Darwin Initiative Main Project Annual Report

Important note: *To be completed with reference to the Reporting Guidance Notes for Project Leaders:*

it is expected that this report will be no more than 10 pages in length, excluding annexes

Submission Deadline: 30 April

Darwin Project Information

Project Reference	21-017
Project Title	Community-based conservation for livelihood development in Lake Ossa Manatee Reserve
Host Country/ies	Cameroon
Contract Holder Institution	Zoological Society of London
Partner institutions	Ministry of Forestry and Wildlife (MINFOF) Cameroon, Watershed Task Group (WTG), Cameroon Wildlife Conservation Society (CWCS),
Darwin Grant Value	£297,211
Funder (DFID/Defra)	DFID
Start/end dates of project	April 1, 2014-March 31, 2017
Reporting period (e.g., Apr 2015 – Mar 2016) and number (e.g., Annual Report 1, 2, 3)	April 1, 2015-March 31, 2016 Annual Report 2
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Project website/blog/Twitter	http://www.zsl.org/conservation/regions/africa/lake-ossa-wildlife-reserve-cameroon; http://net-works.com/locations/cameroon/; @sormenoq1
Report author(s) and date	Santiago Ormeno, Chris Ransom; 30/4/2016

1. Project Rationale

Freshwater biodiversity is amongst the most threatened and neglected biodiversity in Africa, yet vital for human communities. Cameroon has amongst the highest number of threatened freshwater species in Africa, and ranks 150 out of 187 countries on the Human Development Index. At 4,000ha, the Lake Ossa wetlands complex and the neighbouring reaches of the Lower Sanaga River Basin are freshwater and terrestrial ecosystems of regional and global importance. Located on the edge of the proposed Douala-Edea protected landscape the complex provides a refuge for endangered West African manatee and freshwater turtles, fish species, migratory birds and ranks 7th out of 1,256 catchments that qualify as Key Biodiversity Areas within the Guinean Forest Hotspot based on the number of vulnerable species (IUCN pers. comm.). Lake Ossa also provides a range of vital ecosystem services on which people rely. Over 200 of 1350 households (~15%) are dependent on fisheries, while almost 25% of the total population (~5300 people) carry out subsistence and small-scale agriculture in the decreasingly available land surrounding the lake to support their households. The complex provides additional essential services such as clean water; fish and timber to the nearby urban centre of Edéa and local communities depend on a healthy, functioning and biodiverse ecosystem in the Lake Ossa complex. As these resources are increasingly threatened due to peri-urban encroachment and agroindustry expansion, poverty and food insecurity are becoming of increasing concern.

Lake Ossa's biodiversity and human population face substantial threats due to severe anthropogenic pressures. The proximity of the 11 Lake Ossa communities to the city of Edéa increases the levels of unsustainable levels of exploitation of the complex's resources, including fish, timber, and sand. Illegal poaching of wildlife is a significant threat to species like the manatee and soft-shelled turtle. Unsustainable fishing practices such as small net size, lack of respect for fishing seasons and ghost fishing by abandoned fishing gear are threats to the diminishing fish resources and other species that depend directly or indirectly on the lake. Poor management of the steep lake shore, particularly due to the intrusion of agroindustry (industrial oil palm and rubber plantations) and associated population growth is contributing to the degradation of the reserve and its resources. Known locally as "the forgotten reserve", capacity to manage these threats to biodiversity and livelihoods is incredibly low, leaving both people and freshwater biodiversity vulnerable.

These threats were identified during a Darwin Initiative funded scoping trip to the Lake Ossa Reserve and neighbouring Doula Edea Wildlife Reserve in June 2013. During this trip discussions and consultations were held with representatives from the Ministry of Forestry and Wildlife (MINFOF), local NGOs and local communities to better gage interest in and capacity for conservation and development-related activities.

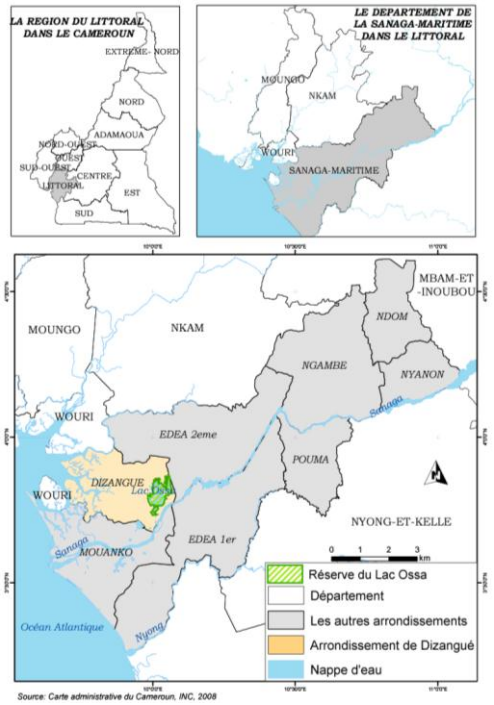
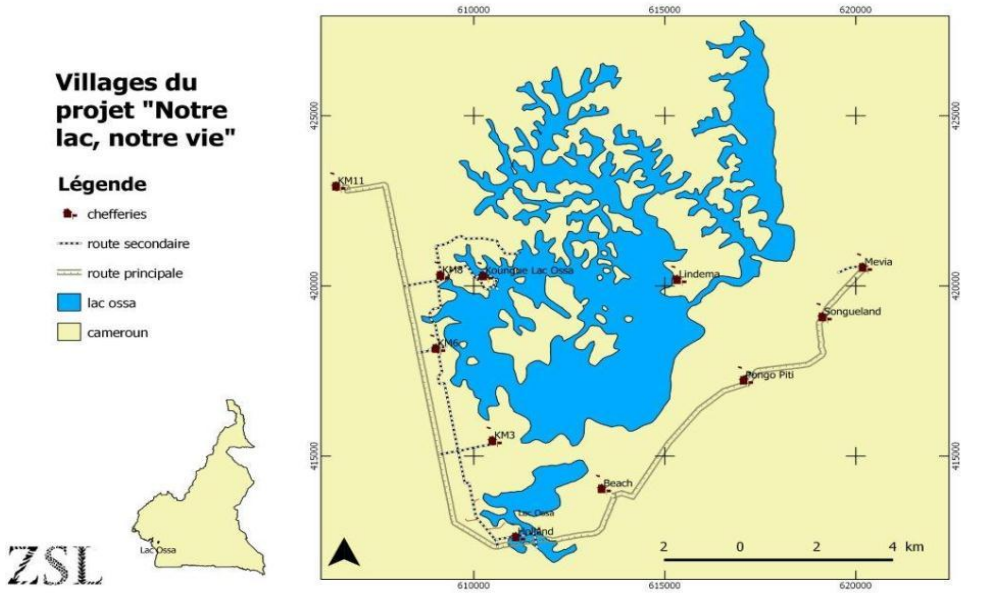


Figure 1. The Lake Ossa Reserve is located in Dizangue, Littoral Region of Cameroon, and situated at the outlet of the Sanaga basin.

Figure 2. "Our Lake, Our Life" works in 11 villages surrounding Lake Ossa. The project office is located in Beach.



2. Project Partnerships

The project was initially designed in collaboration with MINFOF and local NGOs CWCS, WTG and Cameroon Ecology as the main project partners. As explained in the first Annual report, one of these partners chose not to be involved in the project's implementation and, due to capacity limitations of the other original partners we have sought out additional partners through the course of this reporting period in order to ensure effective implementation. Community groups participating in the project deserve continuous support in understanding co-management in a practical way, and in becoming autonomous organizations. In addition, as the project has progressed and become established it has become necessary to engage with other actors who have a stake in the reserve and are affected or can influence the project's success, especially additional governmental actors and agroindustry. Through doing so, we feel we are maximising the potential impacts and successes of the project by ensuring ownership and buy in of all the necessary stakeholders.

The below paragraphs describe the main aspects relating to partnership development with the various stakeholders with whom we are delivering the project:

Communities: Ongoing community involvement through capacity building and involvement in the conservation of the Lake Ossa ecosystem is the main goal of the project and the main legacy element. We have worked with Village Savings and Loans Associations (VSLAs) and Community Management Committees (CMC), first setting-up these organizations and then delivering environmental trainings and working with them so that they become implementation partners in each community. The six CMCs established in Yr1 have been instrumental for the drafting of a participatory fishing by-law and they have continued to be involved in the enforcement of the new regulation. Trust-building and proximity are important aspects when dealing with fisher communities, as it is to keep a broad approach and try to engage as many community members as groups as possible. Conflict among community members and lack of cohesiveness of certain CMCs and understanding of their role have been a challenge that have required additional support from us. We now are organizing our outreach efforts in a more structured manner, where we provide weekly assistance to each group and support the participatory establishment of management mechanisms through dialogue in the most appropriate way for each community.

Government agencies: ZSL has continued to build and reinforce partnerships with governmental agencies and ministries in the course of this reporting year. The Ministry of Forests and Wildlife (MINFOF) has continued to be involved in planning and development of all stages of the project (see section 3). The role of eco-guards becomes increasingly important as an essential actor for the implementation of the co-management framework. However, availability of MINFOF staff in the field remains a challenge. From seven active members at the beginning of year 2, we now only have two stable staff members permanently in the project site, while two others are rarely in the field (as they are mainly in the Edea post which is several kms from Lake Ossa). The three other agents have been absent due to maternity leave, relocation or both. The issue has been raised by the conservator and we hope to receive reinforcements in the coming months. We continue to have regular contact with senior MINFOF officers in Edea, Douala and Yaoundé, to enhance the visibility of the project at the regional and national level and to ensure we are operating within the ministry's framework. We have continued to receive requests for technical support from the divisional delegation and the Douala-Edea Wildlife Reserve. Both have been included in the recent GPS training with the expectation of enhancing coordination among MINFOF services in the department for anti-poaching work beyond the Lake Ossa Wildlife Reserve. Other governmental partners that have been involved during project planning and development are the Ministry of Fisheries and Animal Industries (MINEPIA) and Ministry of Tourism and Leisure (MINTOUL) that were involved in the planning and participated in the ongoing development of the tourism management plan that is being drafted for the Lake Ossa Wildlife Reserve. The Dizangue City Council is increasingly involved in tourism management and the application of the fishery bylaw. An important lesson from the project is the importance of engaging the Divisional Officer in project activities since he has an important coordinating and leadership role for all government agencies.

National NGOs: Work with independent agencies and NGOs have also been established and reinforced. Cameroon Wildlife Conservation Society (CWCS) and Watershed Task Group (WTG) were involved in project design and have continued to participate in important decisions on implementation approaches. In Yr2, their involvement in project activities has been redefined, as they needed more technical and logistical support from the Dizangue office, and required more flexibility and support from ZSL to organize activities. Some of the activities in their work-plan (tree nursery follow up) were carried out with the support of ZSL and the assistance of APADER, an agroforestry and youth support organization with more than 20 years of experience in agricultural extension and agroforestry who continues to support forestry activities. We have continue to engage regularly with AMMCO, a local association that received a matching fund from PPI for the development of additional activities that support the project to agree on approaches and activities.

