefits reach the target communities smoothly. In the meantime, any misunderstandings are avoided by regular (weekly) communications and updates to build trust and understanding between BCP and the FD. Developing the understanding and capacity to manage this relationship within the FD will pave the way for this government department to work more effectively with other private partners. The lesson learnt is that the capacity building required varies substantially between government departments, and that regular and transparent communication is essential in building understanding and the necessary trusting relationships.

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

There have been no previous reviews.

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

The COVID-19 pandemic has created a significant impact on world at large and Zambia's economy has been severely impacted with the 30% drop in copper prices, on which it depends, as well as a complete halt in tourism. Without tourism, communities will not receive their expected contribution from hunting revenues. Reductions of income through a stop in tourism would ordinarily cause a significant increase in unsustainable use of natural resources as people have no other means to support themselves and their families. The REDD+ system however, should dampen this effect by providing some income and support with sustainable agriculture and proper management of resources. Although, finance from REDD+ is predicted to be more stable than tourism and philanthropy, we do expect a 15% drop in income. We have found that our regular customers have delayed payments or reduced volumes. Our usual sales strategy is to travel globally to promote our project. Due to travel restrictions from COVID-19, we have not been able to promote this as usual. Although the next 2 years are likely to be tough, this project has provided some resilience to local communities and conservation partners, hopefully preventing a serious set-back in progress towards our Outputs and Outcome.

As described in the approved change request form from March 2020, any aspects of the project work that require gatherings of people or non-essential contact with communities will be postponed until the impact of COVID-19 in Zambia is better understood. We will follow WHO and Zambian government guidance on this. This has been approved by Darwin and will be reassessed at the end of June.

The Zambian economy was already weak, and COVID-19 is causing larger currency fluctuations than normal. To help reduce the impacts of this on the funds available for project work, BCP are in the process of setting-up a Zambian USD account. LL keep funding in a GBP account in the UK and only sends money to Zambia as needed but fluctuations in the value of the Pound to Kwacha still makes budgeting more difficult, and declines in the value of the pound due to Brexit has also been something we are aware of.

Some milestones have had to be adjusted because of circumstances entirely beyond our control (involving bureaucratic institutional hold-ups, about which the Darwin Secretariat was fully informed and engaged). As a result, payments to project partners (BioCarbon Partners and Lion Landscapes) were delayed until January 2020. This was completely beyond the control of the project team, and caused a cascade of effects. Happily, almost all issues related to this delay in funds reaching project partners was mitigated with the use of co-funding. It seems these bureaucratic set-backs are behind us, and the team has worked hard, notwithstanding the impacts of COVID-19, to achieve significant progress.

## **12. Sustainability and legacy**

The Zambian REDD+ enterprise BioCarbon Partners is key to this project's sustainability and legacy. BCP has made a concerted effort to ramp up social media and the frequency of E-Newsletters and Blog posts by scheduling a new blog post/E-newsletter every 15 days. This is a marketing effort to create awareness and drive carbon offset sales in order to better achieve the outcome of supporting Lion Carbon costs by 2022.

BCP has made every effort to increase lines of communication with its stakeholders to keep all parties engaged and aware of BCP's activities. These are in the form of regular letters to government wildlife and forestry departments (DNPW and FD) as well as sharing monthly memos with CRBs to update them on any developments from the project partners side.

The nature of BCP's organizational structure shows a strong importance placed on community engagement. The Project Manager supervises a Sector Manager and the Sector Manager supervises a Site Operations Manager who supervises a team of Chiefdom Leads and their "Second in Commands". The structure of this support team is replicated within each Project, sector and Chiefdom to ensure there are always strong links between community members and the BCP management support. personnel to engage and hear community members, as well as understand and quickly resolve any grievances.

