

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 about 10 pages in length, excluding annexes **Submission**

Deadline: 30 April

Darwin Project Information

Project Reference	19-004
Project Title	Building Capacity of the Next Generation of Liberian Conservation Professionals
Host Country/ies	Liberia
Contract Holder Institution	Fauna & Flora International (FFI)
Partner institutions	University of Liberia Forestry Development Authority Forestry Training Institute Zoological Society of London
Darwin Grant Value	£299,122
Funder (DFID/Defra)	
Start/end dates of project	1 st April 2012 – 31 st March 2015
Reporting period (e.g., Apr 2015 – Mar 2016) and number (e.g., Annual Report 1, 2, 3)	April 2014 – March 2015. Annual Report 3
Project Leader name	Dr Mary Molokwu / Dr Kathryn Shutt
Project website/blog/Twitter	http://www.liberianfaunaflora.org/FFI/Page.aspx?p=30&ix=3064&pid=3009&pcid=4&ppid=3009
Report author(s) and date	Dr Mary Molokwu

1. Project Rationale

Liberia harbours two-thirds of the remaining blocks of intact Upper Guinean rainforest and therefore serves as a stronghold for many globally important species, including the western chimpanzee (*Pan troglodytes verus*-EN) and pygmy hippopotamus (*Choeropsis liberiensis*-EN). However, extensive deforestation has rendered this important biome seriously fragmented. Remaining forest sections provide critical habitat for threatened populations of many animal species. The Sapo National Park, Liberia's foremost protected area remains one of the single-most intact forest ecosystems in Liberia and serves as home to one of the last significant populations of the pygmy hippopotamus. After 14 years of civil war, threats to these forests, such as logging, mining and agro-industrial crops, are increasing and are compounded by low institutional conservation capacity leading to poor forest governance. This has significantly impacted Liberia's biodiversity.

A needs assessment for research and conservation education in Liberia identified weak institutional capacity and structure for effective conservation management. The Forestry Development Authority (FDA), Liberia's main government institution responsible for the conservation and utilization of Liberia's forest resources and two main academic institutions responsible for training forestry professionals and technicians, the University of Liberia and

Forestry Training Institute lost much of their institutional capacity during the war. As a result of the civil crises, little opportunity existed in country for building the capacity of natural resource managers in conservation as infrastructure for research and education were destroyed and training courses continually disrupted. The curriculums of these institutions of learning were outdated and students had very little opportunity to gain practical experience in conservation and ecological research while lecturers lacked the technical skills/knowledge to teach conservation issues or supervise research. As such, very little is known about Liberia's biodiversity, while the rate of deforestation continues to rise.

This project 'Build the capacity of Liberia's natural resource managers in conservation' was conceived as an intervention to address the low technical capacity in conservation and research. The project aims to build the capacity of Liberia's forestry professionals and students in conservation through 1) improvement of the forestry curriculums of Liberia's main academic institutions with the inclusion of conservation-based modules at international standards; 2) establishment of a centre of excellence for practical field training in conservation and ecological methods; 3) developing collaborations that will foster knowledge transfer and mentorship with international researchers. The Sapo Conservation Centre located in the headquarters of Sapo National Park in the South east region of Liberia (Fig 1) will act as a focal point for research in the south east, generating baseline information on Liberia's biodiversity.

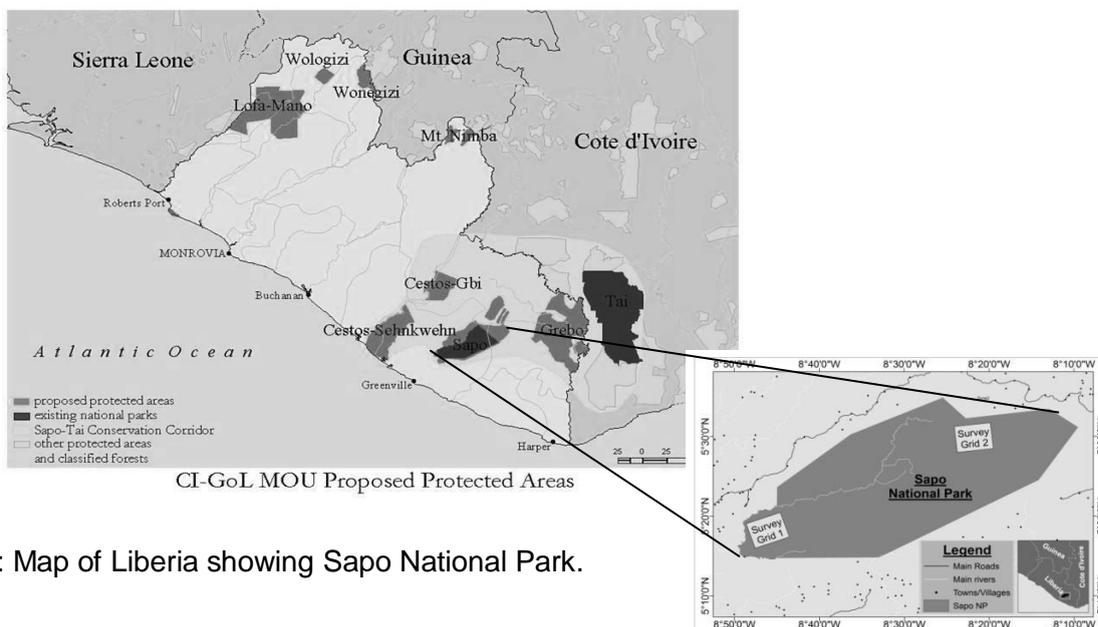


Figure: Map of Liberia showing Sapo National Park.

2. Project Partnerships

Five main partners – three in-country and two UK partners collaborate on this project. During the first year of the project, the partners - the University of Liberia, the Forestry Development Authority (FDA), the Forestry Training Institute (FTI), the Zoological Society of London (ZSL) and FFI were incorporated and a Memorandum of Understanding was signed. All three in-country partners were involved in the development of the project and have been fully involved in the implementation from inception. The responsibilities of all three in-country partners as stipulated in the MOU include providing technical support in project design and implementation as well as staff time and use of facilities where possible. ZSL provides resource support and technical expertise in the development of the field courses and research program. All three in-country partners are also major beneficiaries to the project in the form of training of personnel and resource support. FFI coordinates the entire project, provides resource support and technical expertise. All partners are required by the MOU to generate funding for their activities where possible. However, FFI has been the main fundraising partner for the project.

A partnership was also formed with the University of Cambridge that includes provision of technical expertise where required and with the A. P. Leventis Ornithological Research Centre (APLORI), Nigeria an internationally recognized institution promoting ornithological research in West Africa and offering a Masters program in Conservation Biology. An MOU was signed with

the latter (see Annex 4) that includes an agreement for the training of one Liberian student, yearly on a full Leventis Scholarship and the promotion of ornithological research in Liberia. A Liberian student has now completed the MSc course and conducted a survey of birds of Sapo National Park.

The five main partners and other stakeholders together form the project steering committee with the University of Liberia as chairman of the committee. The leadership of the committee and head of the UL Forestry Department was instrumental to the early insertion of the FFI academic modules in the Forestry curriculum. Other members of the steering committee include the Environmental Protection Agency of Liberia (EPAL), the Convention on Biological Diversity (CBD) focal point in Liberia, Liberia's Ministry of Internal Affairs (MIA) and the local community, Jalays Town, where the centre is situated. The Steering Committee meets at least three times a year (but upholds regular correspondence by email and phone), with the responsibility to advise, monitor and support the on-going development of the project. Several other stakeholder institutions including the Society for the Conservation of Nature in Liberia (SCNL), Liberia's Ministry of Education (MoE) and Ministry of Agriculture (MoA), United Nations Development Programme (UNDP) and US Agency for International Development (USAID) serve as observers on the committee.