Private sector: In Year 2 we have developed a working relationship with the agroindustry company SAFACAM, who was open to engage with the project following their interest in aligning with RSPO standards and improving

the management of the boundary between their plantation and the lake reserve (see Section 3, Output 4). The company agrees to work together with ZSL and the Conservation Service to reduce pressures over the reserve's forest coming from slash and burn agriculture from their workers, which is also damaging for their plantation business. However, conversations with SAFACAM were longer than expected, due to management changes and the time required to understand the project. The engagement of the company – an important institution in Dizangue, the main employer and host of 4 of the 11 villages with who the project works – is positive for the impact of the initiative, but it is needed to understand their internal plantation procedures in order to integrate conservation principles in their regular operations.

Educational institution: Finally, a relationship with the Institute of Fisheries and Aquatic Sciences of the University of Douala has been established so that BSc and MSc students can come to Lake Ossa to develop research work with the support of ZSL in order to mainstream the lake among the scientist community of Cameroon and encourage research on freshwater ecosystems. Within this framework, the project has recruited two Interns so far, Constant Ndjassi, later promoted as Field Coordinator (see Change Request Form), and Ismael Essome, who supported the development of socioeconomic baseline surveys. A third individual is in the process of being recruited. Interns work closely with community members on a daily basis, which contributes to strengthen the relationship of the project with community members and build mutual trust and understanding.

3. Project Progress

3.1 Progress in carrying out project activities

Output 1. *Community Management Committees that are representative of lake users and encompass all 11 villages surrounding Lake Ossa are formally established and supported to develop and implement co-management plans with MINFOF for Lac Ossa that includes sanctuary zones for priority species (manatees, freshwater turtles) and sustainable fishing zones.*

Under activity 1.2 we completed: a report on fishermen's perceptions of manatees (Annex 16), a baseline report about the Lake Ossa ecosystem (Annex 14), a bird inventory with 99 species identified (Annex 13) and a fish inventory was also completed (36 in total) whilst carrying out the CPUE/fishery monitoring work (Activity 1.3; Annex 1). The CPUE survey (Activity 1.3), which was delayed from year 1, recorded fishing data from June 2015-August 2015 (Rainy season) and January-February 2016 (Dry season) in order to report changes of fishing effort throughout the year. Areas of high fishing intensity were also identified (Annex 1). In January, the survey was refined to include questions about manatee sightings by fishers. Six Community Management Committees have now been re-established across all 11 communities, with 197 fishers participating in the process (Activity 1.4).

For the development of a Reserve Management Plan (activity 1.6.), it was agreed with MINFOF to adopt a more practical bottom-up approach, in order to enforce the co-management framework through the validation of specific by-laws and management procedures that, later, can contribute toward / inform a complete Management Plan. This approach was suggested by the Conservation Service as a direct way to enforce a regulation in the Reserve, with the involvement of the DO. The project engaged a participatory discussion with communities and finally managed to have a fishing bylaw (code of fishing or *Code de pêche*) drafted and adopted by relevant authorities (Activity 1.6.) (Annex 2) The participatory drafting of the bylaw took place throughout Yr2 Q2 and Q3 with 26 deliberation meetings being held with fisher groups and community members (328 fishers participating, 115 of them women). Finally, 6 validation meetings took place in each zone with CMCs (204 fishers participating, 41 of them women).

A final meeting was organized in Nov 25th for the validation and ratification of the bylaw by the sub divisional officer and by competent administrations in Forest (MINFOF) and Fishery management (MINEPIA) (59 fishers participating, 09 of them women) (Annex 2, Annex 7). Environmental workshops and training events (Activity 1.5) continue to be delivered: a planning workshop on sustainable fishery management with members of MINFOF and local NGOs was held in August 2015 (Annex 6), and participatory mapping discussions were held in six communities with 170 participants in June 2015, 51 women (Annex 21, also referred to in Output 4). For the implementation of management plans (Activity 1.7), the projects built technical capacities through training events like out-board motor piloting for MINFOF and discussion events with MINFOF staff on its implementation (Annex 2, Section 2). 13 members of the local MINFOF teams (Edea, Lake Ossa and Douala Edea) participated in GIS training workshops in partnership with CWCS (Annex 20). Since July 2015, we have provided logistical support to regular patrols by the Conservation Service in the lake. Between Jan-Mar 2016, 14 additional surveillance patrols were organized as a part of the enforcement campaign for the fishing by law. The Conservation Service was equipped with appropriate surveillance material. Also, water testing equipment was purchased to improve water quality monitoring. On March 31st a follow up meeting was organized with fishers to discuss specifically on bamboo fishing and its removal from sensitive areas of the lake (also referred to in Output 5, Annex 18). Also, a leaflet and a poster have been produced about the fishing bylaw (Annex 22).

Output 2. *VSLAs established and integrated into Community Management Committees, increasing the financial security of poor men and women living around Lake Ossa and acting as a platform for community engagement in the management and conservation of the lake.*

Wellbeing baseline indicators (Activity 2.2) were obtained through 8 focus groups held in 4 representative fisher communities (Mevia, Beach, Kilometre 3 and Kouguelac) with both men and women in April 2015. However, baseline data collection through the administration of questionnaires was postponed to October in order to integrate relevant lessons from monitoring work conducted in the Philippines by ZSL. The questionnaire included wellbeing and food security indicators and questions designed to measure attitudes toward conservation and management approaches. A total of 98 households were surveyed in 6 communities (Mevia, Ekite, Beach, Pongo Pitti and Beach) (Annex 8).

The three VSLA groups created in Yr1 have continued for a second cycle (Activity 2.3) (Annex 3) After July 2015, new groups were created following interest from community members (activity 2.5). Today there are 12 active VSLAs with 282 people participating (159 women, 56 %). The total amount saved by VSLAs in total is 6 530 300 FCFA, members have loaned 6 943 600 FCFA among themselves, generating interests ranging from 5% to 10% per month that is later distributed among members. Five VSLAs are connected to the zoning committees and three of them are integrated by farmers interested in conservation agriculture that participate in reforestation activities.

51 VSLA members (17 women) from three VSLAs participated in two lake ecology training activities (Activity 2.4) which were part of preliminary workshops carried out to disseminate and discuss the Net-Works business model in June 2015 (Annex 23, Annex 10). VSLAs have been involved in lake clean-up campaigns and payment transactions for the removal of bamboos from the lake in Q4 and net-waste clean-up campaigns in Q2 and Q4 (Annex 5). The three VSLAs engaged in forestry activities participated in lakeshore conservation discussion events (see also activity 4.1) and 8 of their members (3 women) attended a 'training-of-trainers' workshop about conservation agriculture and reforestation in Bangante (Western Region) facilitated by the NGO APADER (Annex 4, Annex 9). Participants later engaged in the planning of the tree-planting activity and facilitated village meetings, creating awareness on the importance of tree-planting and soil protection (2 meetings in Holland and Kilo3 , reaching 81 farmers, 54 women) (Annex 4).

Output 3. *Three business models assessed, taking lessons from initial pilots, and training provided for potential new sustainable enterprises to diversify the livelihoods of local communities in a) community-based native tree nurseries, b) Net-Works and c) wildlife tourism (migratory birds, manatees and freshwater turtles – building on the existing local government priorities for ecotourism development).*

Tree nurseries: After an initial training, tree nurseries continued to receive training and inputs throughout Yr2 (Activity 3.3), The pilot phase of tree-nurseries (activity 3.4) was finalized, with 7 family nurseries established in 6 villages producing 5384 trees for reforestation and 1207 fruit trees, and is in the process of being reassesses for year 3 and legacy (3.7) (Annex 4).

Net Works: The Net-Works business model was developed in Q1 Yr2 following a support visit from the ZSL Net-Works project manager from London (activity 3.1 and 3.2.). Following the drafting of a business model, the participatory establishment of community-management mechanisms for Net-Works (Activity 3.3 and 3.5) was carried out in June 2015 through 2 participatory training events with members of the three VSLAs (Annex 23, already referred in 2.4). Net collection started in June 2015 following a clean-up activity and has been ongoing collecting nets since then (Activity 3.6, also discussed in 5.3) later expanding to 5 fisher communities (3.10). The Net-Works business model is in the process of being reassessed to achieve sustainability beyond Clean-up exercises (Activity 3.9). A preliminary export plan was drafted together with the management plan and will be revised in upcoming months (3.8).

Ecotourism Development: The project organized a consultation workshop with tourism stakeholders in Dizangue (Annex 11) in order to clarify the management framework for tourism in the protected area and agree on a shared vision for tourism development. Based on that workshop, in Q4, an ecotourism technical assistant was recruited (Annex 12). He is currently developing a tourism plan for the municipality of Dizangue and the Lake Ossa Wildlife Reserve that prioritizes community development and biodiversity protection criteria (Activity 3.11.).

Output 4. *A multi-stakeholder management committee established by year 1 that includes agro-industry (palm oil companies), Community Management Committees, MINFOF and NGOs to agree the boundaries of the reserve and develop and implement a Reserve Management Plan; and 10ha of the Reserve's degraded shore reforested and 5ha under agroforestry to reduce siltation/runoff through the development of community-based native tree nurseries and replanting of native species.*

A formal letter from the Minister of Forestry and Wildlife approving the process of delimitation of the Reserve and requesting the support of ZSL was received in early October 2015 (Annex 19, Activity 4.3). This administrative requirement is needed to support the process of delimitation of a protected area, which is an exclusive competence of MINFOF. Lake ecology education with community groups was a part of participatory mapping workshops organized in 6 villages in June 2015 (Annex 21, Activity 4.1, in conjunction with activity 1.6, already referred to in Output 1). Following these community workshops and the report elaborated by CWCS (Annex 15) on the state of the riparian forests, we could identify degraded areas suitable for reforestation (Activity 4.4) and selected two sites of a total surface of 21.5 Ha. The project developed in each of the site a programme for the involvement of farmers in forest protection and reforestation (Annex 4, Activity 4.5.), through: (1) the development of two model farms to demonstrate conservation agriculture techniques adapted to slope soils alternative to itinerant slash and burn agriculture, developed in partnership with the VSLA of Holland and a local agriculture school related to SAFACAM; (2) a training of trainers event in Bangante (already referred to in Output 2) to learn and disseminate agricultural techniques alternative to slash and burn and compatible with forest regeneration; (3) demarcation of the first 100 meters next to the lake, covering 7.5 Ha, clearing agricultural uses; and (4) the promotion of conservation agriculture techniques and partial afforestation in 14 Ha of farms next to reforested areas. The programme is developed in agreement and with the endorsement of SAFACAM, who is open to engage in the protection of the lake's riparian forest, including considering the provision of alternative farmlands to households.

Output 5. *Community-based lake clean-ups of abandoned fishing gears is undertaken regularly with local communities generating income from the sale of old fishing nets collected during the lake clean-up for recycling into carpet tiles as part of ZSL and Interface's proven Net-Works project.*

Ecological outreach continued to be delivered through VSLAs and zoning committees (activity 5.1, already referred to in 3.3 and 4.1). Training modules continued to be delivered in Year 2 through the initial three VSLAs and during the establishment of the nine additional VSLAs (Activity 5.2.). The participatory mapping and baseline inventory of abandoned fishing gears (fishing nets and bamboo fishing) in Lake Ossa was belatedly carried out and completed in Yr2 Q1 (Activity 5.3. Annex 17). Removal of discarded fishing nets has been encouraged thorough Net-Works sales (Activity 5.4, already discussed in 3.6) and clean-ups. A total of 1138 Kg of discarded nets have been collected and stored through regular net transactions and clean-up exercises in Q2 and Q4, generating revenue of 361 £ and additional benefit for VSLAs of 72 £. 66 fishers have sold nets to VSLA, of them, 32 fishers participate in an ongoing lake clean-up initiative called *Epargne-Filet* (Savings-for-nets). A programme for the removal of bamboo trap fishing in critical areas of the lake for biodiversity was initiated in Q4 of Yr2 following discussions with zoning committees and the Conservation Service (Annex 18). 17 bamboo fish trap owners have participated in the programme that also engaged additional labour of 13 fishers, resulting in 20 413 bamboo traps removed from the lake and regenerating an estimated lake area of 5 Ha. The programme has been organized in 2 communities (Lindema and Beach) in partnership with 2 VSLAs. A warehouse is also established in Dizangue and a bailing machine has been constructed in Q4 for the baling of nets (Activity 5.5.). The project is also exploring options for the re-use of other waste materials, i.e. bottles and bamboos are reused as floaters to demarcate replenishment zones. Alternative uses for bamboos are also being explored to build bamboo kayaks for tourism purposes inspired in traditional techniques (annex 24).