The planned exit strategy is still valid. As per the application, all conservation activities (conservation planning, anti-poaching and monitoring) are still embedded in the company's REDD+ operations. 30-year agreements have been signed with local communities to ensure long-term, sustainable change and to ensure that this project is embedded in our company operations as a going concern. Our Luangwa Community Forests Project has just been verified during November 2019 which allows us to legally sell carbon offsets from the largest REDD+ project in Africa covering just over 940,000 hectares. Due to COVID-19, the next 2 years will be a huge test of project resilience and sustainability, which will hopefully demonstrate the importance of REDD+ in increasing the resilience of vulnerable communities and their natural resources to global disasters like COVID-19. Please see section 11 for related COVID-19 concerns.

## **13. Darwin identity**

Darwin Initiative funds form part of a bigger project with considerable co-funding. Delay in partners receiving the funding has meant the use of co-funding up until February 2020. During 2020, BCP have set goals to ramp up our social media and media presence to make a concerted effort to post newsletters that link to social media every 10 days and post on social media channels such as Facebook and Instagram regularly. We are working on a blog post now about our new Delta Scout selection and will make particular reference to Darwin and the support we have received. This should go out within the next month and will be attached as evidence to the next report. Links on social media will be included as well. We will continue to use this mechanism for future social media and blog posts for Scout graduation etc. Likewise, starting in this reporting period, Darwin support will also be recognised on all reports to CRB's, DNPW and other government departments, as well as meeting and workshop materials. Note that all work by partners in this project has so far been done through BCP as the Zambian partner. Lion Landscapes is now also in the process of setting up a Zambian entity (due to be completed in the next reporting period) and will then also widely publicise the Lion Carbon work on their own social media and communications.

## **14. Safeguarding**

Safeguarding is key to the work that we do within our REDD+ Project Zones. In order for BCP to engage communities regarding REDD+ to establish 30 year agreements to protect areas of forest in return for performance based, conservation fees, a system and policy document was required to be generated in line with Governmental guidance. This document is labelled "Free, Prior and Informed Consent" and governs our community engagement process. This document has been attached.

We have also developed a Standard Operational Procedure (SOP) to deal with community grievances and have developed a register to track these and ensure that they are closed out every month. Details of the SOP have been attached along with the register.

Policies covering Anti-Nepotism, Anti-bribery and corruption and whistle-blowing policy as well as a Human Rights Policy have been drafted and are under review for finalization during April. Copies of these documents will be available for the next reporting period.

## 15. Project expenditure

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

<b>Project spend (indicative) since last annual report</b>	<b>2019/20 Grant (£)</b>	<b>2019/20 Total Darwin Costs (£)</b>	<b>Variance %</b>	<b>Comments (please explain significant variances)</b>
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				This variance is due to COVID-19 Pandemic causing us to delay a trip to Zambia.
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				All monitoring and evaluation activities are embedded in the field operations and so cannot be clearly separated.
Others (see below)				
<b>TOTAL</b>				

● **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>A landscape where local communities sufficiently benefit from viable populations of wildlife and healthy habitat to ensure the long-term recovery and survival of wildlife and standing forests</p>		<p>Verification of the wider Luangwa Community Forests Program for the sale of REDD+ carbon was completed during Q3 of this reporting period. The performance-based REDD+ payments to communities (Conservation Fees) agreed in Jan 2020 with CRBs amount to ZMK 36,776,149 (1,838,807 GBP using the Jan 2020 exchange rate) over the whole area and ZMK12,322,566 (616,128 GBP using the Jan 2020 exchange rate) over the phase 1 project area included in this Darwin project. These are direct benefits to communities within our project zones for the conservation of their forests (see section 6 of this report and attached letter detailing agreed conservation fees for 2020).</p> <p>56 community scouts are on the project payroll and have additionally been provided with training, equipment rations and management support during this reporting period.</p>	
<p><b>Outcome</b> A scalable and sustainable biodiversity conservation model that increases the value of biodiversity to local communities and develops local and regional capacity for the sustainable management of natural resources.</p>	<p>0.1. All activities relevant to ongoing CRB functioning and adaptive biodiversity management (excluding the community camera trapping pilot, which is not yet tested) in the phase 1 project area 100% funded by the sale of REDD+ carbon offsets by 2022.</p> <p>0.2. Agreed plans to expand the outputs listed below across Phase 2 of</p>	<p>The LCFP (Luangwa Community Forests Project) verified for the sale of REDD+ carbon offsets in November 2019.</p> <p>Plans to expand outputs are already in place: All 12 CRB's have undergone the same process and all now have Annual Work Plans in place following the meetings held in January 2020. Conservation Fees have been paid out in line with the Annual Work plan</p>	<p>Marketing efforts, blog posts, social media all increased to drive online sales/awareness.</p> <p>The activities listed under Output 2 and 3 will be expanded over the remaining 9 CRBs in the Luangwa Community forest program over the next 2 years.</p>

