Building capacity for SMART law enforcement monitoring in Africa

Summary of Year 2 activities (FY2014)

WCS, WWF, JGI and AWF

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PHOTO CREDIT: WCS GABON

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AFRICA BIODIVERSITY COLLABORATIVE GROUP

Project background

Conservation of biodiversity in public, private and community lands requires: a) the formulation of institutions or norms that regulate access to, and use of, natural resources; and b) enforcement of these rules and regulations. In many countries enforcement of laws designed to conserve biodiversity is weak. As a result, biodiversity is being lost at an unrelenting pace[1]. Failure to enforce laws in many public, private and community protected areas is a result of several contributing factors, among which are: 1) insufficient staff dedicated to law enforcement; 2) law enforcement staff lack the skills, experience, information and motivation needed to plan and implement law enforcement efforts; and 3) law enforcement agencies lack the funds to cover the costs of implementing law enforcement plans. A frequent barrier to effective law enforcement is not the lack of staff or funds, but rather the lack of skills, knowledge and motivation to plan and implement successful law enforcement efforts. This is true for national protected area staff as well as community rangers.

To help overcome this barrier the USAID-BATS partners (WCS, AWF, JGI and WWF) propose to build on our collective experience and scale up training for protected area staff to implement effective law enforcement, by demonstrating a new and improved user-friendly software tool to plan, implement, monitor, and adaptively manage ranger-based law enforcement patrols.

SMART background

SMART focuses on ranger patrols and utilizes data on poaching encounters and other threats to biodiversity, collected by rangers as part of their day-to-day work. The tool provides two critical functions: firstly, it empowers protected area managers with timely and accurate information on where, how and by whom, threats are occurring. Secondly, it enables clear tracking of the progress of law enforcement efforts in addressing these threats. Most importantly, the tool is relevant at the local level: driven by the management needs of the site and usable by front-line enforcement staff. This ensures that information goes to where it is needed most urgently and by those people who can use it to greatest immediate effect.

The first public version of SMART Version 1.0 was launched in February 2013. Following this release - and under the first year of ABCG-BATS support – we conducted two introductory technical workshops for SMART users in Central Africa and East Africa in March and May, 2013 respectively. These workshops succeeded in leveraging considerable government interest and engaging new partners to the SMART approach. During 2013, the SMART Partnership formally tested SMART 1.0 in a number of demonstration sites across Africa (and Asia and Latin America). This has provided formal feedback and bug reporting which has greatly improved functionality and usability of SMART. SMART 2.0 was released in December 2013. This fixed a number of identified issues in the earlier version and add important new functionality: namely a mobile data gathering plug-in (SMART-Cybertracker) that will allow field collection and automated upload of SMART data from Android/Windows Mobile-enabled hand-held devices using the Cybertracker interface.

Under this second year of USAID-BATS support, we therefore propose to build on the momentum generated during FY13 by conducting an initial refresher and quality control training for SMART trainers in the new functionality of SMART 2.0 and then focusing on providing site-level support for SMART implementation in a suite of demonstration sites where ABCG partners are currently actively supporting, or planning to support, SMART implementation. Finally,

[1]Hoffmann, M., C. Hilton-Taylor, et al. (2010). The Impact of Conservation on the Status of the World's Vertebrates. Science 10.1126/science.1194442.

we will host a lessons-learned workshop for SMART partners towards the end of the second year of implementation in order to develop best practices for SMART implementation and adaptive management in protected areas.

Project objectives and activities

With the support of the USAID-BATS we will: 1) demonstrate implementation of SMART across at least 5 sites within Central and East Africa; 2) build a cadre of well trained SMART users within Central and East Africa motivated to sustain use and encourage further adoption of SMART; and 3) build a constituency for rigorous and transparent accounting of conservation effectiveness.

Five sites (encompassing Gabon, Tanzania, Kenya, Congo and Democratic Republic of Congo) have been selected within Central and East Africa where ABCG partners have a) active project(s), b) are working with national law enforcement authorities, or other formal management groups; c) have the resources to support patrolling and law enforcement using SMART, and d) have full-time technical staff present at the site to provide guidance and oversight. All of these demonstration sites have previously attended the SMART technical training workshops hosted in the first year of this project.