3.2. Progress towards project outputs

Output 1. *Community Management Committees that are representative of lake users and encompass all 11 villages surrounding Lake Ossa are formally established and supported to develop and implement co-management plans with MINFOF for Lac Ossa that includes sanctuary zones for priority species (manatees, freshwater turtles) and sustainable fishing zones.*

6 community management committees have been established in 11 villages **[Indicator 1]**. We are supporting them to meet regularly to discuss/debate on fishery issues and integrate conflict-resolution and internal management procedures. In the case of the code-of-fishing validation process, we developed a multi-level participatory process where all local fisher groups (locally called Njangui) were included to ensure that a large majority of fishers feels concerned and represented. We have encouraged their linkage to existing VSLAs to ensure that internal financial management is transparent. Today 2 VLAs work as financial hubs for the management committees, and there is a clear overlapping of members in other 2 (Kounguelac, Pongo Pitti) (Annex 3). Stakeholders have validated and are enforcing a fishery bylaw agreed with the fisher community that establishes a 5% of the reserve area as protected areas for replenishment of fish resources and wildlife conservation (goal=15%) (Annex 7, Annex 2) **[Indicator 2]** The By-law is based on indigenous management approaches and regulates fishing gears in ecologically important areas of the lake, like channels, mouths or sandbanks. The local regulation institutionalizes the role of community management committees as co-management bodies. Following the approval of the bylaw, regular patrols by the Conservation service have been established and their equipment has been reinforced. A reporting and denunciation mechanism for infractions to the Conservation Service from CMCs and local fisher organizations is in the process of being defined **[Indicator 3].** CPUE is measured three times a year across the different fishing seasons to monitor the impact of the fishery management measures, from a baseline of 9.13 ± 0.6 kg / fishing trip (wet season) (Annex 1, section 1) **[Indicator 4]** The demarcation of set-aside areas was finalized at the end of Q4, after which a regular monitoring mechanism will be developed in Q1 Yr3. Data will be cross-checked with AMMCO's manatee inventories of the lake, when available **[Indicator 5]**

Output 2. *VSLAs established and integrated into Community Management Committees, increasing the financial security of poor men and women living around Lake Ossa and acting as a platform for community engagement in the management and conservation of the lake.*

Three initial VSLAs were established with 68 members (Goal=3 VSLAs, 30-75 members). The three initial VSLAs are currently in their second cycle. They saved 2 214 200 FCFA in their 1st cycle (Annex 3) **[Indicator 1]**. The number of VSLAs has grown from three to 12 groups, with 282 members, 83 of them fishers (goal = 10 VSLAs, 200 members). The village agent model has been introduced in the development of 3 new VSLAs in Mevia and Lindema (Annex 3) **[Indicator 2]**. 2 Net-Works and lake conservation trainings, 06 lakeshore management trainings (participatory mapping (Annex 21)), 06 discussion sessions on forest regeneration (204 participants, 147 women) and 1 exchange visit to the Agroforestry Centre of Bangante were organized (Annex 4), resulting in 3 VSLA members engaged as community educators and field officers for clean-up (06 VSLAs involved in Net-Works, 03 of them engaged in bamboo trap fishing clean-up campaign) and reforestation activities (03 VSLAs) **[Indicator 3]** The average savings/person for the 1st year of VSLA implementation in the first 3 VSLAs was of 32 563 FCFA (Goal= 20.000 / year, by year 3) **[Indicator 4]**

Output 3. *Three business models assessed, taking lessons from initial pilots, and training provided for potential new sustainable enterprises to diversify the livelihoods of local communities in a) community-based native tree nurseries, b) Net-Works and c) wildlife tourism (migratory birds, manatees and freshwater turtles – building on the existing local government priorities for ecotourism development).*

Following Net-Works training exercises, Net-Works transactions were introduced in VLSAs of Mevia, Beach and Pongo Pitti. Additionally, participants in the training course were supported through 05 field visits to 07 tree nurseries throughout the year which led to commercial tree nurseries delivering fruit trees and indigenous trees for reforestation (Annex 4). **[Indicator 1]** Net-Works transactions started in July 2015. However the high water level during the rainy season made it difficult to carry out net collection beyond August. In addition to tree nursery development, conservation agriculture business models, based on the combination of food crops with trees and the introduction of anti-erosive techniques was assessed as a form of increasing the productivity of farms in the vicinity of forest regeneration areas and reducing, silting and bushfires in the reserve (Annex 5). **[Indicator 2]** 67 fishers participated in Net-Works transactions (out of a total of 269 fishers (source: Census Yr1). 7 households have been involved in tree nurseries, 30 in agroforestry and reforestation. Fishers are to a lesser extent involved in tree plantings since reforestation areas are located next to SAFACAM Plantation where only a

minority of people are fishers**. [Indicator 3]** A tourism management plan is under development with a focus in identifying opportunities to maximize involvement of local communities and creating local capacities in Dizangue through the establishment of a local tourism office. Also, the preliminary bird survey developed by ZSL also included recommendations on birdwatching tourism (Annex 13). **[Indicator 4]**

Output 4. *A multi-stakeholder management committee established by year 1 that includes agro-industry (palm oil companies), Community Management Committees, MINFOF and NGOs to agree the boundaries of the reserve and develop and implement a Reserve Management Plan; and 10ha of the Reserve's degraded shore reforested and 5ha under agroforestry to reduce siltation/runoff through the development of community-based native tree nurseries and replanting of native species.*

Stakeholders met three times in Year 2, under the presidency of the Divisional Officer: for the validation of the fishery bylaw (Annex 2), for the planning of the tourism management plan (Annex 11), and for the organization of the bamboo fishing trap removal campaign (Annex 18). **[Indicator 1]** The mapping of the reserve was postponed to Yr3 due to the need of endorsement from MINFOF for the development of the delimitation process and the expectation to link it with an existing national FAO-MINFOF programme for wetland management that that this year has included Lake Ossa among the protected areas it aims at supporting could provide additional resources to carry forward the ratification process by MINFOF. It was also seen as important to connect the zoning process of the reserve with SAFACAM's compliance with RSPO, and to extract lessons learnt on land management from the forestry project. **[Indicator 2]** A participatory mapping exercise to identify farmlands and forests around the reserve was organized in 6 communities and an assessment of the state of riparian forests in Lake Ossa. Later 6 community consultation workshops for the delimitation of the reforestation areas were organized in 2 communities to delimitate 7.5 hectares for reforestation and 14 hectares for agroforestry to eradicate bushfires in the designated area (burnt hectares baseline in designated areas = 5.19 Ha, 24% of the total surface).**[Indicator 3]** Community tree-nurseries produced 5384 trees for reforestation and 1207 fruit trees by March 2016 (goal=500) (Annex 4) **[Indicator 4]** 7.5 hectares of riparian forest are being reforested in the 50 to 100 m strip next to the lake while 14 Hectares of agricultural land uphill will adopt agroforestry and conservation agriculture practices with the support of the project (Annex 4). **[Indicator 5]** SAFACAM has been approached, and has agreed to contribute to sustainable management measures of the Lake Ossa Wildlife Reserve and its boundary area, also supporting and strengthening improved monitoring practices of other HCV areas in the Plantation. Once a MoU will be signed, it is expected that SAFACAM will be able to fund trees for reforestation and identify alternative areas where workers could practice agriculture, reducing pressure over riparian forests. **[Indicator 6]**

Output 5. *Community-based lake clean-ups of abandoned fishing gears is undertaken regularly with local communities generating income from the sale of old fishing nets collected during the lake clean-up for recycling into carpet tiles as part of ZSL and Interface's proven Net-Works project.*

Outreach programmes continued throughout Yr 2, as a part of the discussions of the Fishing bylaw and active outreach campaigns to fishers (Annex 2, Annex 23). **[Indicator 1]** Baseline data has been collected with 391 mesh waste pieces were identified in 33 transects. Bamboo trap fishing identified in the lake was estimated to be 57 000 (Annex 17). **[Indicator 2]** A Summer clean-up campaign organized with CMCs and VSLAs (Beach) resulted in 270 Kg/nets collected by 13 participants, 5 fishers and 8 students. Clean-up events evolved into a Saving-for-nets programme organized through VSLAs, resulting in 250 Kg (Beach, Mevia, Kounguelac, Lindema, 3 Kilo) collected by 32 participant fishers (Annex 5).**[Indicator 3]** Ongoing net-collection starting in June 2015 has resulted in 1138 Kg. Benefits have been distributed for Net purchase through VSLAs of 227.600 XAF, with VSLA retaining benefit of 56 900 XAF. **[Indicator 4]** A bailing machine has been finalized and bailing operations will start in Q1 Yr 3 **[Indicator 5]** A bamboo fishing trap removal campaign has been completed in February and March, removing 20413 bamboos from sensible areas of the lake (mouths, channels and replenishment zones) (35 % of the total) (Annex 18). **[Indicator 6]**

3.5 Progress towards the project Outcome

Indicator 1: The enforcement of the fishing bylaw started in January 2016. No-take areas for replenishment of fish resources and protection of manatee habitats were established in Jan 2016 and are in the process of demarcation. The project will collect data throughout Yr3 on manatee presence and distribution (Annex 2, Annex 7). **Indicator 2:** Baseline wellbeing indicators were collected in Q3 in local communities and are now in the process of being analysed (Annex 8). **Indicator 3:** 7.5 Ha in 2 pilot degraded zones of the lake are being regenerated and sustainable agroforestry and partial reforestation practices are introduced in 14 additional Hectares in the vicinity of the forest regeneration areas to avoid destructive bushfires related to slash-and-burn agriculture (Annex 4).

Indicator 4: All human activities are restricted in 6 areas of the reserve, totalizing a 5% of the waterbody. Fishing is restricted to certain gears in channels and mouths and bamboo trap fishing has been totally removed. **Indicator 5:** CPUE baseline data (9.13 ± 0.6 kg / fishing trip) has been collected. Data collection is ongoing 3 times/ year to measure CPUE throughout project implementation (Annex 1). **Indicator 6:** 282 households are engaged in VSLAs, 83 of them fishers, saving a total amount of 6 530 300 FCFA (Annex 3). **Indicator 8**: Conversations with SAFACAM have progressed to align their plantation standards with the Cameroonian legislation and RSPO guidelines regarding distance to waterbodies of plantation.

3.4. Monitoring of assumptions

Outcome risks and important assumptions:

Assumption 1: Conversations with SAFACAM have been longer than expected due to changes in management of the plantation. Since the company is a subsidiary of a larger group (Socfin) and their involvement was also conditioned by the group capacity to pursue RSPO certification. Whereas certification may not be feasible, we have agreed with SAFACAM to use the RSPO framework as a standard for the implementation of sustainability measures related to Lake Ossa.