Government institutions on the committee will help to promote project outcomes that impact on policy at both local and national levels. The committee will ensure that project activities adhere to standards of best practice, both locally and in a wider context. An Environmental Impact Assessment (EIA) was conducted by the FDA and EPA before construction of the Centre commenced. The mix of different stakeholders will ensure that the project's scope aligns with the requirements of the various stakeholder groups. In this past year, due to the Ebola crisis and consequent restrictions placed on gatherings, only one physical meeting was held in Liberia. However, the project coordinator made a presentation of the project in the UK to international stakeholders and some Liberian representatives and a meeting was held afterwards by the UK technical partners to review the conservation academic modules developed.

3. Project Progress

3.1 Progress in carrying out project activities

1. Curriculums of Liberia's premier teaching institution updated with conservation-focused teaching modules, in line with international standards. Topics to include introduction to conservation biology, rights-based governance approaches, sustainable livelihoods and climate change.

1.1. Hold inception stakeholder workshop to launch project and assess priorities for academic and field course content.

This activity was completed and reported in Year 1.

1.2. Devise and develop 6 academic modules and embed into curriculums of UL and FTI and
1.3 Produce accompanying educational packs for teachers and students

A total of 12 modules under two courses 'Biodiversity Conservation I and II were created during the first year and inserted into the curriculum of the Forestry Department of the University of Liberia. However, the curriculum has still not yet been finalized due to the impact of the complex bureaucratic procedures of the university. So far, information packs for seven modules have been drafted and accompanying teaching notes (lesson plans) are being developed. These are now being reviewed by the project's technical partners. Topics include: 'What is Conservation Biology', 'What is Biological Diversity', 'Threats to Biodiversity', 'Why Conserve Biodiversity', 'Species Approach to Conservation', 'Habitat and Hotspot Approach to Conservation', 'Sustainable Livelihoods Approach to Conservation'.

1.4. Train a minimum of 6 lecturers in module implementation

The training workshops for lecturers were aimed at developing teaching skills, module design and implementation as well as improving capacity in the teaching of conservation and in

conducting and supervising field based ecological research. A series of train-the-trainer workshops were carried out in the second year of the project. The third year (April 2014-March 2015) was to focus mainly on empowering the teachers to implement trainings and support field courses for students. One data analysis course was held for lecturers and FDA staff in June 2015. The first student field course early in 2014 (February 2014) saw two trained teachers and FDA personnel supervise field classes and report writing performed by the students. However, as a result of the Ebola crisis, no field courses or trainings were held between July 2014 and February 2015. A change request was submitted where a no-cost extension of the project was requested. Two student field courses on Ecological Sampling are now planned between April and October 2015 with more trained teachers applying learned skills in supporting the course.

1.5. Teach conservation modules to UL and FTI students

The project coordinator, FFI's Technical Advisor, Education and Research taught the first of 12 conservation modules 'Introduction to Conservation Biology' to over 60 students during a student's exchange programme organized by FTI and NCCC and held at FTI in Tubmanburg in May 2014. Also during May a seminar was held at the UL Forestry department Monrovia where a Liberian student Benedictus Freeman supported under this programme and then undergoing a MSc programme in Conservation Biology at the A. P. Leventis Ornithological Research Institute (APLORI), presented his thesis work. Over 40 students participated in the seminar. Afterwards, the training of students was postponed as a result of the Ebola crisis, as schools were closed between August 2014 and February 2015. The University has since resumed and a Technical Assistant has been recruited to support the teaching of the modules at the University.

2. Capacity of Liberian students and FDA employees in field research methods and conservation issues increased through residential courses at SNP hosted by SCC

2.1. SCC Steering Committee formed and operational

The fifth meeting of the Sapo Conservation Centre (SCC) Steering committee was held on the 11th March 2014. The next meeting was scheduled for August 2014, however due to the Ebola outbreak, the meeting was not held. The project coordinator was evacuated and email correspondence became the main means of communication between the coordinator and committee members. In February 2015, the project coordinator visited the UK and presented the project outcomes to international partners, stakeholders and collaborators. A meeting was held between FFI and the University of Cambridge (UC) to plan towards a technical review of the conservation modules, which is currently being done by FFI, UC and ZSL.

2.2. Production of SCC business plan

Two internal mini-workshops on Financial Sustainability (FS) were held in March and May to develop a FS plan for the Sapo Conservation Centre. Those who participated in the first mini-workshop organized by the Project Coordinator included FFI's Programme Coordinator, West Africa, FFI Liberia Administration and Finance team and FFI Liberia Capacity building Coordinator. Participants in the May workshop included the finance and admin team, the SCC team and capacity building coordinator. A report will be developed and the business plan will be finalized by the project steering committee.

With the creation and activation of the Sapo Conservation Centre, and increasing research activities implemented within and around the Sapo National Park, the project has evolved well beyond its original scope. The project has now been divided into two main arms - the wider Liberia capacity building project and the SCC project. Theory of change (ToC) workshops were organized for both projects, facilitated by the Conservation Capacity team in Cambridge with the Liberia Programme Manager and the project coordinator participating. The ToC's were carried out to explore the projects – issues they are addressing, challenges and prospects to enable development of realistic goals.

2.3. Construct and equip research centre and campsite

This activity has now been completed and was reported in Year 2. A 10-seater Land Cruiser was purchased for the Centre in 2014 and after a rigorous recruitment process, the SCC Technical Assistant was recruited to support the programmes of the Centre. The selected

candidate Matthew Varney resumed work on the 13th of March 2014. A caretaker was also recruited for the centre during this period, bringing the number of staff based at SCC to four. This includes in addition to the above, a Project Assistant (an internship position) and a gardener.

2.4. Adapt ZSL field courses for Liberian situation and priorities

This activity was completed and reported in Year 2.

2.5. Conduct field courses in field research methods and conservation issues

A 5-week course in 'Statistical Methods in Ecology' was held from 11th June – 3rd July 2014, facilitated by a Post-doctoral research fellow Dr Yahkat Barshep from the University of Cape Town. 15 participants from FDA, UL, FTI, ArcelorMittal and FFI were trained in statistics (six people were trained in the use of the free R software and nine people trained in the use of Microsoft Excel for data analysis).

Two field courses were planned for the remainder of 2014 – a Sustainable Livelihoods workshop in August and an Ecological Sampling course in October 2014. However, due to the Ebola crisis, the courses were postponed. Three courses (two Ecological Sampling courses for students and one Sustainable Livelihoods course for professionals) are now planned for 2015.

3. Improved knowledge of the biodiversity of Southeast Liberia through increased collaborative research and continuation of SNP bio-monitoring programme.

3.1. Conduct an in-depth review of current understanding of SNP's biodiversity and identify knowledge gaps

A review of past and potential future research work in SNP was produced in Year 1.

3.2. Design and produce SCC promotional material aimed at international researchers, including posters, leaflets and webpage

This activity has been accomplished. However the website will continue to be updated with information on the center and the distribution of promotional materials will continue. A presentation of the project was made by the project coordinator to international partners in the UK. The PowerPoint presentation and a video recording of the talk are available.

3.3. Clear and map a trail system in the park for use by researchers, rangers and tourists

This activity is still on-going. The biomonitoring team received a refresher course in February 2015. See below for more details.