Year 2 progress report on activities

Objective 1) Build regional capacity and coordination in SMART implementation

A regional SMART technical training was conducted at the Southern African Wildlife College (SAWC), Hoedspruit, South Africa between the 16 and 20 June 2014. The training targeted two different groups; the SMART implementers (administrators and trainers) who are interested in adopting SMART within the sites they work; and the Wildlife College Directors who might be interested in including a module on Law Enforcement Monitoring using SMART within their training curriculum.

A total of 28 participants representing 19 organizations joined the workshop from 17 African countries. The course covered: the philosophy of adaptive patrol management and the role SMART plays in facilitating this; how to use the SMART software (V3.0.1) and adapt it to the needs of the site, with introduction to the new plug-ins (entity tracker and independent observation); and the process of implementing SMART at a site (trainings, meetings, and technical support). Additionally the wildlife college directors evaluated the training curricula for SMART implementation, and how to adapt the training for wildlife-college needs. A SMART Training Manual and supporting files covering all modules of SMART v.3 was produced and can be downloaded here. Overall, both the training and the SMART software were well received with 100% of respondents agreeing that the SMART approach to law enforcement monitoring (LEM) is relevant and useful to their conservation site and 100% agreeing that they can apply the knowledge and skills learnt to their work.

The course was taught by Tony Lynam (WCS), Ruth Starkey (WCS) and Olivia Needham (ZSL), and coordinated by Alexa Montefiore (SMART Partnership). See here for full report.

Objective 2) Build and mentor site-level capacity in implementing SMART

Through direct and leveraged support from ABCG support and roll-out for SMART in the last two years, SMART is now being piloted in 47 implementation sites across 17 countries in Africa **(see Figure 1).** There has been considerable expansion and uptake in Africa over the last year, proportionally more so than in other regions and continued interest from new partners and countries (particularly Southern and West Africa).

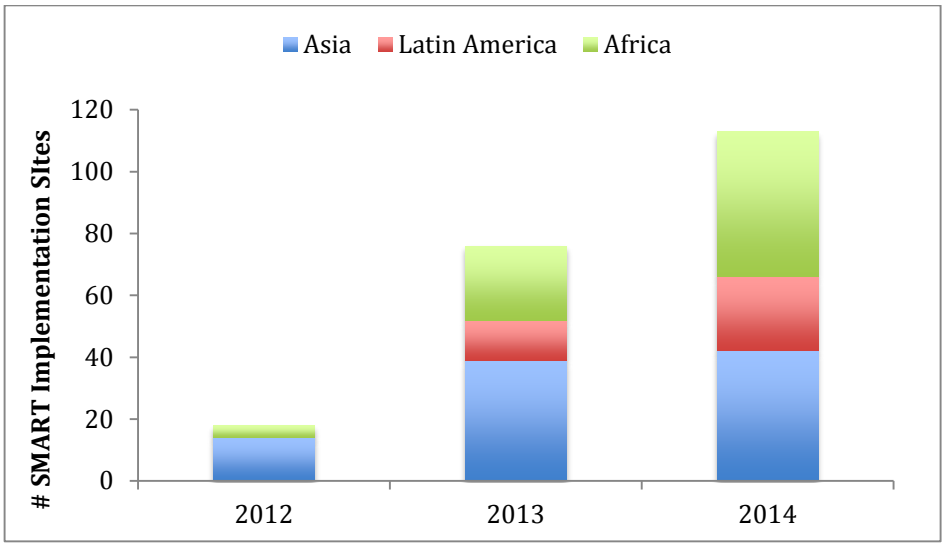

Fig 1: Growth in total number of global SMART implementation sites

The following updates from the field summarize activities in demonstration sites by ABCG partners.

Demonstration sites directly supported through USAID/ABCG:

Gabon's National Park Network (WCS and WWF)

- Gabon's National Park Agency (ANPN) adopted SMART in 2013 across its entire protected area network of 13 national parks together with the Presidential Reserve of Wonga-Wongué and the Forest Reserve of Mondah (15 sites in total). SMART rollout is led by WCS (Wildlife Conservation Society) in collaboration with WWF (World Wildlife Fund, specifically in Loango, Moukoulaba-Doudou and Mwagna National parks), working in partnership with both Gabon's National Park Agency (ANPN) and the Ministry of Water and Forest's Department of Wildlife and Protected Areas (DGFAP) that operates in the buffer zones surrounding the national parks. Gabon represents the first country to have adopted SMART at the national level and is serving as a useful model in the sub-region.
- A total of 13 SMART focal points (representing WCS, WWF, ANPN and DGFAP) have been trained in SMART data collection, entry, querying and reporting protocols. These focal points are based within protected areas across the country and serve as the liaison between the park director and enforcement team and the technical support group based in Libreville.
- Monthly reports are collated from focal points across all protected areas parks from Libreville (currently managed by WCS), synthesized and a single network-wide report is submitted to the Executive Secretary of

ANPN (see example in case report). Annual reports that include a number of key performance metrics are used by ANPN central level to calculate performance-based salary increases and bonuses.