Assumption 2: This assumption was optimistic. Although it has partially been achieved with the demarcation of no take zones, the Ministry of Forests and Wildlife has very rigid requirements for the gazetting of a reserve that make ratification not feasible in the present project implementation calendar. Nevertheless, MINFOF considers that this project can contribute substantially to it, presenting a participatory proposal of zoning for the reserve. We will continue to pursue the support of additional agencies, like the FAO/MINFOF, to support the ratification process.

Assumption 3: Engagement to provide additional land to workers within the boundaries of the plantation, therefore reducing demand for land for slash and burn agriculture is included in the MoU that ZSL is discussing with SAFACAM. However it is not realistic to expect that this can happen before the end of the project period. We are therefore confident that better enforcement, the clarification of the boundaries of the reserve and the participatory establishment of agroforestry areas in the boundary zone could reduce anthropic pressures over riparian forests by the end of Yr3.

Assumption 4: This risk exists and can be extended to other administration members with whom the project has established a working relation (I.e. the Divisional Officer, who understands and supports the project). The issue has been raised with the Conservator and MINFOF and we hope to receive more support agents permanently in the Reserve.

Assumption 5: Development of VSLAs and their engagement in clean-up and forest regeneration activities has given communities a larger sense of ownership of the project, and made benefits available to a larger part of the population. The project is working with the community fisher committees to ensure they are functional platforms for conflict resolution following Elinor Olstrom 8 Principles for the management of common pool resources (Ostrom, E.: *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press, UK, 1990).

Assumption 6: We considered that there should be no major administrative risk within the exporting process. However, there are other risks relating to the programme development: (1) the convenience to export at least a full container of around 5000 Kg, which will require extension of net collection beyond the realm of the reserve. The project is already establishing contacts with neighbouring coastal fishing villages in the Douala-Edea Landscape to assess the development of net collection beyond Lake Ossa; (2) the higher cleaning effort needed in a freshwater ecosystem due to mud and plants tangled in the nets.

Output risks and important assumptions:

Assumption 1: This assumption is still correct. However, communities understanding of the threats that the lake faces and their confidence on their own capacity to influence the lake ecosystem is limited. Environmental education and capacity building of co-management groups is important, as well as to define buy-ins accordingly (monetary incentives or additional activities) that can foster positive engagement in the co-management process.
Assumption 2: The conservation service has been very supportive of the process, so far. However, this may change if a new conservator is appointed or if the current priorities change. At this stage, the project requires from the involvement and support of MINFOF to enforce the fishery bylaw and advance in the delineation process.
Assumption 3: SAFACAM understands the need of delineation and accepts that their workers are the main cause of encroachment in the reserve. The company has been open to study options to provide additional land for workers to develop agricultural activities, but it would be important to tie up this commitment to an official demarcation of the Lake reserve.
Assumption 4: Net-works have been very helpful to encourage lake clean-ups and to provide additional incentive to fishers. However, to be viable, the business model would require higher collection of nets, potentially expanding toward the coast, and accounting for additional transport/intermediation costs.
Assumption 5: This is correct. The interest to participate in VSLA's has been high and it is growing across all villages.

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

Impact: *Lake Ossa Reserve communities benefit from enhanced livelihoods and ecological protection associated with Ramsar designation, and the Reserve becomes an important site for freshwater biodiversity within the Douala-Edea protected landscape.*

Lake Ossa has gained priority in the national MINFOF agenda for protected areas and in Cameroon as an important site for freshwater biodiversity thanks to the current initiative, and the innovative approach it is pioneering. MINFOF has started seeking for support beyond Darwin, for example, proposing other partners to support certain aspects of the Reserve Management Plan. The fishery regulation creates an enabling legal framework for conservation and local management of natural resources, which will enhance the perspectives of environmental services on which communities depend. Poverty standards will be reduced through improved resilience achieved through the participation of fishing households in saving networks (VSLAs) and additional income generation activities.

4. Contribution to SDGs

Goal 1: Through VSLA development, promotion of livelihood development and preservation of provisioning environmental services on which communities rely for subsistence (1.1., 1.2, 1.5, 1b and 1b).

Goal 2: Through food crop diversification, increase of agricultural productivity through agroforestry areas, and improving access to food through tree-nurseries and conservation agriculture (2.2, 2.3 and 2.4).

Goal 6: Water quality in the lake can be kept in acceptable levels through the implementation of a waste management fishery policy that prevents dumping of fishing material in the lake (Net-Works and restrictions of bamboo fish traps). In Yr3, it is expected to contribute through research to the monitoring of additional water quality indicators, improving control over agricultural pollutants (6.3, 6b).

Goal 13: Through the adoption of better agricultural practices and an improved fishery management we are contributing to strengthen resilience and adaptation capacity among communities, as well as to improve education on climate change through education on forest conservation and awareness on the effects of deforestation (13.1, 13.3).

Goal 15: Through ensuring the conservation of freshwater resources and promoting the conservation and sustainable use of riparian forest around Lake Ossa Wildlife Resources. Improving the surveillance framework to end poaching and trafficking of wildlife, and working to integrate biodiversity protection in the Dizangue local development plan (i.e. through the definition of management practices for sustainable tourism). In year 3, we expect to inform prevention policies for alien species through water quality research (15.1, 15.2, 15.3, 15.5, 15.7, 15.8, 15.9).

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

This project is supporting Cameroon to meet their objectives under the CBD, CMS and CITES. Specifically:

The project is supporting CBD's Aichi Strategic Goals by raising awareness of the Lake Ossa Reserve, as a key freshwater habitat (Targets 1-4), and by providing improved data to support national policies and plans by providing data and reports to the MINFOF on a regular basis (Targets 17-20). The project contributes to sustainable management of fish resources through the enforcement of management practices, and the sustainable management of agricultural areas to ensure biodiversity protection (Targets 6 and 7). The application of management measures and the establishment of no fishing zones and restriction of fishing in the lake channels contribute to the conservation of threatened species (Target 11 and 12). The implementation of the management plan is also contributing to target 14 and 15, by protecting ecosystem services on which vulnerable communities rely for subsistence.

By supporting the protection and conservation of the project's flagship species, the West African manatee (*Trichechus senegalensis*) which is listed on Appendix II of CMS COP7 (2002), the project is assisting Cameroon with delivering on its obligations under the UNEP-CMS Action Plan for the Conservation of the West African Manatee. The project is contributing directly to Objective 2 (Improve understanding of the West African Manatee and use information for its conservation management) and Objective 3 (Reduce pressures on the West African Manatee through the restoration and safeguarding of its habitats). The manatee is also listed on Appendix I of CITES so the project supports Cameroon with information on this species to assist them with CITES reporting requirements.

6. Project support to poverty alleviation

While in the short-term some community members that were engaged in destructive bamboo trap fishing activities may experience a direct negative impact on income from fishing, the project is making a substantial contribution to poverty alleviation through the development of VSLAs that contribute to enhance resilience to unstable revenues and provide funding for basic healthcare and education. The financial literacy and saving culture that VSLAs bring is also an important contribution, as it has made access to savings available to the lower income. For example, the Net-Work clean-up campaigns evolved as a 'Saving-for-nets' programme were nets are paid with a prime to participants for transport and cleaning on a weekly/bi-weekly basis. Cumulating nets and then selling them as a bundle gives participants the opportunity to save a larger amount that is more likely to be wisely invested. By extending the Net-Works commission principle to other activities, VSLAs have received additional revenues and gained recognition in each community.

The project adopted an innovative approach for Cameroon, introducing real business opportunities and providing support to community groups and entrepreneurs. We are confident that Ecotourism could potentially have an income generating potential for certain members of the community, as the tree-nursery development programme has had. At the same time, the development of agroforestry and conservation agriculture in the vicinity of the replanted area could be an opportunity for larger impact, since participants will be encouraged to diversify crops – using pineapple, sugar cane or NTFP leaves in anti-erosive bands. It contributes to diversify agricultural production in the region and to develop additional food value chains, contributing toward food security. Beneficiaries of these initiatives are smallholder agricultural producers, mainly women.

7. Project support to Gender equity issues

Gender equality remains a challenging aspect of the project, since the fishing activity is dominated by men (women participate as fish resellers for their husbands). However, the 30% rule of women participation in each committee board is maintained. Beyond this, the project has encouraged women engagement in decision-making in fisher issues. We are approaching each individuals group of fishers, including female led groups, to enhance awareness and understanding of management mechanism.

As the VSLAs structures grow and become more involved in conservation activities, new opportunities for women to participate actively in the project arise. Women account for 56 % of all VSLA members, and two groups are headed and integrated exclusively by women. For example, most agricultural producers involved in forest regeneration activities are women, and most farmers adopting agroforestry enhanced techniques are women. These groups are a suitable platform for women engagement in conservation and for the development of female focused livelihood activities. Whereas the presence of female eco-guards was initially seen as an important asset for this project, we have unfortunately not been able to benefit from it, since out of the three Eco guards, one was relocated to another area and two have been most of the year absent from the field.

8. Monitoring and evaluation

We are using a Before-After-Control-Impact (BACI) design to monitor the biodiversity and socioeconomic indicators. Financial reporting is carried out on a monthly basis to ensure careful budget monitoring. A detailed and factual monthly progress report is produced following the Darwin Logframe and we also document important activities is specific reports.

All remaining baseline indicators could be collected during Yr2, with the exception of baselines on no-take zones that were established at the end of the year. A biophysical survey on net waste and bamboo fishing traps was also carried out. The project needed to refine/adapt the CPUE methodology to also develop a baseline inventory of fish species, develop biophysical measurements of fish specimens, and collecting data on fishing zones that would later in the year be used to inform the discussion on no-take zones. The methodology also improved biophysical measurement of fish specimens and integrated manatee sighting. Collection of biophysical indicators will also be enhanced with the collection of water quality indicators.

Baseline collection of wellbeing indicators was also carried out in those villages directly connected to the fishing economy (Beach, Mevia, Pongo Pitti, Lindema and Kounguelac). The three villages located in the plantation were not included in the survey since they are less exposed to fishing activities. It is expected that baseline data will be collected among VSLA members and farmers participating in forest regeneration and conservation agriculture activities. Once trees are planted and soil erosion control measures are enforced, the project will develop a monitoring system for soil erosion and tree growth. Data was also collected on burnt surfaces in 2016 to measure the impact one year after.

Besides that, we developed a monitoring template tool to monitor the enforcement of the code of fishing that was handled to conservation service officers in February 2016. It has recently been agreed that ZSL and the Conservation service will facilitate/participate in regular meetings with the different zoning committees in order to develop simple procedures for conflict resolution and denunciation of infractions.

9. Lessons learnt

Use of lessons learned is good practice. This can include lessons from all levels including administrative, management, technical, and M&E. Projects are asked to reflect on:

- What worked well: the participatory approach of the project and the dialogue with the administration.

The adoption of a fishing by-law endorsed by the local representative of the central administration is an innovative tool and an instrument that has enabled the conservation service to enforce management measures immediately. The project developed an open and participatory approach for the implementation of activities. We ensured that a broad consultation process among all stakeholders was carried out, which gave us the possibility to integrate all sorts of community views and to avoid potential elite capture. The same participatory approach used to validate the fishing bylaw was applied to the Forestry and Ecotourism components.

- What didn't work well: the management structure of the project needed to be reassessed.