3.4. Continuation and growth of SNP bio-monitoring programme

The 2014 biomonitoring programme was carried out from February - July 2014. A total of 34 species, including 27 mammals, 6 large birds and one invertebrate were recorded. Analysis of the biomonitoring data is currently in progress. In February 2015, the FDA biomonitoring team (three FDA employees and 15 auxiliaries) were given a refresher course on data collection using the Biomonitoring training manuals produced in 2012. The team underwent one week of training and planning for fieldwork and commenced biomonitoring activities on the 21st of February 2014. Camera traps were also mounted within the national park to collect data on elusive species such as the pygmy hippopotamus. Data will be collected on 50 indicator species, including the four endangered species found in the park – pygmy hippopotamus, West African chimpanzee, Jentink's duiker and red colobus monkey. A Project Assistant and Intern were recruited to support the biomonitoring team in data recording and to collect data on pygmy hippopotamus for 10 – 12 months. The camera traps are now being retrieved and photos of important species, including the pygmy hippo and Jentink's duiker were captured.

3.5. Host national and international researchers to conduct applied research work in areas of identified need

Two Liberian students and the biomonitoring coordinator carried out independent research this year. As part of a collaborative agreement with the APLORI, Nigeria in an MOU signed in June 2013, a Liberian student and graduate of UL, Benedictus Freeman a Liberian student completed a fully funded Masters Programme in Conservation Biology at the institute in Nigeria

in October 2014. The student produced a thesis titled 'Bird-habitat relationships and anthropogenic activities in and around Sapo National Park, Liberia'. Another UL graduate John Kannah was supported by funding from the Arcus Foundation and Henry Doorly Zoo, on a 6-month internship. The intern worked with the biomonitoring coordinator Matthew Varney, in conducting a bushmeat survey and conservation education for schools around SNP, creating awareness on the West African chimpanzee. The project was completed in June 2014. John Kannah also attended the Tropical Biology Association course in Tanzania in August 2014. A research project was developed by the project coordinator entitled 'Gauging the impact of Conservation Education: An evaluation of conservation capacity building projects in Liberia'. While the project topic was intended for an international internship and was advertised at the University of Cambridge Conservation Leadership MPhil with initial expressions of interest received, no international student took up the position. The internship was later advertised locally and a Liberian, Ernest Waylee was recruited. The 10-month internship is being funded by the Conservation Leadership Programme (CLP), under the Segre Foundation grant for FFI. The intern resumed in January 2015.

Four Liberians have been successfully admitted into the Society for Conservation Biology Africa Section Communications and Mentoring Programme, including one FDA staff Menladi Lormie, a FTI instructor, Anderson Showell, the Director of Sustainable Agricultural Development Services (SADS), a local partner, Peter Mulbah and the FFI Technical Assistant SCC and Biomonitoring Coordinator Matthew Varney. This is the first time Liberians are participating on the programme. These mentees will be supported to produce research proposals and scientific papers at the end of the one year mentorship.

3.6. Establishment of a small library of books, papers and reports relevant to the study and conservation of Liberian biodiversity

As reported in Year 2, a reference library of over 55 books and 40 journal volumes has been established at the FFI office in Monrovia. A second library is now being established at the Sapo Conservation Centre and books are currently being procured.

3.7. Train a minimum of 10 community members in basic guiding skills

This activity is now completed and was reported in Year 2. Three of the trained locals each supported a MSc research student as field assistants during field work in SNP in the Jalay Town (Zone 1), Putu (Zone 2) and Doodwicken (Zone 3).

4. Research findings disseminated through local and national media, scientific publications, a dedicated webpage and reports

4.1 Produce monthly and annual reports for SCC

Quarterly and annual reports were produced for FFI and two progress reports were submitted to the FDA – one on biomonitoring in SNP and the other on progress of the entire project in 2014. One MSc. thesis was also produced by a Liberian student on 'Bird-habitat relationships and Anthropogenic threats within and around Sapo National Park'.

4.2 News features and radio broadcasts released nationally

On invitation, an article on the Sapo Conservation Centre was published in the Society for Conservation Biology Africa Section Newsletter 'Africa Conservation Telegraph' (ACT).

4.3 Research reports/publications posted on www.liberianfauna-flora.org and 4.5 Establish dissemination network

Research reports produced under this project are being posted on the website.

A conservation group was formed on social media by partners trained during the CLP fundraising and proposal writing workshop. The group Conservation Leadership Network Liberia (CLNL) now has a Facebook page

<https://www.facebook.com/groups/674710535897862/>, a forum where conservation news and information on meetings, trainings and other events are publicised.

4.4. Conferences/Seminars attended to present research work

The Project Coordinator and Liberia Programme Manager made poster presentations at the Bristol Zoo Symposium in February 2015. Two posters were presented titled, 'The importance of the Sapo Conservation Centre to the Biodiversity and People of the Sapo National Park' and 'Bird-habitat Relationships and Anthropogenic threats within and around the Sapo National Park'.

3.2 Progress towards project outputs

1. Curriculums of Liberia's premier teaching institution updated with conservation-focused teaching modules, in line with international standards. Topics to include introduction to conservation biology, rights-based governance approaches, sustainable livelihoods and climate change.

Indicators:

1.1) **6 academic modules written and formally included in the curriculums**

In Year 1, 12 academic modules were created and included in the curriculum of the Department of Forestry, University of Liberia. **A minimum of 6 lecturers trained in module implementation**

Two lecturers supported the student field course in February 2014 and two participated in the short course on data analysis.

1.3) **Accompanying educational packs produced for teachers and students**

By Year 3, seven students information packs developed are under review by a technical review team made up of FFI, ZSL and UC. The remaining five are being developed.

Means of verification:

Course modules and educational packs– information packs drafted for seven modules; meeting reports and emails.

Report on 'train the trainer' workshop for lecturers produced – Report available.

2. Capacity of Liberian students and FDA employees in field research methods and conservation issues increased through residential courses at SNP hosted by SCC

Indicators

2.1) **Financially sustainable and effective functioning of newly established SCC.**

Two workshops were held to develop the SCC financial sustainability plan in response to the recommendation of the project steering committee regarding developing a financially stable business plan.

2.2) **SCC hosts minimum of three 5 day workshops per year.**

Two residential courses were held during Year 3 - one 5-day fundraising and proposal writing workshop for lecturers, civil society and FDA staff and one five-week course on data analysis for lecturers and FDA staff.

2.3) **Capacity of a minimum of 60 UL students, 60 FTI students and 30 FDA employees built in field research methods and conservation issues**

The curriculums of UL and FTI are still not finalized and teaching of the modules have not commenced. However, over 60 FTI and NCCC students were taught Module 1 'What is Conservation Biology' during a student's exchange programme and over 40 UL students participated in a seminar on 'Bird-habitat relationships and anthropogenic threats within and around Sapo National Park', given by a Liberian student conducting thesis research at SNP. Also, 26 participants - staff of FDA, UL, FTI, NCCC and EPA as well as staff of several civil society organizations were trained during two workshops between May and July 2014. In February 2015, 18 FDA staff and auxiliaries and one intern were trained on biomonitoring and camera trapping.

Means of verification:

Monthly and annual reports produced by SCC, Sustainability plan; minutes of SCC steering committee – annual report and minutes of meetings available.

Attendance lists; Pre- and end-of-project questionnaires distributed to course attendants; Accompanying educational packs produced – training workshop reports, audio CD of project coordinator's presentation and feedback forms are also available.

3. Improved knowledge of the biodiversity of Southeast Liberia through increased collaborative research and continuation of SNP bio-monitoring programme.

Indicators

3.1) No. of research projects focussed on biological diversity in Southeast Liberia increased, including proportion produced by Liberian nationals

Two research projects one on avian diversity of SNP and another on bushmeat consumption and knowledge of SNP's protected species were conducted by Liberian students. A research project evaluating the impact of conservation education in Liberia is currently being carried out by an intern.