- In March 2014, a refresher training was held for all 13 SMART focal points, which also included training in the new Cybertracker-SMART plug-in for mobile data gathering (see Annex report) and a new training module for sample collection from elephant carcasses for genetic and forensic analysis. Six Cybertracker units were purchased and are now being field-tested across six protected areas with WCS and WWF technical support.
- A SMART evaluation is currently being conducted across ANPN's national parks to assess utility, uptake and appreciation of the SMART tool by Park Wardens.

Nigeria's Yankari Game Reserve (WCS)

- The prior experience of the WCS Nigeria program in using the Cybertracker system played a major role in development of and full field-testing of mobile devices for the SMART-Cybertracker plug-in that was included in the SMART 2.0 release. In the interim, the WCS Nigeria team has continued to use Cybertracker for law enforcement monitoring in the Yankari Game Reserve (Bauchi State), and in the Cross River National Park, Mbe Mountains (a community reserve) and Afi Mountain Wildlife Sanctuary (all in Cross River State) whilst preparing to migrate from Cybertracker to SMART in the second half of 2014/first half of 2015.

- Two high-level users have been trained in SMART operations (through the SMART Partnership regional training workshops) and an on-site training for 8 field staff from WCS Nigeria and WCS Cameroon, in SMART 2.0 – in advance of full migration from Cybertracker to SMART - was conducted in June 2014.
- The Nigeria National Park Service (NNPS) is very keen to implement SMART-CyberTracker at across their entire protected area network. The level of capacity within the NNPS is low, and this will require a phased approach with considerable capacity building and long-term technical support. WCS is in discussions with NNPS to explore options for supporting such a program but in general this is encouraging.
- More than five years of LEM implementation in Nigeria by WCS has already shown its value and thus holds great promise for an expansion under SMART; in the Afi Mountains Wildlife Sanctuary, LEM data helped lobby the Cross River State Forestry Commission to deploy more rangers to the site and in Okwangwo Department, the WCS LEM quarterly reports are viewed by the NNPS HQs in Abuja as the most reliable source of information from the site.

AWF African Apes Initiative (AAI) (AWF)

AAI further expanded and improved use of Cybertracker at different sites and advanced integration of Cybertracker (CT) and SMART. A field-exercise to share lessons learned and discuss about next steps was organized in the Lomako Yokokala Faunal Reserve with participation of conservation practitioners from the Dja Faunal Reserve (DFR), the Lomako Yokokala Faunal Reserve (RFLY), TL2, Virunga Park and Niokolo Koba Nat.Park.

In both DFR and RFLY, AAI expanded the use of CT throughout the protected area and are currently working on linking CT and SMART 3.0.2 using the new SMART-CT plug-in planned to be implemented as soon as possible. Baseline data for both PA's is becoming increasingly compelling, and as a result, specific anti-poaching actions have been developed and implemented.

The same approach is now underway in the 1,000km² Iyondji Community Bonobo Reserve (Equateur Province, DRC)

Within the next 6months, AAI plans to export this CT-SMART approach to Nat.Park Campo Ma'an (Cameroun) and in Bili Uele (northern DRC).

All above is happening through the Protected Area authorities, with simultaneous capacity strengthening of these PAA's. AAI receives GIS/technical support by a team based in AWF-DC (D.Williams and F.Kikuyama).

Kilimanjaro/Samburu Landscapes (AWF)

Building on progress in the Kilimanjaro landscape, in June AWF staged a SMART training for AWF staff in Nairobi, Kenya. The training also involved demonstrations of CT applications. Staff attended from AWF programs in Samburu and Mau Forest in addition members of the AWF's Conservation Science department. This represents a major initial step towards expanding SMART-CT use in AWF's East African programs.

AWF is coordinating with the London Zoological Society, Kenya Wildlife Service, and BigLife Foundation to stage a data collector/manager-oriented SMART-CT training in the Amboseli-Tsavo region in December or early 2015. BigLife Foundation is based in the landscape and manages a network of game scouts programs on group ranches in the area.