Much more management effort and support was needed than initially expected: awareness creation about fishery management could ultimately only be achieved through continued capacity building and discussions with community groups. The amount of agricultural extension services needed to support farmers and nurseries was higher than expected, as the forestry project needed to be carefully reassessed to account for the high level of encroachment existing in the reserve.

Many of the NGO partners on which the project initially relied were not based in Dizangue (with the exception of AMMCO) and did not have the capacities or the local grounding to effectively develop some of their assignments. As explained earlier, ZSL needed to secure additional technical support (extending APADER's commitment longer) and human resources (in the form of students and early career professionals), to effectively provide the support communities required to implement the planned activities.

- If you had to do it again, what would you do differently?

The establishment of co-management fisher organizations is a key achievement of the project, although their creation could have been done differently. Whereas democratic procedures were used for member elections, we consider that many fishers may not have been fully aware on what a community management committee was and how it would work. Leadership and legitimacy in some of these committees have been contested. In the beginning there was an absence in the definition of what is the exact mandate of these organizations, and, for example, how the money for membership fees is to be spent. For example, how law enforcement responsibilities should be distributed between fishers and the conservation service was never discussed in a participatory way.

We believe that the institutionalization of the community management committees could have happened later in the project, and that it should have been built on the basis of pre-existent and already legitimate self-help fisher groups (locally known as Njangui). We have also learnt that training modules are better delivered in interactive sessions at the end of reduced village meetings rather than in specific training sessions.

- What recommendations would you make to others doing similar projects?

Development intervention in coastal Cameroon have historically been superficial and removed from internal community dynamics. Community capacity to self-manage their natural resources has been eroded by the progressive loss and devaluation of traditional management institutions by the colonial administration and, later, by the centralized management of natural resources.

Community based management is more likely to be easily enforced in smaller communities with a single traditional authority and culturally homogeneous rather than in larger and ethnically complex communities. Complexity should be accounted into and ensure representability of each group based on existing formal and informal structures. It is also important to design community management surveillance networks in an appropriate and culturally aware manner.

- How are you going to build this learning into the project and future plans?

We consider that building community management committees is a process that needs to be paid specific attention and capacity building. We are investing resources in establishing them and helping them to become functional institutions as a part of our Year 3 work plan.

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

None

11. Other comments on progress not covered elsewhere

- Has the design of the project been enhanced over the last year, e.g. refining methods, or exit strategy?

We needed to re-define the afforestation component of the project (included and described in the change request form) in order to account for the presence of farmers practicing slash and burn agriculture in most degraded areas of the lake and the high risk that trees could not go through, if agricultural activities next to the lake shores remained unmanaged.

- Does the project face any particular risks?

A discontinuity in support to community development activities and capacity building of co-management groups is a risk. This process might be longer than expected and require from ZSL overseeing it after project conclusion. We are confident that ZSL will be able to continue supporting local stakeholders given its long term presence in Cameroon and is already working to establish partnerships for project monitoring and upscaling.

Another risk is the Conservation Service not having enough capacity to deploy itself in the ground. Surveillance will need to be paid specific attention during year 3, with additional resources put at the Conservation Service's disposal.

The perspectives of forest regeneration carried out by farmer groups are promising. However, they might be undermined if SAFACAM and its workers are not able to receive technical support for the monitoring and extension of the tree-planting activities beyond project implementation. We are training a tree nursery entrepreneur form the region, with education in human resources and community development and professional experience in forestry to provide support to SAFACAM in case that there is a discontinuity of funding.

12. Sustainability and legacy

ZSL has continued to liaise with MINFOF to inform senior officers about project development. Since this is the only internationally supported project in a freshwater ecosystem in Cameroon, and the only conservation programme in the Littoral region, ZSL and the Darwin Initiative have good visibility. JICA and FAO have already been referred to Lake Ossa from MINFOF. Additionally, achievements from the project have been highlighted in the regular ZSL Cameroon Programme newsletter as well as in national media, whenever an important event has happened.

ZSL has a long term commitment to Cameroon and has established a permanent presence as part of ZSL's international hub country strategy. ZSL considers the CMCs and the VSLA networks as the most valuable elements for the legacy of the project. We also consider that the Lake Ossa experience serves of a blueprint for participatory protected area management in Cameroon and freshwater conservation, and it will be important to continue to provide technical support for monitoring and replication of the project in other coastal villages.

13. Darwin Identity

All documents produced for the project include the Darwin Initiative logo, including all those that are distributed to government officials and published online. Reports produced under the grant include the Darwin logo. Posters distributed to community members, as well as maps produced for distribution all include the logo. Additionally, ZSL Cameroon's trimester bulletins include the Darwin logo and consistently mention Darwin as the funder for work in Lake Ossa, which provides a good opportunity to describe the focus on poverty alleviation and biodiversity conservation. The Net-Works website also uses the Darwin logo to showcase its support to both projects in the Philippines and Cameroon.

UK officers have visited the project and gotten personally familiar with its outcomes. ZSL was invited to present its work in Cameroon in the 'Conservation of Fauna, Forest and Wildlife in Cameroon" in April 2016, including the Lake Ossa project.

We also ensure that the contribution of Britain is highlighted to community members and to authorities as in the project literature that we produce, in order to present UK as a reliable and solid partner for Cameroon in wildlife conservation.

We recognize the Darwin Initiative as a distinct programme connected to the overall component that ZSL is leading. We are building the understanding of the Darwin Initiative principles within the country through our focus on biodiversity conservation and wellbeing development.

The Darwin logo is featured in all publications from the project as well and twitter of the project manager is linked to it. It will continue to be featured in all online media we will publish.

14. Project Expenditure

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

Project spend (indicative) since last annual report	2015/16 Grant (£)	2015/16 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below) Project manager Administrator Driver Community support officer Field research officer Field Biologist		0	101%	
Consultancy costs			96%	
Overhead Costs			102%	
Travel and subsistence			104%	
Operating Costs			94%	
Capital items (see below) 4x4 insurance 4x4 fuel and repairs Equipment for the conservation service (reallocated from 'patrol post'): Auxiliary wooden boat 15 CV engine Water tester equipment Storage container Signboards and buoys Patrolling material		0	109%	
Others (see below) Communication Printing and postage (includes awareness raising poster and leaflets) Field equipment and supplies (ZSL) Consumables Printing and postage			82%	Less money was spent under this budget category than anticipated as it was not necessary to buy the quantity of consumables for partners or to spend much money on printing and postage over the course of the year.

(partners) Field equipment MINFOF (camping tents, torches, raincoats)				
TOTAL			**100 %**	

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

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
Impact Lake Ossa Reserve communities benefit from enhanced livelihoods and ecological protection associated with Ramsar designation, and the Reserve becomes an important site for freshwater biodiversity within the Douala-Edea protected landscape.		A fishery bylaw has been developed with communities and endorsed by the administration that creates an enabling framework for conservation and can make a contribution to reduce poverty through the conservation of fish stocks and the development of institutions contributing to financial resilience of local communities (VSLA)	[redacted]
Outcome Local communities and MINFOF Conservation Service are implementing a clear co-management plan for Lake Ossa Manatee Reserve to enhance livelihoods and reverse declines in food fisheries, endangered species, and habitats.	Indicator 1 Decreasing trends in populations of fish and freshwater turtles (e.g. African softshell turtle, Trionyx triunguis, status unknown) and manatee (Trichechus senegalensis, IUCN Red List VU; upgraded to CITES Appendix I in March 2013) are halted or reversed within the sanctuary zones by year 3.	Indicator 1: We have made progress toward this indicator through the establishment of No-take zones relevant for marine mammals in Lake Ossa, so that its protection status can be enhanced.	As a part of the monitoring plan of the set-aside areas recently demarcated, we are in the process of implementing a monitoring protocol for wildlife, fishing stocks and water quality in important areas of lake Ossa.
	Indicator 2 Achieve an average of at least 20% improvement in locally-defined wellbeing scores and material style of life indices for 400 fishing households surrounding Lake Ossa by year 3 (baselines set in year 1 through household baseline surveys). Well-being will be assessed using subjective quality of life approaches applied to fisheries (Britton and Coulthard 2013, Coulthard et al 2011) and locally defined quantitative indicators (e.g. the proportion of households with tin roofs).	Indicator 2: 98 households in 6 fishing communities were surveyed to extract baseline data on wellbeing indicators established through focus groups.	We will analyse collected data and extend wellbeing data collection to agricultural producers involved in forestry, agroforestry and conservation agriculture initiatives in the established degraded lakeshore areas, and collect final data in order to measure the project impact on community wellbeing.
	Indicator 3 Boundaries of the Reserve are clearly demarcated, understood and endorsed by local communities and agroindustry, 10ha of reforestation and 5ha of agroforestry established by year 3.	7.5 Hectares of degraded forests in the state's riparian buffer zone of the reserve are in the process of being regenerated with seedlings produced in community tree nurseries supported by the project, and destructive slash and burn agricultural techniques are removed from 14 Ha in the vicinity of the replanted area with the endorsement of SAFACAM.	We have agreed with MINFOF to that the project will carry out the needed fieldwork to make a boundary proposal for the reserve including buffer zones and enclaves for community use. SAFACAM will also be a part of this conversation to ensure that a riparian forest strip is left between the plantation and the waterbody and that encroachment from communities is reduced through the establishment
	Indicator 4 15% of lake area established as		

	refuges (no-take sanctuary zones) for fish, manatees and freshwater turtles (nesting sites) and 70% of lake area effectively implementing sustainable fishing practices, actively enforced with watch-towers and enforcement protocol in place by year 3 (from a baseline of 0%).		of alternative areas for food-crops.
		Management practices are enforced in the total surface of the lake. A 5% of the lake surface in 6 different zones is set-aside in relevant areas of the lake for fish replenishment and manatee conservation. Specific measures regulating fisheries are also enforced in channels and mouths of the lake that are established as biodiversity corridors.	We work with communities and the MINFOF Conservation Service to develop and enforce the surveillance plan of the reserve.
	Indicator 5 Decreasing trends in fisheries indicators (Catch or Value Per Unit Effort – CPUE/VPUE) of fishers from local communities (baseline to be set in year 1) are halted or reversed by year 3.		
	Indicator 6 At least 200 of the estimated 400 fishers in 11 villages within the Lake Ossa Reserve are engaged in VSLAs with an average of at least 20,000cfa (£25) each in savings (based on the average for VSLAs elsewhere in Cameroon) by year 3 (from a baseline of zero in Year 1).	A CPUE data baseline based on data from 111 landings from 5 landing sites between June and August 2015 (rainy reason). CPUE data were collected again during Jauary and February (93 landings in 4 landing sites).	CPUE data collection will continue until the end of the project to measure impacts.
		282 households are engaged in VSLAs, 83 of them fishers. Average saving for the 1st cycle of the first 68 participants was 32 563 FCFA	We will continue to encourage the establishment of VSLA groups in fisher communities and to connect VSLAs with new opportunities for livelihood diversification across fisher communities. For this we plan to receive support from the Net-Works project coordinator and incorporate results and lessons learnt from relevant experiences in the Philippines.
	Indicator 7 At least 50% of abandoned fishing nets and bamboo fishing gear in the lake (baseline to be set in Year 1) is removed by Year 3 through a series of stakeholder events that generate income and awareness, and clean-up is ongoing.	20 413 bamboo fishing traps have been removed from the lake from a total of a total of 57 000) and a regulation regarding the zoning and amount of bamboo traps that each fisher can use is included in the fisher by-law. Net collection started in July 2015, following the start of net collection, 1138 Kg of waste debris have been collected (153 Kg out of the Dizangue area, 524 Kg related to clean-up activities and 461 end of life nets).	We will continue to support net removal through the organization of lake clean-up campaigns to remove existing waste from the lake and to ensure results by the end of Yr3.
	Indicator 8 At least one palm oil company with direct influence on Lake Ossa water quality have and are implementing protocols for habitat restoration as part of the management plan.	Progress on conversations with SAFACAM to achieve compliance with RSPO standards through their involvement in the management of the reserve.	Finally, it is expected that we will be able to materialize our conversations with SAFACAM in a MoU agreement in order to support technically and