	<p>the REDD+ managed area (Fig.1) by project end.</p> <p>0.3. 52,000 community beneficiaries from REDD+ carbon investment into honey production, conservation agriculture, other farming support, clean water and health in the phase 1 project area by project end.</p>	<p>activities and Conservation Fee Guidelines (an annex to the 30 year Community Forest Management Programs) for all 12 CRBs produced (example shared in supplementary materials).</p> <p>There are 108,642 community beneficiaries from REDD+ carbon investment into honey production, conservation agriculture, other farming support, clean water and health in the phase 1 project area.</p>	
<p><b>Output 1.</b> Appropriate and adaptive resource management planning at the Community Resource Board (CRB) level in all phase 1 project General Management Areas (GMAs).</p>	<p>1.1. Four (quarterly) CRB led conservation planning review meetings for each GMA (3) in the phase one project area by project end. During which, performance of the CRB and BCP are reviewed against CRB Annual Work Plans.</p>	<p>More regular but informal meetings were held during 2019 on a monthly basis. The basis of these meetings was to emphasise governance, natural resource management and livelihood initiatives and enhance capacity building. A formal meeting was held during January 2020 for a week with each CRB to develop the Annual Work Plan. These meetings remain an important part of ensuring equitable sharing of benefits and adherence to Annual Work Plans.</p>	
<p>Activity 1.1 Hold quarterly CRB led conservation planning review meetings for each GMA (3) in the phase one project area. During which, performance of the CRB and BCP are reviewed against CRB Annual Work Plans and Community Forest Management Agreements.</p>		<p>More regular but informal meetings were held during 2019 on a monthly basis. The basis of these meetings was to emphasise governance, natural resource management and livelihood initiatives and enhance capacity building. A formal meeting was held during January 2020 for a week with each CRB to develop the Annual Work Plan and agree benefit sharing.</p>	<p>Q1 and Q2 REDD+ offset disbursements will be discussed and followed up on in the first Quarterly meeting of the next reporting period, to be held in June 2020</p> <p>Meetings will become less frequent but more formal quarterly meetings as proposed.</p>
<p><b>Output 2.</b> A Biodiversity Monitoring Plan, capable of informing a process of adaptive biodiversity management, embedded in CRB Annual Work Plans in the phase 1 project area.</p>	<p>2.1. A scientifically robust, logistically feasible and cost-effective Biodiversity Monitoring plan, that includes wildlife, produced by LL and signed-off by BCP and CRBs by the end of the first quarter. Baseline - biodiversity monitoring plans for the phase 1 project area currently only include the habitat monitoring necessary for the verification of REDD+ carbon offsets.</p> <p>2.2. Two years of a publishable data recorded, analysed and published,</p>	<p>During this reporting period, Biodiversity Monitoring Plans were developed and approved (document attached as supplementary materials)</p> <p>One year of publishable data was collected and is currently in the process of being analysed. Results will be available early in the next reporting period. Occupancy data was collected through walked surveys rather than camera traps due to delays in receiving funds to buy cameras (see section 3.1 and 11 in this report) but cameras will be used in the following reporting period.</p> <p>Activities leading to this Output that involved training scheduled in the last quarter of this reporting period have been affected by the COVID-19 pandemic (see section 3.1 and 11 of this report, and cells below). A combination of remote or</p>	