Tchimpounga Faunal Reserve, Republic of Congo (JGI)

In 2013, a mobile field data collection training workshop for ecoguards was conducted in Tchimpunga Nature Reserve, Congo. The training was focused on using Android tablets and Open Data Kit (ODK) to record patrol data. ODK forms were developed following SMART protocols as much as possible. In 2014, ecoguards used these forms to collect data on patrolling effort (yellow dots), human activities and threats (red dots), and chimpanzee and wildlife presence in the reserve (green dots) (see figure bellow/attached). The data will be used to evaluate and improve the ODK forms. A refresher training for the ecoguards will be conducted in November 2014 to introduce the new ODK data collection protocols and scale up monitoring efforts over a larger area of the reserve.

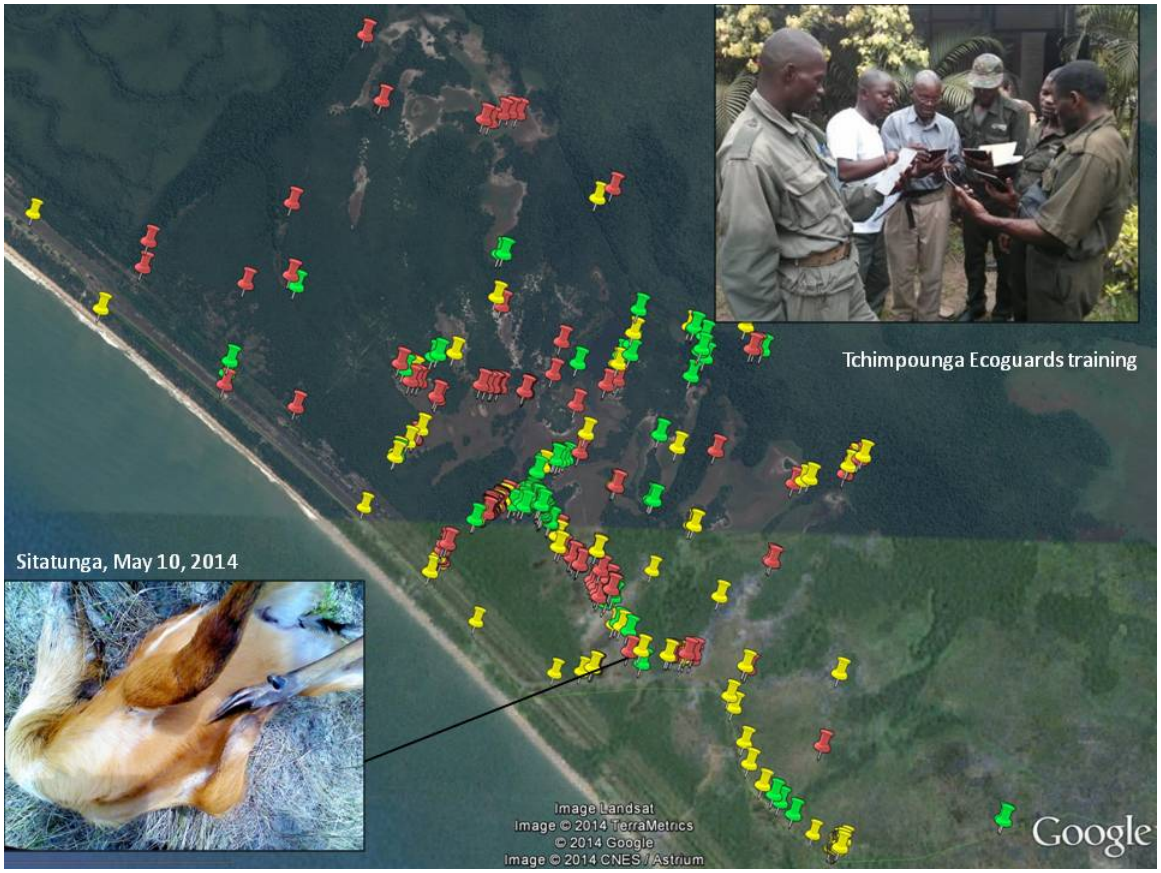

Figure. Data on patrolling effort (yellow dots), human activities and threats (red dots), and chimpanzee and wildlife presence in the reserve (green dots).