			establish protocols for lake regeneration as a part of their management plan.
Output 1. (Insert agreed outputs with activities relevant to that outputs in lines below. Activities relevant to more than one output should be cross-referenced rather than repeated)	Indicator 1 Seven Community Management Committees encompassing all 11 Lake Ossa villages and representative of Lake Ossa users (as defined in baselines) are formed and meeting regularly with MINFOF Conservation Service by the end of year 1. Indicator 2 Co-management plans established by Community Management Committees through participatory planning covering fisheries species, freshwater turtles and manatees with at least 15% of the lake gazetted as refuges for these species by year 2. Indicator 3 Enforcement structures are in place and joint patrols by eco-guards and local communities initiated by year 2. Indicator 4 Declines in fisher's CPUE and VPUE (baseline condition) are halted or reversed by year 3 based on monitoring of CPUE and VPUE throughout the project period. Indicator 5 Decreasing trends (baseline condition) in populations of freshwater turtles (e.g. African softshell turtle, Trionyx triunguis, status unknown) and manatee (Trichechus senegalensis, IUCN Red List VU; upgraded to CITES Appendix I in March	6 community management committees have been established in 11 villages. We are supporting them to meet regularly to discuss/debate on fishery issues and integrate conflict-resolution and internal management procedures. In the case of the code-of-fishing validation process, we developed a multi-level participatory process where all local fisher groups (locally called Njangui) were included to ensure that a large majority of fishers feels concerned and represented. We have encouraged their linkage to existing VSLAs to ensure that internal financial management is transparent. Today 2 VLAs work as financial hubs for the management committees, and there is a clear overlapping of members in other 2 (Kounguelac, Pongo Pitti) Stakeholders have validated and are enforcing a fishery bylaw agreed with the fisher community that establishes a 5% of the reserve area as protected areas for replenishment of fish resources and wildlife conservation (goal=15%). The By-law is based on indigenous management approaches and regulates fishing gears in ecologically important areas of the lake, like channels, mouths or sandbanks. The local regulation institutionalizes the role of community management committees as co-management bodies. Following the approval of the bylaw, regular patrols by the Conservation service have been established, and a reporting and denunciation mechanism for infractions to the Conservation Service has been adopted and is in the process of being refined. In a second phase, community management committees shall implement safe and clear denunciation and conflict resolution mechanisms (combined patrols was seen as culturally inappropriate after discussion). CPUE is measured three times a year across the different fishing seasons to monitor the impact of the fishery management measures, from a baseline of 9.13 ± 0.6 kg / fishing trip (wet season).	

	2013) are halted or reversed within the sanctuary zones by year 3, based on monitoring of these populations throughout the project period.	The demarcation of set-aside areas was finalized at the end of Q4, after which a regular monitoring mechanism will be developed in Q1 Yr3. Data will be cross-checked with AMMCO's manatee inventories of the lake, when available.
Free, prior informed consent (FPIC) carried out in 11 villages.		Finalized in Yr 1.
Biological baseline surveys carried out for manatee and freshwater turtles, including compilation of biodiversity reports, fisheries reports, and community perception surveys		Completed: a report on fishermen's perceptions of manatees, a baseline report about the Lake Ossa ecosystem, a bird inventory with 99 species identified and a fish inventory was also completed whilst carrying out the CPUE/fishery monitoring work. Planned activities: Inventory of manatee sighting is ongoing by NGO AMMCO. Manatee monitoring in no-take zones and other parameters (fish stocks, water quality, waste) is due to start in Q1 Yr3.
Training and implementation of baseline surveys for fisheries CPUE and VPUE in 11 villages.		The CPUE survey recorded fishing data from June 2015-August 2015 (Rainy season) and January-February 2016 (Dry season) in order to report changes of fishing effort across the different seasons. Areas of high fishing intensity were also identified. Planned activities: CPUE data collection will continue 3 times per year to account for catch variability throughout seasons during Yr3.
Re-establishment of seven Community Management Committees, including member election, ensuring gender, age, and occupational equality		Six Community Management Committees have now been re-established across all 11 communities, with 197 fishers participating in the process.
Workshop, training-of-trainers and advocacy on community-based management approaches for Community Management Committees and VSLAs, MINFOF Conservation Service, and the private sector.		Environmental workshops and training events continue to be delivered: a planning workshop on sustainable fishery management with members of MINFOF and local NGOs was held in August 2015, and participatory mapping discussions were held in six communities with 152 participants in June 2015 (also referred to in Output 4). Planned activities: environmental outreach to continue focusing on MINFOF agents on the enforcement procedures of the participatory fishing bylaw, and capacity building and participatory definition of enforcement mechanisms with CMCs for the enforcement of the bylaw.
Participatory development of management plans and mapping of lake management areas through Community Management Committees.		The participatory drafting of the bylaw took place throughout Yr2 Q2 and Q3 with 26 deliberation meetings being held with fisher groups and community members (328 fishers participating). 6 validation meetings took place in each zone with CMCs (204 fishers). A final meeting was organized in Nov 25th for the validation and ratification of the code by the sub divisional officer and by competent administrations in Forest (MINFOF) and Fishery management (MINEPIA).
Implementation of management plans, including the construction of watchtowers, training of Community Management Committees and monitoring of enforcement activities by MINFOF.		Between Jan-Mar 2016, 15 additional surveillance patrols were organized as a part of the enforcement campaign for the fishing by law the Conservation Service was equipped with appropriate surveillance material. Also, water tester equipment was purchased to improve water quality monitoring.

		Planned activities: ZSL is also working with CMCs to encourage discussion among members and fisher organizations to define their involvement in the surveillance of the fishery. Penalties are established for each infraction of the management plan. They shall be enforced with the support of the Council.
Collaborative write-up of a five year simple management plan and approval by Conservation Service and Community Management Committees for post-project		Not yet commenced.
Biological and fisheries impact assessments through collection, analysis and feedback of data for manatee and freshwater turtles, and for fisheries CPUE and VPUE		Not yet commenced.
Reporting and preparation and submission of peer-reviewed paper.		Not yet commenced.
Output 2. VSLAs established and integrated into community management committees	Indicator 1: At least 3 VSLAs established with 10-25 members each through community management committees by end of year 1. Indicator 2: Village Agents replicate the VSLA approach in year 2, taking the total number of VSLAs to at least 10 with at least 200 households engaged by year 3. Indicator 3: Training modules on lake ecology and management developed and integrated into VSLA training programme by year 1. Indicator 4: Households engaged in VSLAs saving an average of at least 20,000cfa (£25) per year by year 3 from a baseline of an average of 0 cfa in savings.	Three initial VSLAs were established with 68 members (Goal=3 VSLAs, 30-75 members). The three initial VSLAs are currently in their second cycle. They saved 2 214 200 FCFA in their 1st cycle The number of VSLAs has grown from three to 12 groups, with 282 members (goal = 10 VSLAs, 200 members). The village agent model has been introduced in the development of 4 new VSLAs in Mevia and Lindema. 2 Net-Works and lake conservation trainings, 06 lakeshore management trainings, 06 discussion sessions on forest regeneration (204 participants, 147 women) and 1 exchange visit to the Agroforestry Centre of Bangante were organized, resulting in 3 VSLA members engaged as community educators and field officers for clean-up (06 VSLAs involved in Net-Works, 03 of them engaged in bamboo trap fishing clean-up campaign) and reforestation activities (03 VSLAs) The average savings/person for the 1st year of VSLA implementation in the first 3 VSLAs was of 32 563 FCFA (Goal= 20.000 / year, by year 3
Activity 2.1. Workshop and training-of-trainers on VSLAs.		Completed in Yr1
Activity 2.2. Establishment of socio-economic baselines through community consultations with 11 communities, and collection, analysis and feedback of data from household surveys and participatory rural appraisal.		Wellbeing baseline indicators were obtained through 8 focus groups held in 4 representative communities (Mevia, Beach, Kilometre 3 and Kouguelac) with both men and women in April 2015. Baseline data collection through the administration of 98 households in 6 communities (Mevia, Ekite, Beach, Pongo Pitti and Beach). Planned activities: Data will be analysed. Additional baseline data will be collected in agricultural communities involved in agroforestry activities to monitor impact of the forestry project.
Activity 2.3: Establishment and fostering of first VSLAs in three pilot communities.		The three VSLA groups created in Yr1 have continued for a second cycle.
Activity 2.4: Development of training modules on lake ecology and management developed and integrated into VSLA delivery		51 VSLA members participated in two lake ecology training activities (Activity 2.4) which were part of preliminary workshops carried out to disseminate and discuss the Net-Works business model in June 2015. The three VSLAs engaged in forestry activities participated in lakeshore conservation discussion events and 8

		of their members attended a 'training-of-trainers' workshop about conservation agriculture and reforestation
Activity 2.5: Replication of VSLAs through Village Agent model and monitoring, ensuring that at least 11 communities have at least one VSLA group functioning		New groups were created following interest from community members (activity 2.5). Today there are 12 active VSLAs.
Activity 2.6. Activity 2.6: Socioeconomic impact assessment through collection, analysis and feedback of data from household surveys and participatory rural appraisal (linked also to output 3).		Not yet commenced.
Output 3. Three business models assessed, taking lessons from initial pilots, and training provided for potential new sustainable enterprises to diversify the livelihoods of local communities in a) community-based native tree nurseries, b) Net-Works and c) wildlife tourism (migratory birds, manatees and freshwater turtles – building on the existing local government priorities for ecotourism development).	Indicator 1: Training modules developed and delivered through the VSLAs for community tree nurseries and Net-Works by year 1 Indicator 2: Business model for Net-Works and community tree nurseries developed and refined based on practical experience by year 2. Indicator 3: 50% of fishing households engaged in either tree planting or Net-Works by year 2 from a baseline of 0% Indicator 4: Feasibility study and associated business model (if appropriate) for wildlife-based tourism completed by year 3, including plan for appropriate training of local community members to work in this sector.	VSLA members from three VSLAs participated in two lake ecology training activities which were part of preliminary workshops carried out to disseminate and discuss the Net-Works business model. VSLA members engaged in agroforestry activities participated in lakeshore conservation discussion events and 8 VSLAs members attended a 'training-of-trainers' workshop about conservation agriculture and reforestation. Net-Works transactions started in July 2015 through 2 VSLAs and later extended to all VSLAs. The model is being reassessed to ensure its sustainability and upscaling in the region. 6 tree nurseries were developed and supported technically by the project producing 5384 trees for reforestation and 1207 fruit trees. 66 fishers selling nets out of a total of 269 fishers and 1 is engaged in tree planting activities in Lake Ossa (Year 1) (24 %). A tourism management plan is being developed, identifying opportunities to maximize involvement of local communities and creation of local capacities in Dizangue through the establishment of a local tourism office. Also, the preliminary bird survey developed by ZSL also included recommendations on bidwatching tourism.
Activity 3.1: Participatory assessment of enterprise opportunities and capabilities in 11 communities (done in conjunction with activity 1.2) and site selection for implementation of tree nurseries and Net-Works.		Developed in Yr1.
Activity 3.2: Development of outline business model for Net-Works and tree nurseries.		A tree nursery business model has been developed and an outline business model was developed i Yr1. A business model for Net-Works was developed at the beginning of Yr2 and is now being re-assessed.
Activity 3.3: Development and implementation of training modules for tree nurseries and Net-Works through VSLAs (in conjunction with activity 5.1)		18 community members from all 11 villages were trained in the basic principles of tree nursery establishment in Yr 1. 51 VSLA members participated in Net-Work training activities in Yr2. VSLAs participated in an agroforestry training pf trainers event that presented alternatives to slash and burn agricultural techniques.
Activity 3.4: Pilot phase for tree nurseries implemented in up to three communities as determined from activity 3.1, including exchange visits, materials purchase, community engagement, trainings, marketing, and monitoring		The pilot phase of tree-nurseries was finalized, with 6 nurseries established in 5 villages producing 5384 trees for reforestation and 1207 fruit trees.
Activity 3.5: Participatory establishment of community-management mechanism, payment mechanisms and		Done in conjunction with 3.3.