	capable of showing trends in wildlife and illegal activity, density and distribution, across the phase 1 sampling areas by project end. Baseline - there are no consistent publishable wildlife monitoring data across the phase 1 project area.	train-the-trainer methods of training will be used to mitigate delays in implementation of these activities.
Activity 2.1. Design, agree with stakeholders and publish detailed biodiversity monitoring methods, protocols, and sampling framework for the phase 1 project area.	This activity is complete.	The Biodiversity Monitoring plan will be reviewed annually during Q3 - after the analysis of that year's survey and SMART data, and before the AGM with the CRBs in January to develop the CRB Annual Work Plans for that year.
Activity 2.2. Purchase all biodiversity monitoring equipment required as outlined in the biodiversity monitoring methods and protocols in 2.1.	This activity is complete.	More equipment will be purchased as required to replace broken or stolen equipment.
Activity 2.3. Carry out initial biodiversity monitoring (BM) training for 100 scouts and 3 managers in year 1. Biodiversity monitoring will form part of the in-service training all scouts will receive annually (see 3.2.).	This activity was completed but slightly differently to originally proposed. Specialist units of scouts were chosen and trained to carry out the formal BM surveys (as described in section 3.1 of this report). These scouts are trained before every survey rather than annually. All scouts will be trained in the use of SMART to contribute to BM data collection, but this training was postponed to next reporting period due to COVID-19 (section 3.1 and 11 of this report).	BM scouts will continue to receive training before every survey.  All scouts will receive initial SMART training and monthly review/refreshers SMART training (see rows below).
Activity 2.4. Complete 1 year of biodiversity monitoring data collection in the phase 1 project area. Exact methods and protocols to be determined in 2.1. but will include distance sampling and occupancy modelling using camera traps.	This activity was completed as per the Biodiversity Monitoring plan above.	This activity will be repeated during the next reporting period with the addition of camera trap surveys and SMART data collection.
Activity 2.5. Analyse survey data annually and report results back to all stakeholders in project areas in annual reports (and during the final project stakeholder workshop 1.5. above).	This activity is underway but not yet complete. It will be completed by the end of May 2020.	This activity will be repeated in the following reporting period in Q3 (Oct-Dec).

<p><b>Output 3.</b> Increased capacity of Community Resource Board to implement their Annual Work Plans and reduce the main threats to biodiversity (bushmeat poaching and deforestation) across the phase 1 project area.</p>	<p>3.1. 30 new CRB scouts employed, provided with a minimum of 3 months training, equipped for purpose, and managed in a coordinated way in the phase 1 project area by project end. Number of CRB scouts at project start is 37.</p> <p>3.2. Number of patrol days/mth increased by 60% in project areas by the end of project date, from a baseline revealed during the first CRB Annual Work Plan development process.</p> <p>3.3. A 30% decline in the number of bushmeat poaching incidents recorded per patrol day in all project areas by the project end. Baseline to be established at the end of the first year.</p> <p>3.4. A 30% decrease in the rate of deforestation in project areas at the project end date. Baseline will be the deforestation rate accepted during the carbon verification process, now underway.</p>	<p>32 Community Scouts (26 Males and 6 Females), graduated after completing a 14-week intensive training course as described in section 3.1 of this report. The number of trained scouts on payroll at the end of this reporting period is 56, from a baseline of 37 at the project start. Selection has already been held for the scout intake scheduled to undergo basic training in the next reporting period.</p> <p>All graduating scouts were equipped and managed as described in section 3.1 of this report, and as shown by equipment lists provided as supplementary material.</p> <p>The monitoring of scout activities i.e. number of patrols, km's patrolled, patrol maps, and location and details of the incidents responded to will be recorded and reported on quarterly using the SMART system described in section 3.1 of this report.</p> <p>SMART data in combination with GIS forestry data will more accurately track over time trends in patrol effort, bushmeat poaching and deforestation throughout the 30+ year life of the REDD+ Community Forest Management Agreements.</p>
<p>Activity 3.1. Provide basic training for 30 new CRB scouts in year 1. Basic training is a 3-month approved curriculum course run with the Zambian Department of Parks and Wildlife.</p>	<p>This activity was completed. 32 (26 men and 3 women) new scouts graduated from basic training in July 2019.</p>	<p>Selection for the next intake of new scouts to start training has already been completed. Basic training for this intake will commence as soon as COVID-19 restrictions allow.</p>
<p>Activity 3.2. Provide in-service training for 60 CRB scouts and 40 partner organisation scouts in year 1. In-service training is 2 weeks of intense refresher training run with external consultants and the Department of Parks and Wildlife, designed to be run annually to avoid skill fade, refresh knowledge on protocols to be followed, and identify and address problems.</p>	<p>This activity is partially complete. 32 Community Scouts (Charlie) attended a 28-day refresher training in Rufunsa Conservancy with DNPW and BCP. But scheduled refresher training in March-April was postponed due to COVID-19.</p>	<p>Refresher Training for remaining Scouts is set to continue in the next reporting period.</p>
<p>Activity 3.3. Provide additional equipment revealed as necessary during the recent CRB Annual Work Plan development process for all scouts (3.1.).</p>	<p>This activity was completed. Equipment for 2019's Charlie Scouts was purchased and issued as per the equipment list supplied as supplementary materials.</p>	<p>Delta scout equipment will be delivered within the next period, for allocation on their graduation.</p> <p>Further equipment will be provided as needed to replace broken or stolen equipment.</p>