A new UAV X5 unit system was build in 2014 to support monitoring of chimpanzees and illegal human activities in the Tchimpounga Nature Reserve. The UAV system has the potential to reach every corner of the reserve from three launching sites and collect georeferenced images. The plans for 2015 include importing both mobile patrol data collected by the ecogurads and images from UAV into SMART to demonstrate its potential uses for supporting chimpanzee surveys and law enforcement in the reserve.

Demonstration sites leveraged through USAID/ABCG-supported SMART workshops

The following SMART activities have been leverage through ABCG-support, either through national workshops or through training of key staff who have gone on to lead implementation in their host sites/countries.

- ***Democratic Republic of Congo:*** SMART has been implemented in a number of sites by ICCN (Institute Congolais pour la Conservation de la Nature) in eastern DRC by WCS (including Kahuzi-Biega National Park, Okapi Faunal Reserve, Maiko National Park, Itombwe Natural Reserve, as well as in Salonga National Park) and is scheduled to be implemented in the Ngiri Triangle with WWF support. WCS, AWF and WWF participants from across DRC's protected areas have participated in ABCG-supported workshops, with WCS staff members from DRC participating as trainers at the most recent South Africa workshop and staff from WWF-DRC participating as trainees. Discussions are currently underway with ICCN, GIZ, WRI, USAID and other partners (incl. WWF, AWF and CI) to adopt SMART at national level across DRC's protected area network.
- ***Republic of Congo:*** WCS hosted a national-level technical workshop on SMART in northern Congo in March 2014 (with participation from WCS, African Parks and WWF sites), and nominated a national WCS

coordinator, who was a participant in the first ABCG-supported SMART workshop in Gabon in March 2013. To date SMART has been piloted in the Nouabalé-Ndoki National Park and buffer zone with rollout expected to proceed from November 2014 across Congo's three national parks.

- ***Tanzania:*** Tanzania (WCS and AWF) hosted the first East Africa regional SMART workshop under ABCG support. SMART has now been piloted in Ruaha and Katavi National Parks with WCS and TANAPA support, with plans for further site training in collaboration with WCS and CITES MIKE in Tarangire and Manyara National Parks and Selous Game Reserve during 2014/15.
- ***Mozambique:*** Pilot SMART implementation began in the Niassa Reserve in 2014 following participation at the SMART regional training in South Africa in 2014. The Niassa Carnivore Program (through support from the Wildlife Conservation Network) together with WCS are coordinating this. Discussions are also underway at national level between WCS and the National Parks Agency (ANAC) to rollout a SMART monitoring program at national level.
- ***Uganda:*** Test migration from MIST to SMART was completed in 2014 for Queen Elizabeth National Park. Uganda pioneered the LEM tool MIST in the late 1990's thus the willingness of the Uganda Wildlife Agency (UWA) to migrate more than 10 years of monitoring protocols from MIST to SMART represents both a significant milestone as well as a significant undertaking. SMART is anticipated to be rolled out in a phased approach in 2014/2015.
- ***Madagascar****:* A national SMART training workshop was conducted by WCS in April 2014 through USAID support for the SCAPES project (a landscape-based partnership between WWF, CI and WCS). This was led by trainers who originally participated in the ABCG-supported SMART workshop in Tanzania in May 2013. UNESCO funding has now been leveraged for a national roll-out in partnership with Madagascar National Parks and development of a national SMART data model and data collection protocol is currently under discussion and being piloted in Masoala National Park by WCS.

Objective 3) ***Disseminate lessons learned and best practices for SMART implementation***

The regional workshops we have conducted with ABCG support have provided an excellent opportunity to solicit interest in and catalyse implementation of SMART across Africa.

The convening power of both the ABCG and the broader SMART Partnership now provides the perfect forum for disseminating harmonized data structures and collating progress on implementation and lessons-learned thus far. In 2015 we will work to develop best practices on SMART implementation and conduct a lessons-learned workshop to feed into this process.

Priority activities for 2014/2015

With the number of new sites adopting SMART in Africa increasing, we propose to conduct an assessment of how SMART is being utilized to improve enforcement effectiveness and protected area management in 2014/2015. This will be in the form of a questionnaire, a lessons-learned workshop and the production of a best practices manual for SMART and adaptive management (in partnership with CITES-MIKE and the SMART Partnership).

Annexe: Project documentation

SMART Africa Regional ToT Workshp Report (En)
SMART 3.0 Training Manual (En)