benefit sharing for Net-Works.		
Activity 3.6: Initiate net collection through lake clean-up and start buying discarded nets.		Net collection started in July 2015 following a clean-up activity and has been ongoing collecting since then.
Activity 3.7: Evaluation and assessment of community tree nursery businesses through development of business model and continued support as necessary		Tree nurseries have received support through 5 visits from partner NGO APADER.
Activity 3.8: Develop export plan for collected nets and obtain relevant export documents and permits.		A preliminary export plan was developed with initial indications from SAFACAM and study of export cost through consultation with export agents in the Douala port.
Activity 3.9: Re-assess the business model for Net-Works based on monitoring of net collection and adapt as necessary.		Ongoing to consider the interest existing from fisher villages from outside the Lake Ossa
Activity 3.10: Expansion of Net-Works into all 11 communities and ongoing collection of nets.		Net collection expanded to Lindema, Kounguelac and Kilo3 in Year 2. 5 communities now are actively collecting nets.
Activity 3.11: Wildlife tourism feasibility study through external consultation and dissemination of results to multi-stakeholder platform (as established in output 4).		A consultant has been recruited and is currently in the field receiving assistance from the ZSL project manager and the rest of the project team.
Output 4: A multi-stakeholder committee formed to define and agree boundaries of the reserve, with *10ha of the Reserve's degraded shore reforested and 5ha under agroforestry*	Indicator 1: Multi-stakeholder management committee including agroindustry, Community Management Committees and MINFOF is formed and meeting at least twice per year starting at the end of year 1. Indicator 2: A reserve map of Lake Ossa with boundaries clearly demarcated and zoning system included is agreed by the multi-stakeholder management committee by year 2 and legally ratified by MINFOF by year 3. Indicator 3: Participatory mapping completed and 15 ha of priority lake shore area within the reserve identified and agreed for restoration with any land clearing required completed by year 2. Indicator 4: At least 3 community tree nursery is established and providing at least 500 native trees a year by year 3 to support restoration of lake shore Indicator 5: 15 ha of identified priority lake shore is replanted by year 3 with trees monitored for survival and demonstrating signs of growth. Indicator 6: Neighbouring industry participates through contributions made in kind and through direct purchase of tree seedlings from community tree nursery for restoration activities.	Stakeholders met three times in Yr 2, under the presidency of the sub-divisional officer to address issues related to the fishery: for the validation of the fishery bylaw, for the planning of the tourism management plan, and for the organization of the bamboo fishing trap removal campaign. The project received a letter from the Minister of Forestry and Wildlife authorizing ZSL to support the establishment of reserve boundaries within the implementation of the project. MINFOF also plans to provide support through the National Mangrove Management Project supported by FAO with funds from the GEF. A participatory mapping exercise to identify farmlands and forests around the reserve was organized in 6 communities and an assessment of the state of riparian forests in Lake Ossa was completed by partner organization CWCS. Community tree-nurseries produced 5384 trees for reforestation and 1207 fruit trees by March 2016 (goal=500). A surface area of 7.5 Ha has been identified for regeneration in the reserve area and is now in the process of being regenerated. Destructive slash and burn agricultural practices are set to be cleared in 14 Ha around reforestation areas where conservation agriculture techniques and agroforestry are being introduced. Agroindustry supports and endorses the forestry project that shall inform management procedures to improve the management of the boundary area. It is expected that lessons learnt from the tree-planting experience could also be applied for the establishment of boundaries of the reserve, and zoning process in Yr3.

Activity 4.1: Workshop on Lake ecology and management with senior representatives of neighbouring agro-industries, MINFOF and Community Management Committees.		Workshops on lake ecology were organized throughout the management plan process and integrated in community meetings throughout the discussions of the management plan and the forestry and agroforestry process.
Activity 4.2: Establishment of multi-stakeholder platform, involving Community Management Committees, MINFOF Conservation Service and local agro-industry.		3 stakeholder meetings organized.
Activity 4.3: Mapping of Reserve boundaries and agreement on boundaries by multi-stakeholder platform, formulated through establishment of MOU between multi-stakeholder platform members and decree from MINFOF.		A formal letter from the Minister of Forestry and Wildlife approving the process of delimitation of the Reserve and requesting the support of ZSL was received in early October 2015. Mapping work to start in Q1 Yr3.
Activity 4.4: Participatory identification of 15ha of degraded priority lake shore habitat for restoration through multi-stakeholder committee, and development of management plan for these areas (including plans for clearing illegal land-uses from these areas		Participatory mapping of agricultural zones and degraded areas was carried out early in year 2 and priority zones for reforestation and ecotourism, were identified. An assessment of forest cover and land uses around the reserve was also developed by partner NGO CWCS.
Activity 4.5: Participatory implementation of management plans for restoration of lakeshore habitat and planting of trees produced by community nurseries by male and female community members with support from industry (*10ha of reforestation and 5ha of agroforestry*), supported by finance from industry.		The project developed in each of the site a programme for the involvement of farmers in forest protection and reforestation through: (1) the development of two model farms to demonstrate conservation agriculture techniques adapted to slope soils alternative to itinerant slash and burn, (2) a training of trainers event in Bangante to learn and disseminate agricultural techniques alternative to slash and burn and compatible with forest regeneration, (3) demarcation and direct reforestation of the first 100 meters next to the lake (5 Ha), and (4) the promotion of conservation agriculture techniques and partial afforestation in 15 Ha of farms next to reforested areas (15 Ha). The project will now complete the planting and agroforestry development programme in order to diversify income from food-crops by subsistence farmers around the reserve.
Activity 4.6: Participatory follow-up of replanted tree progress and monitoring on the ground, including replanting where necessary		To be developed during Yr3 through VSLAs and farmer groups.
Output 5. Community-based lake clean-ups of abandoned fishing gears is undertaken regularly with local communities generating income from the sale of old fishing nets collected during the lake clean-up for recycling into carpet tiles as part of ZSL and Interface's proven Net-Works project.	Indicator 1: Outreach programmes on the impact of discarded fishing gears on Lake Ossa is developed and implemented through VSLAs and Community Management Committees by year 1. Indicator 2: Participatory mapping and inventory of abandoned fishing gears in Lake Ossa completed by year 1. Indicator 3: Community Management Committees and VSLAs engaged in lake clean-up activities by year 1. Indicator 4: Net-Works business model operational by year 2, with fishers selling end-of-life nets into the	Outreach programmes continued throughout Yr 2, as a part of the discussions of the Fishing bylaw and active outreach campaigns to fishers who should participate in the campaign. Participatory mapping and biophysical baseline survey for discarded nets and abandoned fishing gears in the lake were identified. 3 clean up campaigns (2 for Net-Works and 1 for bamboo trap fishing removal in sensible areas of the lake) were organized through 3 VSLAs in Beach and Lindema resulting in the removal of 524 Kg of net waste (out of a total of 1138 Kg) and 20413 bamboo fishing traps were removed from mouths and channels of the lake, regaining an area of 5 Ha for fishing.

	supply chain (preventing further discards) and nets collected through the lake clean-up sold into the supply chain and benefits distributed equitably through VSLAs as per the established and tested Net-Works model. Indicator 5: Mechanisms for bailing and exporting the nets for recycling are piloted with one test shipment completed by year 2. Indicator 6: Other abandoned fishing gears are being recycled or sustainably disposed of by year 2. Indicator 7: At least 50% of inventoried abandoned fishing gears are removed from Lake Ossa by year 3.	Benefits have been distributed for Net purchase through VSLAs. A bailing machine has been finalized and is set to start operations in Q1 Yr3. Bamboo fish traps have been cleared of the lake and a clear regulation relating to the fishing bylaw regulating bamboo trap fishing will be enforced throughout Yr3 in partnership with the zoning committee and the fisher community.
Activity 5.1: Outreach and education training modules focused on Net-Works, lake ecology, and fishing practices is developed for delivery by VSLA Village Agents		Training modules were developed by Livelihood coordinator and Project Manager with the support of the Net-Works project coordinator.
Activity 5.2: Training modules delivered as part of VSLA model within initially implemented VSLA groups and with Community Management Committees		Training modules were delivered to VSLAs on the Net-Works model in order to participatory establish a transaction mechanism in June 2015.
Activity 5.3: Participatory mapping and baseline inventory of abandoned fishing gears in Lake Ossa carried out and results delivered to VSLA groups and Community Management Committees		A biophysical survey on net waste and bamboo traps was developed in May 2015 and will be repeated at the end of the project.
Activity 5.4: Initiate and sustain lake clean ups for Net-works with VSLA groups and Community Management Committees to remove nets and other abandoned gear, including bamboo with benefits distributed back to participating groups		A total of 1138 Kg of discarded nets have been collected and stored through regular net transactions and clean-up exercises in Q2 and Q4, 32 fishers participate in an ongoing lake clean-up initiative called *Epargne-Filet* (Savings-for-nets). 30 fishers have participated in the programme, and 20413 bamboo traps have been removed from the lake, regaining an estimated lake area of 5 Ha, the programme has been organized in 2 communities (Lindema and Beach) in partnership with VSLAs.
Activity 5.5: Establishment of recycling facilities, including designing and construction of baler machines for nets, establishment of warehousing for dealing with waste		ZSL Cameroon is waiting for technical plans for the construction of a baling machine. Important guidance on the establishment of recycling facilities will be provided by the Net-Works coordinator during her visit early in year 2.
Activity 5.6: Test-shipment of nets for implementation of export processes.		A bailing machine has been constructed at the end of Yr2 and Net baling operations shall start early Yr3.
Activity 5.7: Developing clean mechanisms for recycling or sustainable disposal of non-net waste (i.e. non-burning)		Not yet commenced.
Activity 5.8: Impact assessment of lake clean-ups through repeat inventory of abandoned fishing gears.		Not yet commenced.