		All relevant equipment for 2020 Delta scout graduates has been ordered and paid for but not yet delivered.	
Activity 3.4. Provide the required management support for anti-poaching activities in phase 1 project areas revealed in the recent CRB Annual Work Plan development process.		This activity was completed and on-going. Community scout anti-poaching activities have been, and continue to be, managed throughout this reporting period from the operations room at the Mfuwe office, supported by aerial surveillance flights, as described in section 3.1. of this report.	This process will be continued throughout the following reporting period.
Activity 3.5. Review and improve SMART model for data collection by scouts.		This activity was completed and then professionalised further by engaging an expert to rebuild our SMART model, as described in section 3.1 of this report. The new model is completed but related training for use of this model is postponed until the next reporting period due to COVID-19.	The training for this improved model will be re-scheduled pending Government guidance and advice amidst COVID-19. Some remote SMART training of data managers will go ahead immediately, followed by a train-the-trainer approach with selected scouts, as described in section 3.1 of this report.
Activity 3.6. Review SMART patrol data and produce a quarterly report on scout activities to review during the quarterly meeting with CRBs.		This activity can only commence once SMART is implemented with scouts. It is, therefore, not yet started.	As mentioned above, SMART implementation across all scout units is slightly delayed due to COVID-19 but monthly data reviews with trained scouts, and quarterly SMART reports will start as soon as the first scouts are trained.
<b>Output 4.</b> Linkage between payments from the sale of REDD+ offsets and wildlife conservation performance is strengthened for local communities	4.1. A 50% increase in the number of participants in the community camera trapping pilot who link benefits received from the sale of REDD+ carbon offsets with the conservation of wildlife and forests by the project end date. Baseline determined in pre-pilot surveys.	This output represents a pilot study to test if linking extra benefits from REDD+ to wildlife sightings (caught on community operated camera traps) would result in community members perceiving greater value in their wildlife as well as their forests. We intended to run this pilot during the first year but delays in receiving funds to buy cameras followed by the COVID-19 outbreak (as described in sections 3.1. and 11 of this report) has meant that most aspects of this pilot will be run during the next reporting period. Initial meetings with one village, and a similar project in another area indicate that this pilot will lead to output 4. Before and after survey results should still be the best way of measuring this.	
Activity 4.1. Design and carry out social surveys to provide a baseline on the value standing forests and living wildlife has for local communities in the areas		This activity is partially completed. The survey has been designed and data collected around the first village area.	Survey data will be collected in the area of the second village as soon as COVID_19 regulations allow.