3.2) Continuation and growth of SNP bio-monitoring programme

The first year of biomonitoring was successfully completed. The second year biomonitoring is currently on-going. Camera trapping is also on-going and photos of important species were recorded.

3.3) No. of community members trained in basic guiding skills

Three trained community members supported research work as field assistants in SNP during 2014.

Means of verification:

Research reports/publications / 3.2 Annual SNP bio-monitoring report / 3.3. Monthly and annual project reports – research reports, biomonitoring reports and camera trapping photos available. Annual report also available.

4. Research findings disseminated through local and national media, scientific publications, a dedicated webpage and reports

Indicators

4.1) A minimum of 2 national and 1 international press releases and/or radio interviews to be released per year

An article was published in the December edition of the SCB Africa Newsletter Africa Conservation Telegraph on 'The importance of the Sapo Conservation Centre in Liberia'. One interview of the project coordinator by FFI Friends was granted for the May Edition of the FFI Friends Newsletter.

Means of verification:

Monthly and annual reports produced by SCC – Annual report are available;

National and International publications –Article are available at <http://conbio.org/groups/sections/africa/act>.

Research reports/publications posted on www.liberianfauna-flora.org – reports from Year 1 have been posted on the website.

The above indicators remain suitable for measuring the outputs.

3.3 Progress towards the project Outcome

Purpose: To build capacity in participatory conservation and applied research to international standards in the next generation of Liberia's conservation professionals through enhanced university education, practical field experience and mentoring from international researchers, whilst simultaneously generating baseline information on Liberia's biodiversity.

The project is well placed to achieve its purpose by end of funding as most of its objectives have been met. The following indicators were identified during the planning of the project and remain sufficient for measuring progress and achievement of the project outcomes:

- 1) Number of students participating in new conservation modules and field courses.
- 2) Number of students choosing conservation-related careers
- 3) Number of research projects conducted at SCC.
- 4) Application of learning by FDA course attendants during the course of their work

Students of FTI and NCCC who participated in the field course and student exchange programme were fully engaged and actively participated in group assignments and discussions. A student of NCCC who made a brilliant presentation has been selected to intern at FFI in 2015. He will be collecting data on pygmy hippopotamus.

A previous intern on this project John Kannah successfully applied for a Tropical Biology Association (TBA) scholarship and completed the TBA course in Tanzania in August 2014. John also successfully completed a project looking at bushmeat consumption and conservation awareness level of communities around SNP and supported the biomonitoring programme from Feb – May 2014 during his internship. John participated in the Fundraising and proposal writing workshop and successfully obtained a GEF-UNDP Small grant for a project aimed at protecting endangered species in the Grebo National Forest, south-east Liberia. He has now set up an NGO and commenced the project in Jan 2015. In a letter to the project coordinator, John stated ***‘As we start the implementation of our first project, we will like to tell you thanks for the valuable training and opportunity you gave us. We couldn’t have come this far without the trainings and opportunity. We are grateful to you and the FFI family especially the CLP team.’***

A UL student successfully applied for and obtained a MSc degree in Conservation Biology from APLORI. He successfully conducted his thesis research on ‘Bird-habitat relationships and anthropogenic threats in and around Sapo National Park’ and is now supporting the Darwin project as Technical Assistant Research and Education.

Two research projects ‘Establishing the level of Conservation Awareness in Sapo National Park, Liberia’ and ‘Bird-habitat relationships and anthropogenic threats in and around Sapo National Park’ were implemented by Liberian students in 2014.

Lastly, one of the FDA zonal wardens supported the training of the biomonitoring teams during the biomonitoring refresher course. He also learned from the course coordinator as he asked intelligent questions which reflected his interest in learning and showed that with time, he might be able to lead the training independently.

3.4 Monitoring of assumptions

Our outcome and output level assumptions for this project remain the same except for one output assumption that ***Lecturers are available for training and module implementation.***

Due to the challenge of unavailability of lecturers to teach the conservation course full time in UL as stated in the Year 2 report, a UL graduate and former teaching assistant Benedictus Freeman was trained under the APLORI MSc. Programme in 2014. He has now been brought on board this project as a Technical Assistant for Research and Education to support the development of the conservation modules, implement the modules and support the development of the SCC research programme. He will receive further training in module implementation and teaching skills under this project.

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

A number of our project activities contribute directly to biodiversity conservation. These include research and outreach activities and the biomonitoring programme. A few of our project activities also contribute both directly and indirectly to poverty alleviation (see details of these in section 5 below)

The following indicators were identified during project planning:

1. No. of research projects focussed on biological diversity in Southeast Liberia increased, including proportion produced by Liberian nationals
2. Continuation and growth of SNP bio-monitoring programme

A Liberian student conducted his MSc. Thesis in the Sapo National Park, comparing the diversity of birds between SNP and the buffer zone and obtaining density estimates for birds of global conservation concern. A total of 183 birds were recorded, updating the bird list of SNP.

Density estimates of nine threatened birds were obtained and anthropogenic pressures within and around SNP were identified.

A bushmeat consumption survey and conservation awareness project was carried out by an intern from March – June 2014 in SNP. The project involved investigating knowledge of protected species and Liberian wildlife laws among seven communities around SNP. There was evidence that communities around the Sapo National Park were to a great extent well informed about the wildlife laws and protected species, particularly those communities closest to the park. All respondents in the communities near the SNP headquarters (Zone 1) could name more than one wildlife law and protected species. In other communities adjacent to the park in zones 2 and 3, up to 75 % and 59.5 % respectively could correctly identify a protected species. However, there was a much lower perceived knowledge of the wildlife laws in these communities compared to those close to the park headquarters in Zone 1, where the presence of the FDA is felt.

A conservation education programme was also carried out in eight schools around SNP. About 460 children of ages 6-12 were trained. The programme involved training in biodiversity conservation, protected species (with focus on West African chimpanzee and pygmy hippopotamus) and the wildlife laws of Liberia. Before and after the training school children were asked to make a sketch of their perception of nature. School children showed some level of improvement in their perception of nature after the training. See image in Annex for representation of a student's perception of nature before and after the training.

Our biomonitoring programme established for the long-term monitoring of important species and threats within SNP commenced in 2014. During the first phase of the biomonitoring project February-July 2014, 74 out of the 90 transects established in the 180,365 ha of SNP were surveyed. A total of 34 species were recorded – 27 mammals, 6 large birds and one invertebrate. Signs of hunting were found inside the park, including gun shells, hunting trails and camps. A hunter was also caught with the black and white colobus monkey, a protected species (IUCN threat category – vulnerable). Data analysis, particularly chimpanzee population estimates and nest decay analysis are still on-going. A preliminary report produced on the research activities in SNP was submitted to the Forestry Development Authorities in June 2015. By the end of 2014, a team comprising of the FDA Deputy Managing Director operations and some of the senior staff of FDA travelled from Monrovia to Sapo to investigate the issues of illegal mining around SNP. However, it is not yet known if this was influenced by our report.