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
Goal: Lake Ossa Reserve communities benefit from enhanced livelihoods and ecological protection associated with Ramsar designation, and the Reserve becomes an important site for freshwater biodiversity within the Douala-Edea protected landscape.			
Outcome: Local communities and MINFOF Conservation Service are implementing a clear co-management plan for Lake Ossa Manatee Reserve to enhance livelihoods and reverse declines in food fisheries, endangered species, and habitats.	1. Decreasing trends in populations of fish and freshwater turtles (e.g. African softshell turtle, *Trionyx triunguis,* status unknown) and manatee (*Trichechus senegalensis, IUCN Red List VU; upgraded to CITES Appendix I in March 2013)* are halted or reversed within the sanctuary zones by year 3. 2. Achieve an average of at least 20% improvement in locally-defined wellbeing scores and material style of life indices for 400 fishing households surrounding Lake Ossa by year 3 (baselines set in year 1 through household baseline surveys). Well-being will be assessed using subjective quality of life approaches applied to fisheries (Britton and Coulthard 2013, Coulthard et al 2011) and locally defined quantitative indicators (e.g. the proportion of households with tin roofs). 3. Boundaries of the Reserve are clearly demarcated, understood and endorsed by local communities and agroindustry, with >30ha of lake shore vegetation successfully rehabilitated (illegal farms/plantations cleared and native tree species planted and protected) by year 3. 4. 15% of lake area established as refuges (no-take sanctuary zones) for fish, manatees and freshwater turtles (nesting sites) and 70% of lake area effectively implementing sustainable fishing practices, actively enforced with watch-towers and enforcement protocol in place by year 3 (from a baseline of 0%). 5. Decreasing trends in fisheries indicators (Catch or Value Per Unit Effort – CPUE/VPUE) of fishers from local	1. Turtle and manatee survey reports; annual report to UNEP-CMS Action Plan for West African Manatees; annual report to relevant IUCN Specialist Groups. 2. Socioeconomic profile survey report of 11 communities; report of baseline and annual changes in wellbeing. 3. Legally ratified reserve map approved by MINFOF; Lake Ossa Manatee Reserve Management Plan; vegetation survey report; map of vegetation rehabilitation priority zones; reports from training workshops; report and photos of nurseries and number of native trees planted and monitored for successful establishment. 4. Report of a) biological surveys and b) local ecological knowledge surveys; training workshop reports.	1. Private sector industry positively engages with the project and takes action within the timeframe of the project. 2. The zoned map of the reserve can be approved by all relevant authorities within the timeframe of the project. Communities have already engaged in this zoning system and are supportive. 3. Land tenure can be resolved with palm oil company to enable habitat restoration to be implemented in the Reserve's land mass around the lake within the timeframe of the project. 4. There's a risk surrounding the replacement or rotation of members of MINFOF Conservation Service, including the Conservator. The project will put in place appropriate mechanisms to ensure continuity of project actions even in the eventuality that the Conservator and his team are rotated to another site, and by working with well-established local NGOs we will ensure there are the support systems necessary to ensure continuity of project actions. 5. Communities remain supportive of project efforts, particularly lake clean-up actions and community-based enforcement. 6. Fishing nets collected for recycling can be exported relatively easily from Cameroon to Slovenia for appropriate recycling into carpet tiles (the only place in the world where the appropriate technology for high-grade recycling this valuable engineering grade plastic exists. Note that cost-benefit analyses of shipping for recycling vs generating new material from oil products still gives a positive result for recycling). Initial investigation indicates that there should be no custom

	communities (baseline to be set in year 1) are halted or reversed by year 3. 6. At least 200 of the estimated 400 fishers in 11 villages within the Lake Ossa Reserve are engaged in VSLAs with an average of at least 20,000cfa (£25) each in savings (based on the average for VSLAs elsewhere in Cameroon) by year 3 (from a baseline of zero in Year 1). 7. At least 50% of abandoned fishing nets and bamboo fishing gear in the lake (baseline to be set in Year 1) is removed by Year 3 through a series of stakeholder events that generate income and awareness, and clean-up is ongoing. 8. At least one palm oil company with direct influence on Lake Ossa water quality have and are implementing protocols for habitat restoration as part of the management plan.	5. Fisheries survey reports. 6. Members of VSLAs; reports from training workshops; savings books; annual report on savings and loans. 7. Survey report of abandoned fishing gear in lake; tons of nets collected; accounts of funds received by VSLAs for nets sold; report of number of bamboo fishing gear removed. 8. MoUs with industry partners; environmental impact assessment report; workshop reports; manual with protocols; development and implementation of management plans.	problems with this.
Outputs: **1**. Community Management Committees established and supported to develop and implement co-management plans for Lac Ossa.	1a. Seven Community Management Committees encompassing all 11 Lake Ossa villages and representative of Lake Ossa users (as defined in baselines) are formed and meeting regularly with MINFOF Conservation Service by the end of year 1. 1b. Co-management plans established by Community Management Committees through participatory planning covering fisheries species, freshwater turtles and manatees with at least 15% of the lake gazetted as refuges for these species by year 2. 1c. Enforcement structures are in place and joint patrols by eco-guards and local communities initiated by year 2. 1d. Declines in fisher's CPUE and VPUE (baseline condition) are halted or reversed by year 3 based on monitoring of CPUE and VPUE throughout the project period. 1e. Decreasing trends (baseline condition) in populations of freshwater turtles (e.g. African softshell	Community Management Committee and Multi-Stakeholder Management Committee records and documents (e.g. co-management plans, map of Reserve) Biological and socioeconomic survey reports with photos documentation where relevant (e.g. for replanting/restoration of lake shore). VSLA record books and records contributed to the online global database (SAVIX). Training manuals produced for co-management and replanting, with documented monitoring system	Communities have the will to manage their natural resources effectively and get involved in lake clean-ups. Government authorities (particularly MINFOF) remain consistently agreeable to proposed co-management arrangements and reserve delineation. Private sector actors remain consistently agreeable to proposed management arrangements including Reserve delineation. Business models for Net-Works and tree nurseries are viable. Sufficient numbers of households are interested and able to engage in VSLAs.

	turtle, Trionyx triunguis, status unknown) and manatee (*Trichechus senegalensis, IUCN Red List VU; upgraded to CITES Appendix I in March 2013)* are halted or reversed within the sanctuary zones by year 3, based on monitoring of these populations throughout the project period.	Business models produced for livelihood interventions Transaction records and quantity of nets exported for recycling	
2. VSLAs established and integrated into community management committees	2a. At least 3 VSLAs established with 10-25 members each through community management committees by end of year 1. 2b. Village Agents replicate the VSLA approach in year 2, taking the total number of VSLAs to at least 10 with at least 200 households engaged by year 3. 2c. Training modules on lake ecology and management developed and integrated into VSLA training programme by year 1. 2d. Households engaged in VSLAs saving an average of at least 20,000cfa (£25) per year by year 3 from a baseline of an average of 0 cfa in savings.	Monthly reports from extension workers and project partners Annual project progress reports Peer-reviewed papers	
3. Three business models assessed and training provided for potential new sustainable enterprises to diversify the livelihoods of local communities	3a. Training modules developed and delivered through the VSLAs for community tree nurseries and Net-Works by year 1 3b. Business model for Net-Works and community tree nurseries developed and refined based on practical experience by year 2. 3c. 50% of fishing households engaged in either tree planting or Net-Works by year 2 from a baseline of 0%. 3d. Feasibility study and associated business model (if appropriate) for wildlife-based tourism completed by year 3, including plan for appropriate training of local community members to work in this sector.		
Output 4: A multi-stakeholder committee formed to define and agree boundaries of the reserve, with 10ha of the Reserve's degraded shore reforested and 5ha under agroforestry.	4a. Multi-stakeholder management committee including agroindustry, Community Management Committees and MINFOF is formed and meeting at least twice per year starting at the end of year 1. 4b. A reserve map of Lake Ossa with boundaries clearly demarcated and zoning system included is agreed by the multi-stakeholder management committee by year 2 and legally ratified by MINFOF by year 3. 4c. Participatory mapping completed and 15 ha of priority lake shore area within the reserve identified and		

	agreed for restoration with any land clearing required completed by year 2. 4d. At least 3 community tree nursery is established and providing at least 500 native trees a year by year 3 to support restoration of lake shore 4e. Participatory implementation of management plans for restoration of lakeshore habitat and planting of trees produced by community nurseries by male and female community members with support from industry (*10ha of reforestation and 5ha of agroforestry*), supported by finance from industry. 4f. Neighbouring industry participates through contributions made in kind and through direct purchase of tree seedlings from community tree nursery for restoration activities.		
5. A community-based lake clean-up of abandoned fishing gears is undertaken with local communities	5a. Outreach programmes on the impact of discarded fishing gears on Lake Ossa is developed and implemented through VSLAs and Community Management Committees by year 1. 5b. Participatory mapping and inventory of abandoned fishing gears in Lake Ossa completed by year 1. 5c. Community Management Committees and VSLAs engaged in lake clean-up activities by year 1. 5d. Net-Works business model operational by year 2, with fishers selling end-of-life nets into the supply chain (preventing further discards) and nets collected through the lake clean-up sold into the supply chain and benefits distributed equitably through VSLAs as per the established and tested Net-Works model. 5e. Mechanisms for bailing and exporting the nets for recycling are piloted with one test shipment completed by year 2. 5f. Other abandoned fishing gears are being recycled or sustainably disposed of by year 2. 5g. At least 50% of inventoried abandoned fishing gears are removed from Lake Ossa by year 3.		

Activity	**No of Months**	**Year 1**				**Year 2**				**Year 3**			
		Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**

Output 1														
1.1	Free, prior informed consent (FPIC) carried out in 11 villages.	3 months	x											
1.2	Biological baseline surveys carried out for manatee and freshwater turtles, including compilation of biodiversity reports, fisheries reports, and community perception surveys	6 months	x	x										
1,3	Training and implementation of baseline surveys for fisheries CPUE and VPUE in 11 villages.	6 months	x	x										
1.4	Re-establishment of seven Community Management Committees, including member election, ensuring gender, age, and occupational equality	6 months	x	x	x									
1.5	Workshop, training-of-trainers and advocacy on community-based management approaches for Community Management Committees and VSLAs, MINFOF Conservation Service, and the private sector.	9 months			x	x								
1.6	Participatory development of management plans and mapping of lake management areas through Community Management Committees.	9 months				x	x	x						
1.7	Implementation of management plans, including the construction of watchtowers, training of Community Management Committees and monitoring of enforcement activities by MINFOF.	18 months							x	x	x	x	x	x
1.8	Collaborative write-up of a five year simple management plan and approval by Conservation Service and Community Management Committees for post-project	9 months									x	x	x	
1.9	Biological and fisheries impact assessments through collection, analysis and feedback of data for manatee and freshwater turtles, and for fisheries CPUE and VPUE	6 months										x	x	
1.10	Reporting and preparation and submission of peer-reviewed paper.	6 months											x	x
Output 2														
2.1.	Workshop and training-of-trainers on VSLAs.	3 months		x										
2.2	Establishment of socioeconomic baselines through community consultations with 11 communities, and collection, analysis and feedback of data from household surveys and participatory rural appraisal.	3 months		x	x									
2.3	Establishment and fostering of first VSLAs in three pilot communities.	12 months			x	x	x	x						
2.4	Development of training modules on lake ecology and management developed and integrated into VSLA delivery	12 months		x	x	x	x							
2.5	Replication of VSLAs through Village Agent model and monitoring, ensuring that at least 11 communities have at least one VSLA group functioning	18 months							x	x	x	x	x	x
2.6	Socioeconomic impact assessment through collection, analysis and feedback of data from household surveys and participatory rural appraisal (linked also to output 3).	6 months										x	x	
2.7	Reporting and preparation and submission of peer-reviewed paper	6 months											x	x