where the community camera trapping will be piloted, prior to the start of this pilot.		
Activity 4.2. Secure agreements with two villages, inside the project phase 1 area, for a community camera trapping pilot.	This activity was completed for one village. The second village has been identified but the meetings to secure agreements were postponed due to COVID-19.	Meetings will be held with the second village as soon as WHO and the Zambian government say that it is safe to hold gatherings again. If COVID-19 restrictions continue for a prolonged period then a 'refresher' meeting will be held again with the first village to re-engage them in the process.
Activity 4.3. Select village representatives to manage cameras and deploy cameras for community camera trapping pilot.	This activity was completed for one village and still to be done for the second village.	The village representative to manage and deploy camera traps will be identified during the meeting above.
Activity 4.4. Review camera trap data with participant village representatives monthly.	This activity was started with one village but has had to be postponed due to COVID-19.	This activity will continue and expand to the second village as soon as COVID-19 allows.

● **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> A landscape where local communities sufficiently benefit from viable populations of wildlife and healthy habitat to ensure the long-term recovery and survival of wildlife and standing forests.</p>			
<p><b>Outcome:</b> A scalable and sustainable biodiversity conservation model that increases the value of biodiversity to local communities and develops local and regional capacity for the sustainable management of natural resources.</p>	<p>0.1. All activities relevant to ongoing CRB functioning and adaptive biodiversity management (excluding the community camera trapping pilot, which is not yet tested) in the phase 1 project area 100% funded by the sale of REDD+ carbon offsets by 2022. 0.2. Agreed plans to expand the outputs listed below across Phase 2 of the REDD+ managed area (Fig.1) by project end. 0.3. 52,000 community beneficiaries from REDD+ carbon investment into honey production, conservation agriculture, other farming support, clean water and health in the phase 1 project area by project end.</p>	<p>0.1, BCP accounts and project budget 0.2. Minutes of the BCP AGM and agreed plans for Phase 2. 0.3. Pre-project and post project interviews conducted with community members living inside Lion Carbon areas.</p>	<ul style="list-style-type: none"> <li>● Wildlife conservation will remain an important goal for BioCarbon Partners after this project period.</li> <li>● Current Ministry of Justice Approved Memorandum of Understanding with the Department of National Parks and Wildlife (DNPW) and the Forestry Department to implement REDD+ in project areas, and work with Community Resource Boards on enforcement is not revoked.</li> <li>● Current projected income (timeframe and amounts) from the sale of REDD+ carbon is realistic.</li> </ul>
<p><b>Output 1.</b> Appropriate and adaptive resource management planning at the Community Resource Board (CRB) level in all phase 1 project General Management Areas (GMAs).</p>	<p>1.1. Eight (quarterly) CRB led conservation planning review meetings for each GMA (3) in the phase one project area by project end. During which, performance of the CRB and BCP are reviewed against Chiefdom Conservation Plans.</p>	<p>1.1 Chiefdom Conservation Plan documents. 2.2. Minutes of the quarterly CRB review meetings.</p>	<ul style="list-style-type: none"> <li>● Current Ministry of Justice Approved Memorandum of Understanding with the Department of National Parks and Wildlife (DNPW) and the Forestry Department to implement REDD+ in project areas, and work with Community Resource Boards on enforcement is not revoked.</li> </ul>
<p><b>Output 2.</b> A biodiversity monitoring plan, capable of informing a process of adaptive biodiversity management, embedded in Chiefdom Conservation Management Plans in the phase 1 project area.</p>	<p>2.1. A scientifically robust, logistically feasible and cost-effective biodiversity monitoring plan, that includes wildlife, produced by LL and signed-off by BCP and CRBs by the end of the first quarter. Baseline - biodiversity monitoring plans for the phase 1 project area currently only include the habitat</p>	<p>2.1.. Biodiversity monitoring plan document. 2.2. Results from the annual analysis of all biodiversity monitoring data. 2.3. Chiefdom Conservation Plans.</p>	<ul style="list-style-type: none"> <li>● The theft/destruction of cameras can be kept within workable limits – only important for the camera trap surveys.</li> <li>● Road penetration of the project areas makes a defensible sampling of project areas logistically feasible.</li> </ul>