4. Project support to the Conventions (CBD, CMS and/or CITES)

This project is aimed at strengthening the capacity of Liberian nationals in conservation, thereby supporting the National Government of Liberia in implementing Articles 5, 7, 8, 10, 11, 12, 13, 17 and 18 of the Convention on Biological Diversity (CBD). In particular, the project has supported the implementation of *Article 12. Research and Training* through the establishment of the Sapo Conservation Centre and *Article 18. Technical and Scientific Cooperation* through collaborations developed with regional and international institutions. Development of scientific research and relevant collaborations for conservation training will increase technical capacity for the effective conservation of Liberia's biodiversity. During biomonitoring and research activities carried out in Sapo in 2014, 19 out of 43 CITES mammals species and nine CITES bird species were recorded, including the African Elephant and African grey parrot. By supporting and co-coordinating research efforts, the project will address the knowledge gaps on Liberia's biodiversity, enable future monitoring of the 130 CITES listed species found in the country and enable better informed management decisions to be made, directly contributing to the conservation and sustainable use of biodiversity. The EPA, Liberia's CBD focal point is an active member of the Project Steering Committee that meets regularly during the year (minutes of meetings are available) and staff of the institution have benefitted from trainings during this project. Two EPA staff participated in the Fundraising and proposal writing workshop in 2014.

5. Project support to poverty alleviation

The project addresses poverty alleviation both directly and indirectly. The indicator identified during project planning was the number of community members trained in basic guiding skills. Community members will benefit from training in field guiding, sustainable livelihood approaches and from long- and short- term employment as a result of activities of the centre.

This project has opened up opportunities for alternative income generation for community people living around the Sapo National Park. The field courses and community field guide trainings were conducted at the Sapo Conservation Centre in 2013. Three of the community guides trained earned income from supporting the MSc. research project as field guides in 2014. Two community members are currently employed at the centre and receive a monthly salary. During the year 2014 up to 15 women were engaged in catering services during field courses and earned some income. Fifteen biomonitoring community auxiliaries also received monthly stipends.

The project has also created an opportunity for the communities to contribute to decision making and for local voices to be heard through their participation on the project steering committee. The Paramount Chief of the Jalays Town, where the SNP headquarters is located, is a member of the steering committee. This enabled the report of emerging human-wildlife conflicts within and around SNP to be made. This issue is now being addressed in a new proposal to the US Fish and Wildlife Service.

6. Project support to Gender equity issues

The project has sufficiently included men, women, youths and children in various activities. Out of 35 community people that benefitted from the project in 2014, 15 were women. While there are limitations to the number of women that can participate in certain activities e.g. training of foresters due to the few number of women involved in forestry in Liberia, we have made attempts to ensure that students selected for the field course include equal number of males and females. One way we ensure this is to request schools to make this one of the criteria for selecting student participants. Out of 11 students that participated in the field course in 2014, four were female.

7. Monitoring and evaluation

Indicators of achievement set during the planning of this project include, number of students, lecturers and FDA staff trained in theoretical and practical conservation issues; number of modules, educational packs and manuals produced; degree to which research outputs are integrated into natural resource management decisions; application of learning by FDA course attendants during the course of their work and number of research projects being conducted by Liberian nationals as well as number of students who choose conservation-related careers.

FFI continuously monitors the project through submission of annual and quarterly reports detailing achievements to date, monthly objectives achieved and any challenges faced. Progress reports are also presented to the Project Steering Committee at every meeting. Actual project activities and outputs are regularly matched against the project log frame to ensure that originally proposed objectives are being met. Detailed annual technical and financial reports are produced, reporting against objectives and the budget. Self-assessment questionnaires are distributed yearly to instructors and FDA personnel to collect information on baseline and mid- and after- project developments to measure the impact of this project. An M & E questionnaire designed during the first year to evaluate the impact of the project was meant to be distributed yearly. However, this was not carried out during 2014 as a result of the Ebola crisis. Pre- and post- project questionnaires will be compared at the end of the project to measure its success. Participants are also constantly evaluated through on the ground application of skills gained.

8. Lessons learnt

A major challenge faced this past year was the Ebola crisis. As a result of forecasts by experts which predicted that the Ebola outbreak may not be contained until the second quarter of 2015, activities planned for the last quarter of 2014 were postponed. These include one student residential field course and at least two stakeholder meetings including technical support to academic module review. As an alternative plan to ensure that the aim of the activities outlined above – training of students in camera trapping and species identification and technical review of the academic modules - are still achievable within the project period, a change request was submitted, and the project coordinator met with international stakeholders (Zoological Society of London / Cambridge University) and other FFI technical staff in the UK in Feb 2015 to present the project outcomes and seek future technical input to the academic modules from the international partners. This has ensured that despite the restrictions experienced as a result of the Ebola, the project will still proceed as planned. The conservation modules will be finalized and teaching of the course will have commenced before the end of the project extension period in October 2015.

One other challenge faced by the project, which was realised during the first year, was that UL lecturers may not be fully available for the teaching of the conservation modules. As a mitigating measure, a UL graduate was trained in conservation biology under a collaboration between SCC and APLORI. He has now been recruited to implement the modules at the university while supporting the SCC research programme. More graduate students will be supported under the SCC-APLORI collaboration for training and will be encouraged to return to the University to teach. This approach will enable a strong teaching-team to be built for the conservation course and ensure long-term sustainability. There is hope that the UL forestry curriculum will be finalized this year and the modules will have been completely taught to at least one graduating class by 2016.

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

There were no major issues raised in the previous review.

10. Other comments on progress not covered elsewhere

To a great extent, the project design has remained the same. However, in some cases, methods have been refined to improve project design, for example, the training and recruitment of a teaching assistant to implement the modules. Similarly, the biomonitoring data collection has been adapted to be more integrative with the Max Planck Institute of Anthropology APES database. The major risk to the project is that international research has been hampered by the Ebola crisis, which was the main difficulty encountered by the project in the past year. This was elaborated in the sections above.

11. Sustainability and legacy

The project has been sufficiently promoted both locally and internationally. This is evidenced in the several emails received from international researchers to carry out research at SCC and increasing interest among Liberians in the project, through emails and visits by individuals to the FFI office requesting support in technical skill development. The project has been promoted through the distribution of posters and postcards, press releases and presentations. The Project Coordinator was invited to present the keynote lecture at the first student exchange programme organized by FFI and NCCC. In their invitation, it was recognized that the exchange programme was born out of collaborations developed between these institutions and nurtured by the Darwin project. During the exchange programme, a graduating student of NCCC, James Gbeaduh was selected to intern at FFI and he has since commenced a project investigating the status of pygmy hippos in SNP. Strong interest was also recorded in the number of applications received for a second internship investigating the impact of conservation education in Liberia. Over 100 applications were received from graduate and

undergraduate students. This suggests that student interest throughout the life of the project and after will be retained.

A 5-year financial sustainability plan for the project is under development and will form the mode of operation of the centre. The SCC technical team is now made up of two Technical Assistants – for Biomonitoring and for Research and Education and one project assistant (an internship position). International researchers will also be encouraged to conduct research at the centre. The focus during this coming year will be to develop the educational front through teaching of the academic modules at the university and to strengthen the research arm of the project. Training and research collaborations with UK based and regional institutions, particularly the training of one Liberian every year in Conservation Biology at APLORI will ensure that research and technical capacity development continues even after the project ends.

12. Darwin Identity

As a major donor, the Darwin Initiative has been given proper acknowledgement throughout this project. The Darwin logo was used throughout the project on publicity materials – posters, postcards, banners and sign boards. Stickers of the logo or serial numbers with the DAR code were placed on equipment purchased for the centre. The Darwin initiative logo was also prominent on PowerPoint presentations and was recognized in news articles and reports circulated. All local partners – the University and government institutions as well as international partners are very familiar with the role of the Darwin Initiative as the main funder of the project and the project is usually referred to as the ‘Darwin Project’.