	<p>monitoring necessary for the verification of REDD+ carbon offsets.</p> <p>2.2. Two years of a publishable data recorded, analysed and published, capable of showing trends in wildlife and illegal activity, density and distribution, across the phase 1 sampling areas by project end. Baseline - there are no consistent publishable wildlife monitoring data across the phase 1 project area.</p> <p>2.3. Chiefdom Conservation Plans adjusted to include agreed biodiversity monitoring plan by the project end.</p>		<ul style="list-style-type: none"> <li>The biodiversity monitoring plan developed in this project is embedded in all long-term Chiefdom Conservation Plans.</li> </ul>
<p><b>Output 3.</b> Increased capacity of Community Resource Board to implement their biodiversity management plans and reduce the main threats to biodiversity (bushmeat poaching and deforestation) across the phase 1 project area.</p>	<p>3.1. 60 new CRB scouts employed, provided with a minimum of 3 months training, equipped for purpose and managed in a coordinated way in the phase 1 project area by project end. Number of CRB scouts at project start is 37.</p> <p>3.2. Number of patrol days/mth increased by 60% in project areas by the end of project date, from a baseline revealed during the Chiefdom Conservation Plan development process.</p> <p>3.3. A 30% decline in the number of bushmeat poaching incidents recorded per patrol day in all project areas by the project end. Baseline to be established at the end of the first year.</p> <p>3.4. A 30% decrease in the rate of deforestation in project areas at the project end date. Baseline will be the deforestation rate accepted during the carbon verification process, now underway.</p>	<p>3.1. BCP and CRB employment records.</p> <p>3.2. Scout training records</p> <p>3.3. SMART data collected on patrols by scouts.</p> <p>3.4. Biannual biodiversity monitoring data generated during the life of the project and Scout patrol data recorded on SMART.</p> <p>3.5. GIS data and analyses done as part of the monitoring required for the carbon verification process</p>	<ul style="list-style-type: none"> <li>Current Ministry of Justice Approved Memorandum of Understanding with the Department of National Parks and Wildlife (DNPW) and the Forestry Department to implement REDD+ in project areas, and work with Community Resource Boards on enforcement is not revoked.</li> <li>A larger number of scouts, and better training, equipment and management for those scouts, will result in reduced poaching and deforestation.</li> <li>Trends in bushmeat poaching and deforestation are detectable during the life of the project.</li> </ul>
<p><b>Output 4.</b> Linkage between payments from the sale of REDD+ offsets and wildlife conservation performance is strengthened for local communities</p>	<p>4.1. A 50% increase in the number of participants in the community camera trapping pilot who link benefits received from the sale of REDD+ carbon offsets with the conservation of wildlife and forests by the project end date. Baseline determined in pre-pilot surveys.</p>	<p>4.1. Pre and post project survey data from interviews conducted with community members living inside Lion Carbon areas.</p>	<ul style="list-style-type: none"> <li>The theft/destruction of cameras used for community camera trapping can be kept within workable limits.</li> <li>Allowing villages to monitor their own wildlife in their village area, and have some of the benefits received from the sale of</li> </ul>

REDD+ offsets linked to the results of that monitoring, leads to a stronger connection between wildlife conservation and benefits, and ultimately reduces poaching of wildlife.

**Activities**

1.1. Hold quarterly CRB led conservation planning review meetings for each GMA (3) in the phase one project area. During which, performance of the CRB and BCP are reviewed against Chiefdom Conservation Plans and Community Forest Management Agreements.

1.2. Hold an end of project stakeholder workshop to review progress of project activities and adapt the Chiefdom Conservation plans in each project area, in the light of feedback from users, biodiversity monitoring data and performance against project indicators

2.1. Design, agree with stakeholders and publish detailed biodiversity monitoring methods, protocols, and sampling framework for the phase 1 project area.

2.2. Purchase all biodiversity monitoring equipment required as outlined in the biodiversity monitoring methods and protocols in 2.1.

2.3. Carry out initial biodiversity monitoring training for 100 scouts and 3 managers in year 1, and initial training for 30 new scouts and refresher training for 100 existing scouts during year 2. Biodiversity monitoring will form part of the in-service training all scouts will receive annually (see 3.2.).

2.4. Complete 2 years of biodiversity monitoring data collection in the phase 1 project area. Exact methods and protocols to be determined in 2.1. but will include distance sampling and occupancy modelling using camera traps.

2.5. Analyse survey data annually and report results back to all stakeholders in project areas in annual reports (and during the final project stakeholder workshop 1.5. above).

3.1. Provide basic training for 30 new CRB scouts in year 1 and 30 further new CRB scouts during year 2. Basic training is a 3-month approved curriculum course run with the Zambian Department of Parks and Wildlife.

3.2. Provide in-service training for 60 CRB scouts and 40 partner organisation scouts in year 1 and 90 CRB scouts and 40 partner organisation scouts in year 2. In-service training is 2 weeks of intense refresher training run with external consultants and the Department of Parks and Wildlife, designed to be run annually to avoid skill fade, refresh knowledge on protocols to be followed, and identify and address problems.

3.3. Provide additional equipment revealed as necessary during the recent Chiefdom Conservation Plan development process for all scouts (3.1.).

3.4. Provide the required management support for anti-poaching activities in phase 1 project areas revealed in the recent Chiefdom Conservation Plan development process.

3.5. Review and improve SMART model for data collection by scouts.

3.6. Review SMART patrol data and produce a quarterly report on scout activities to review during the quarterly meeting with CRBs.

4.1. Design and carry out social surveys to provide a baseline on the value standing forests and living wildlife has for local communities in the areas where the community camera trapping will be piloted, prior to the start of this pilot.

4.2. Secure agreements with two villages, inside the project phase 1 area, for a community camera trapping pilot.

4.3. Select village representatives to manage cameras and deploy cameras for community camera trapping pilot.

4.4. Review camera trap data with participant village representatives monthly.

4.5. Repeat social surveys (4.1.) to provide a measure of the change in value standing forests and living wildlife has for local communities in year 3 and the impact community camera trapping on that.

4.6. Review camera trapping pilot with a view to expanding the activity if successful.

● **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
6A/6B	Initial 3 month scout basic training course	Men and women	All Zambian citizens	32 scouts, 12 weeks			32 scouts, 12 weeks	60 scouts, 24 weeks
	Scout refresher/ in-situ training.	Men and women	All Zambian citizens	32 scouts, 4 weeks			32 scouts, 4 weeks	130 scouts, 8 weeks
	Biodiversity monitoring training (including SMART training).	Men and women	All Zambian citizens	24, scouts, 8 days			24 scouts, 8 days	130 scouts, 16 days
9	CRB Annual Work Plans	N/A	N/A	3			3	3
	Community Forest Management Plans	N/A	N/A	3			3	3
10	Biodiversity monitoring plan and manual	N/A	N/A	1			1	1
12A	SMART database	N/A	N/A	1			1	1
	Biodiversity Monitoring Database	N/A	N/A	1			1	1
	Lion individual ID database	N/A	N/A	0			0	1
14A	Annual workshop with CRBs, DPNW and FD for the development and agreement of Annual Work Plans	Men and women	Zambian	1			1	2



	Quarterly CRB meetings to monitor progress against Annual Work Plans	Men and women	Zambian	10 (note these were in fact monthly in the first year			10	10
	Final project stakeholder workshop	Men and women	Zambian and international	0			0	1
22	Survey sampling frames (upwards of 180 squ. km. each frame) of within the greater project area	N/A	N/A	2			2	4
23	All Co-funding raised for 2019-2020	N/A	N/A	Co-funding from other donors: 162,627 GBP. Funding from BCP: 21,023 GBP				

▪ **Table 2 Publications**

<b>Title</b>	<b>Type</b> (e.g. journals, manual, CDs)	<b>Detail</b> (authors, year)	<b>Gender of Lead Author</b>	<b>Nationality of Lead Author</b>	<b>Publishers</b> (name, city)	<b>Available from</b> (e.g. weblink or publisher if not available online)

- **Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)**
- **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.	Yes
<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.	N/A
<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.	Yes
<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.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	