13. Project Expenditure

Table 1 Project expenditure during the reporting period (1 April 2014 – 31 March 2015)

Project spend (indicative) since last annual report	2014/15 Grant (£)	2014/15 Total Darwin Costs (£)	*Balance (to be carried forward to extension period)	Variance %	Comments
Staff costs specified by individual					
Mary Molokwu					Balance will cover Project coordinator’s salary for extra 3 months
Caretaker, Centre of Excellence					Balance will cover caretaker salary for 2 months during the extension period
Driver salary					Balance will cover driver’s salary for two extra months
Kathryn Shutt					Will cover time cost for the Liberia Programme Manager
Chris Ransom					Balance will cover trainer’s fee during the field course
Chris Sandbrook					Same as above
Overhead costs					Covers overheads during the extension period
Travel and subsistence					Co-funding available after April to support local travels

Operating costs					To cover costs of field course, running cost for partners and centre operations
Others: Carbon offsetting					Contribution to carbon offsetting for the rest of the project period
Others (Consumables)					Available co-funding to support
TOTAL	£87,763.00	£61,904.00	£25,859.00		

*A change request was submitted for a no-cost extension after the end of Year 3 for the period April – October 2015. A carry forward of up to £26,034 was approved by Darwin. The total balance from Year 3 will be cover project costs from Apr – Oct 2015.

14. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

One major achievement this year was the commencement of the Sapo National Park (SNP) long-term biomonitoring programme, which is intended to gather long-term data on species population trends and threats in SNP that will be used to monitor changes in important species populations and threats. In 2014, 18 biomonitoring team members (made up of 15 community auxiliaries and three rangers of the Forestry Development Authority) received a refresher course and implemented biomonitoring in the three management zones of SNP. 74 out of 90 transects established across the 180,365 ha of Sapo National Park were surveyed. A total of 34 species were recorded and major threats to wildlife identified. The distribution of some mammals across SNP was also established. Biomonitoring recommenced in Feb 2015 and camera traps were mounted in the park. Several important species were captured on camera, including endangered species such as the pygmy hippopotamus, Jentink's duiker and chimpanzee. Other species recorded include the African elephant, white-breasted guineafowl and bongo. Data collected during this initial phase will serve as baseline information for future research and conservation action in SNP.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2014-2015

Project summary	Measurable Indicators	Progress and Achievements April 2014 - March 2015	Actions required/planned for next period
<p>Goal/Impact</p> <p>Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p> <p>Sub-Goal:</p> <p>To contribute to the conservation of Liberia's biological diversity, and Sapo National Park in particular, by drawing on UK expertise to build national capacity to meet international and national biodiversity targets.</p>		<p>The project has made significant progress towards a positive impact on biodiversity. The biomonitoring programme, comprising transect surveys and camera trapping, recorded important species and established the distribution of some of these species. During this year, the research programme came in full gear and trained community field guides were also activated to support research work in SNP and received earnings.</p>	
<p>Purpose/Outcome</p> <p>To build capacity in participatory conservation and applied research to international standards in the next generation of Liberia's conservation professionals through enhanced university education, practical field experience and mentoring from international researchers, whilst simultaneously generating baseline information on Liberia's biodiversity</p>	<ol style="list-style-type: none"> 1) Number of students participating in new conservation modules and field courses. 2) Number of students choosing conservation-related careers 3) Number of research projects conducted at SCC. 4) Application of learning by FDA course attendants during the course of their work 	<p>So far, the project has recorded immense success. Despite the Ebola crisis, the project was still able to achieve important milestones this year, particularly with the launching of the research programme. Over 100 students received training and instructors, FDA and civil society staff received training in fundraising and data analysis. Two interns are currently carrying out research.</p>	<p>Key activities planned for the project extension period include:</p> <ol style="list-style-type: none"> 1. Technical review of developed academic modules and teaching manuals 2. Teaching of the academic conservation modules at the university 3. Three field courses – two on Ecological sampling and one on Sustainable livelihoods approaches conducted 4. Analysis of biomonitoring data continued and reports produced 5. Conferences attended by project team to present research results
<p>Output 1. Curriculums of Liberia's premier teaching institution updated with conservation-focused teaching modules, in line with international standards. Topics to include introduction to conservation biology,</p>	<ol style="list-style-type: none"> 1.1) 6 academic modules written and formally included in the curriculums 1.2) A minimum of 6 lecturers trained in module implementation 1.3) Accompanying educational packs 	<p>About 70 % of this activities under this output have been achieved and indicators remain appropriate for measuring progress.</p>	

rights-based governance approaches, sustainable livelihoods and climate change	produced for teachers and students	
Activity 1.1 Hold inception stakeholder workshop to launch project and assess priorities for academic and field course content.		This activity was successfully completed in Year 1
Activity 1.2, Devise and develop 6 academic modules and embed into curriculums of UL and FTI		This activity was fully achieved in Year 2.
Activity 1.3, Produce accompanying educational packs for teachers and students		Out of 12 modules inserted into the forestry curriculum of the UL, seven have been developed into educational packs and the teaching manuals are being developed. The modules are now being reviewed.
Activity 1.4, Train a minimum of 6 lecturers in module implementation		This activity has been achieved and trainings will continue e.
Activity 1.5, Teach conservation modules to UL and FTI students		Over 100 students were trained this year during a student exchange programme for FTI and NCC students and a seminar held at UL. It is anticipated that the teaching of the course at the university will commence in 2015 as soon as the university curriculum is finalized
Output 2. Capacity of Liberian students and FDA employees in field research methods and conservation issues increased through residential courses at SNP hosted by SCC	2.1) Financially sustainable and effective functioning of newly established SCC. 2.2) SCC hosts minimum of three 5 day workshops per year. 2.3) Capacity of a minimum of 60 UL students, 60 FTI students and 30 FDA employees built in field research methods and conservation issues	Nearly all activities under this output have been achieved. The business plan will be derived from the outcome of the financial sustainability workshop.
Activity 2.1. SCC Steering Committee formed and operational		As a result of the Ebola crisis, only one meeting of the steering committee was held in Liberia. however, a meeting of project partners was held in the UK during the project coordinator's visit to FFI UK
Activity 2.2. Production of SCC business plan		Two workshops on Financial sustainability were held, geared towards developing the SCC business plan
Activity 2.3. Construct and equip research centre and campsite		This activity has been fully achieved
Activity 2.4. Adapt ZSL field courses for Liberian situation and priorities		This activity has also been fully achieved.

Activity 2.5. Conduct field courses in field research methods and conservation issues		Due to restrictions placed on gatherings during the Ebola crisis, only one residential course and two biomonitoring and camera trapping trainings were held during this year.
Output 3. Improved knowledge of the biodiversity of Southeast Liberia through increased collaborative research and continuation of SNP bio-monitoring programme	3.1) No. research projects focussed on biological diversity in Southeast Liberia increased, including proportion produced by Liberian nationals 3.2) Continuation and growth of SNP bio-monitoring programme 3.3) Number of community members trained in basic guiding skills	All activities under this output have been achieved. However most remain an on-going activity remaining an on-going process. Indicators remain appropriate measures of project progress
Activity 3.1 Conduct an in-depth review of current understanding of SNP's biodiversity and identify knowledge gaps		This activity has been fully achieved
Activity 3.2 Design and produce SCC promotional material aimed at international researchers, including posters, leaflets and webpage		This has been achieved but will remain a continuous activity
Activity 3.3 Clear and map a trail system in the park for use by researchers, rangers and tourists		This activity is ongoing and is being conducted by the biomonitoring team.
Activity 3.4. Continuation and growth of SNP bio-monitoring programme		This activity is in its second year and data is currently being analysed
Activity 3.5. Host national and international researchers to conduct applied research work in areas of identified need		Two national researchers have completed their research in the SNP. An intern is currently collecting data on pygmy hippos.
Activity 3.6. Establishment of small library of books, papers and reports relevant to the study and conservation of Liberian biodiversity		This activity commenced in Year 1 and books re still been procured through donations and purchases
Activity 3.7. Train a minimum of 10 community members in basic guiding skills		This activity has been fully achieved and trained community field guides are now supporting research work in SNP
Output 4. Research findings disseminated through local and national media, scientific publications, a dedicated webpage and reports.	4.1) A minimum of 2 national and 1 international press releases and/or radio interviews to be released per year	This output has been completely achieved; however it remains a continuous activity. Output indicators remain appropriate.
Activity 4.1 Produce monthly and annual reports for SCC		Midterm and annual reports produced and circulated

Activity 4.2 News features and radio broadcasts released nationally	Three press releases were featured in three national newspapers and one news story was featured internationally on the FFI website that was shared in social media such as Facebook
Activity 4.3 Research reports/publications posted on www.liberianfauna-flora.org	Reports are available on the website. However the website is currently under maintenance
Activity 4.4 Conferences/Seminars attended to present research work	The Liberia Programme manager and the project coordinator both attended the Bristol Zoo Symposium in February 2015. The coordinator also made a presentation to UK partners..
Activity 4.5 Establish dissemination network	This has been fully achieved

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: To contribute to the conservation of Liberia's biological diversity, and Sapou National Park in particular, by drawing on UK expertise to build national capacity to meet international and national biodiversity targets.	1) The extent and quality of information available on the characteristics, uses and values of the biodiversity of Liberia 2) The degree to which research outputs are integrated into natural resource management decisions (incl. SNP) 3) A significant contribution made to Liberia's National Biodiversity Action Plan.	1) Data available on the characteristics, uses and values of Liberia's biodiversity 2) National and regional conservation strategies/policies/laws; Meeting minutes; Reports 3) Project reports (annual and final)	
Purpose To build capacity in participatory conservation and applied research to international standards in the next generation of Liberia's conservation professionals through enhanced university education, practical field experience and mentoring from international researchers, whilst simultaneously generating baseline information on Liberia's biodiversity.	1) Number of students participating in new conservation modules and field courses. 2) Number of students choosing conservation-related careers 3) Number of research projects conducted at CEERCL. 4) Application of learning by FDA course attendants during the course of their work	1a) University registration records 1b) CEERCL annual reports 2) Post-project follow-up questionnaire to course attendants 3) Research reports/publications 4) Pre and end-of-project questionnaires to FDA course attendants and discussion with line managers	Facilities, lecturers and students available. National and international researchers attracted to the area. Political stability maintained nationally and regionally UoL, FDA and FTI remain operational.
Outputs 1. Curriculums of Liberia's premier teaching institution updated with conservation-focused teaching modules, in line with international standards. Topics to include introduction to conservation biology, rights-based governance approaches, sustainable livelihoods and climate change	1.1) 6 academic modules written and formally included in the curriculums 1.2) A minimum of 6 lecturers trained in module implementation 1.3) Accompanying educational packs produced for teachers and students	1.1) Course modules and educational packs available 1.2) Report on 'train the trainer' workshop for lecturer produced	Lecturers available for training and module implementation. Sufficient students signing up for modules. Appropriate facilities available within the teaching institution.

<p>2. Capacity of Liberian students and FDA employees in field research methods and conservation issues increased through residential courses at SNP hosted by CEERCL</p>	<p>2.1) Financially sustainable and effective functioning of newly established CEERCL. 2.2) CEERCL hosts minimum of three 5 day workshops per year. 2.3) Capacity of a minimum of 60 UL students, 60 FTI students and 30 FDA employees built in field research methods and conservation issues</p>	<p>2.1; 2.2) Monthly and annual reports produced by CEERCL; Sustainability plan; minutes of CEERCL steering committee. 2.3) Attendance lists; Pre and end-of-project questionnaires to course attendants; Accompanying educational packs produced</p>	<p>Lecturers/teaching support staff available for field course implementation. Sufficient students signing up for workshops. Active participation of students</p>
<p>3. Improved knowledge of the biodiversity of Southeast Liberia through increased collaborative research and continuation of SNP bio-monitoring programme.</p>	<p>3.1) No. research projects focussed on biological diversity in Southeast Liberia increased, including proportion produced by Liberian nationals 3.2) Continuation and growth of SNP bio-monitoring programme 3.3) Number of community members trained in basic guiding skills</p>	<p>3.1) Research reports/publications 3.2) Annual SNP bio-monitoring report 3.3) Monthly and annual project reports</p>	<p>National and international researchers attracted to area; Researchers are capable of carrying out and completing research work in logistically challenging areas. Community interest in learning guiding skills to diversify income through guiding researchers and tourists.</p>
<p>4. Research findings disseminated through local and national media, scientific publications, a dedicated webpage and reports.</p>	<p>4.1) A minimum of 2 national and 1 international press releases and/or radio interviews to be released per year</p>	<p>4.1) Monthly and annual reports produced by CEERCL 4.2) National and International publications 4.3) Research reports/publications posted on www.liberianfauna-flora.org</p>	<p>Research of sufficient quality to enable publication</p>
<p>Activities (details in workplan)</p> <p>1.1 Hold inception stakeholder workshop to launch project and assess priorities for academic and field course content. 1.2 Devise and develop 6 academic modules and embed into curriculums of UL and FTI 1.3 Produce accompanying educational packs for teachers and students 1.4 Train a minimum of 6 lecturers in module implementation 1.5 Teach conservation modules to UL and FTI students 2.1 CEERCL Steering Committee formed and operational 2.2 Production of CEERCL business plan 2.3 Construct and equip research centre and campsite 2.4 Adapt ZSL field courses for Liberian situation and priorities 2.5 Conduct field courses in field research methods and conservation issues 3.1 Conduct an in-depth review of current understanding of SNP's biodiversity and identify knowledge gaps 3.2 Design and produce CEERL promotional material aimed at international researchers, including posters, leaflets and webpage 3.3 Clear and map a trail system in the park for use by researchers, rangers and tourists 3.4 Continuation and growth of SNP bio-monitoring programme 3.5 Host national and international researchers to conduct applied research work in areas of identified need</p>			

- 3.6 Establishment of small library of books, papers and reports relevant to the study and conservation of Liberian biodiversity
- 3.7 Train a minimum of 10 community members in basic guiding skills
- 4.1 Produce monthly and annual reports for CEERCL
- 4.2 News features and radio broadcasts released nationally
- 4.3 Research reports/publications posted on www.liberianfauna-flora.org
- 4.4 Conferences/Seminars attended to present research work
- 4.5 Establish dissemination network

Annex 3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
Established codes								
4A	Number of undergraduate students to receive training			0	11	>100	>111	60
4B	Number of training weeks to be provided			0	3.5	1	3.5	21
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)			4	40	30	74	90
6B	Number of training weeks to be provided			1	7.5	10	18.5	24
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country			1	1	7	9	3
8	Number of weeks to be spent by UK project staff on project work in the host country			15	2	5	22	52
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country			0	0	0	0	1
11A	Number of papers to be published in peer reviewed journals			1	0	0	1	3
11B	Number of papers to be submitted to peer reviewed journals			1	0	0	1	3
12B	Number of computer based databases to be enhanced and handed over to host country			0	0	1	1	1
14A	Number of conferences/seminars / workshops to be			0	1	3	4	1

	organised to present/disseminate findings							
14B	Number of conferences/seminars / workshops attended at which findings from Darwin project work will be presented/ disseminated.			1	0	1	2	3
15A	Number of national press releases in host country(ies)			1	3	0	4	6
15B	Number of local press releases in host country(ies)			1	3	0	4	6
15C	Number of national press releases in UK			0	0	0	0	2
15D	Number of local press releases in UK			0	0	0	0	2
16A	Number of newsletters to be produced			0	0	0	0	3
17A	Number of dissemination networks to be established			1	0	1	2	1
17B	Number of dissemination networks to be enhanced/ extended			1	0	1	2	1
19A	Number of national radio interviews/features in host country(ies)			0	0	0	0	3
18C	Number of local TV programmes/features in host country(ies)			1	0	0	1	
19B	Number of national radio interviews/features in UK			0	0	0	0	1
19C	Number of local radio interviews/features in host country(ies)			0	0	0	0	3
19D	Number of local radio interviews/features in UK			0	0	0	0	1
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)							£339,627
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased			1			1	1
23	Value of resources raised from other sources (ie in addition to Darwin funding) for							

	project work							
New - Project specific measures								
24	Number of people to receive short training (less than 3 days)			31	27		58	150
25	Number of research projects to be conducted by Liberian nationals			0	1	2	3	3
26	Number of research projects to be conducted by international students/researchers			1	0	0	1	3
27	Number of seminars on conservation issues/research to be organized			1	0	1	2	3

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. website link or publisher)
Importance of the Sapo Conservation Centre in Liberia	Newsletter	Mary Molokwu	Female	Nigerian	SCB African Conservation Telegraph	http://conbio.org/groups/sections/africa/act
Bird-habitat relationships and anthropogenic threats in and around SNP	Thesis	Benedictus Freeman	Male	Liberian	University of Jos, Nigeria	

Annex 4. Abstracts submitted for the Bristol Zoo Symposium

Topic: The Importance of the Sapo Conservation Centre to the People and Biodiversity of the Sapo National Park, Liberia

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Abstract

Conservation in Liberia has seen several phases. The establishment of protected areas remains an effective tool for the conservation of important areas and species. However, in many cases setting aside biodiversity rich areas for protection incurs the wrath of people depending on these areas for survival. Recent conservation initiatives attempt to marry the protectionist and community-based conservation models to enable more effective conservation of key species through increased community support for biodiversity conservation. It is against this backdrop that Fauna & Flora International, in partnership with local and international partners, established the Sapo Conservation Centre (SCC) in 2013 as a hub for ecological and social research and conservation of biodiversity in the Sapo National Park (SNP), Liberia. Sapo, Liberia's only national park is situated in south-east Liberia and holds one of the three most intact blocks of the Upper Guinea Rainforest. SNP is home to at least four endangered species, including the West African Chimpanzee and Pygmy hippopotamus, and a number of other threatened globally important species. The SCC project addresses the lack of technical capacity for conservation in Liberia through research and training of conservation professionals, and establishes a community engagement forum, formally lacking, to foster the relationship between park managers and local communities. The project addresses these issues through the following approach: 1) formation of a steering committee, which serves as a forum for stakeholders to address conflicts and other issues relevant to the protection of biodiversity and human interests, 2) establishment of a field course where forestry undergraduate students and professionals are trained in ecological research and applied conservation, 3) restarting a biomonitoring programme that monitors the status of SNP's biodiversity and ecosystems, and 4) establishing a research programme that incorporates both a biological and human dimension. The SCC is founded on the vision '*Positive collaborative management of the Sapo NP to the benefit of biodiversity with the support of community*'. A total of 17 community members (15 biomonitoring auxiliaries and 2 administrative staff) are employed and up to 25 more (10 trained community field guides and 15 women engaged in catering services) participate in programmes organized at the centre. A 6-10 month internship scheme trains upcoming Liberian conservationists who carry out conservation-focused projects relevant to SNP and Liberia as a whole. Biomonitoring is carried out through a system of 90 transects established in the 180,000 ha park. In 2014 when biomonitoring commenced, 34 species (27 mammals, 6 large birds and one invertebrate) were recorded from 74 transects and preliminary data analysis revealed that the distribution of primates and duikers in the park may be governed by ecological factors (e.g. variation in food resources or seasonality) and/or anthropogenic pressures (hunting, farming and mining) identified to have increased within and around the park. Currently, community support for the project is high. However, emerging reports of human-wildlife conflicts most likely arising from community encroachment into the SNP buffer zone threatens this cordial relationship and survival of important species. Future research and conservation action is now focused on exploring these issues.

Keywords: Sapo National Park, Liberia, biomonitoring, biodiversity conservation, tropical forests, Upper Guinea Rainforest, community engagement

Bird-Habitat Relationships and Anthropogenic Threats in and around Sapo National Park, Liberia

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ABSTRACT

Sapo National Park is the only national park in Liberia and contains the second-largest area of primary tropical rain forest in West Africa after Tai National Park in neighboring Ivory Coast. However, very little is known about the population, distribution and composition of birds of the Park and its surrounding buffer. This study assessed and compared the population densities, distribution, community composition, species richness and diversity of birds between the Park and its buffer with specific emphasis on species of global conservation concern. Birds were surveyed using Distance Sampling with line transects of 2km each. A total of 183 bird species belonging to 55 families were recorded. Sixteen of the 21 species of global conservation concern in Liberia were recorded including the 'Endangered' Gola Malimbe *Malimbus ballmanni* and 'Vulnerable' Yellow-bearded Greenbul *Criniger Olivaceous*. Two near-threatened species (Copper-tailed glossy Starling *Lamprotornis cupreocauda* and Blue-headed Bee-eater *Merops mentalis*) were new records for Sapo National Park. Overall mean density of species and Pielou's evenness index were significantly higher in the Park than the buffer, while species richness and diversity were higher in the buffer compared to the Park. The high density and evenness of birds in the Park maybe attributed to the intactness and homogeneity of the forest inside the Park. This is demonstrated in the composition of species recorded in the Park which were mostly mid-level forest specialist insectivores compared to the buffer with mostly forest generalist frugivores. On the other hand, the high species richness and slightly higher diversity in the buffer could be attributed to the heterogeneity in the buffer habitats and the observed availability of food resources (several fruiting trees and farmlands) in the buffer as compared to the Park during the time of this study. The presence of 16 species of global conservation concern and other species in both Sapo National Park and the buffer areas suggest the conservation importance of not only the Park but also the buffer in the conservation of these species. Thus, to effectively conserve biodiversity in Sapo National Park, conservation planning and active management efforts should explicitly include a well-defined buffer zone around the Park.

Keywords: Liberia, Sapo National Park, birds, tropical forest, buffer zone, anthropogenic threats

Annex 5: Photos from Project activities



The Project coordinator teaching on a forestry students exchange programme organised by FTI and NCCC



The facilitator demonstrating at the biostatistics workshop at SCC



Participants' presentation at the biostatistics workshop at SCC



Biomonitoring team members participating in a refresher training course at SCC



Biomonitoring refresher training course field practice



Biomonitoring refresher training course field practice



Biomonitoring team undergoing regular temperature check at SCC during the fresher course



Biomonitoring refresher training course field practice



Biomonitoring refresher training course field practice



Benedictus Freeman an MSc student returning from SNP after a bird survey



The 'Vulnerable' White-breasted Guineafowl *Agelastes meleagrides* captured on camera trap in SNP



The 'Vulnerable' White-breasted Guineafowl *Agelastes meleagrides* captured on camera trap in SNP



The 'Endangered' Pygmy Hippopotamus *Choeropsis liberiensis* captured on camera trap in SNP



The 'Near Threatened' Bongo *Tragelaphus eurycerus* captured on camera trap in SNP



The 'Endangered' Jentink's Duiker *Cephalophus jentinki* captured on camera trap in SNP

Checklist for submission

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