Building capacity for SMART law enforcement monitoring in Africa

Summary of Year 1 activities (FY2013)

WCS, WWF, JGI and AWF

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Summary

In this first year of activities for the SMART Law Enforcement project, and through both direct and leveraged support of the Africa Biodiversity Collaborative Group, we have 1) launched the first public version of SMART 1.0, together with two subsequent releases that address feedback from early field testing; 2) localized SMART Release 1 software into both French and English; 3) provided updated training materials in both French and English language for SMART Release 1; 3) conducted the first regional technical training workshops in both Francophone (Central) and Anglophone (East) Africa, training 45 high-level SMART trainers from a total of 13 different countries on the continent; 4) directly supported field testing in a total of five SMART demonstration sites across Africa, and through partners and leveraged funds, enabled uptake and testing of SMART in a further 15 demonstration sites in Africa across 12 countries; and 5) engaged and leveraged national-level government interest by relevant government agencies in SMART as a standard protected-area monitoring and adaptive management tool in three countries in Africa (Gabon, Tanzania and Uganda).

Project background

Protected areas and other policies designed to safeguard threatened species and their habitats are the foundation of biodiversity conservation. However, in the developing world there is broad acceptance that protection efforts are often ineffective in enforcing even the most fundamental regulations, due to poor management and weak on-the-ground law enforcement capacity. Strengthening protected area management effectiveness is therefore a fundamental strategy for the conservation of a broad spectrum of threatened species and their habitats.

Given the urgency of the situation, implementing agencies must also be held accountable for these efforts, with conservation interventions underpinned by reliable measures of demonstrated progress on the ground, with which to reward success and remedy failure. The need for this has never been greater; the current surge in poaching of elephants and rhinoceros to meet a rapidly increasing global demand for ivory and horn only serves to highlight the critical importance of effective frontline protection measures in securing remaining African elephant and rhinoceros strongholds. Unfortunately, monitoring of law enforcement, biodiversity and management effectiveness in protected areas remains costly, unsystematic and unstandardized.

In order to respond to this, a global consortium of NGOs and conservation agencies[1] have committed to the development of a new law enforcement monitoring tool – SMART (Spatial Monitoring And Reporting Tool) – for measuring, evaluating and improving the effectiveness of wildlife law enforcement patrols and site-based conservation activities. We believe that user-driven development, broad dissemination, and sustained adoption of SMART, underpinned by robust skills training, will significantly help protected area authorities to empower their staff, boost motivation, increase efficiency, improve biodiversity conservation effectiveness, and promote transparent and credible accounting of the impact of conservation efforts.

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. In SMART 2.0 mobile data collection by rangers in the field will be enabled through hand-held devices, which serves to improve the speed at which data is transmitted from the field to management and reduces the subsequent time to respond to urgent threats. Through standardized data protocols and

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[1] Founding members of SMART are: Wildlife Conservation Society, World Wildlife Fund, Zoological Society of London, UNEP/CITES-MIKE (Monitoring Illegal Killing of Elephants), Frankfurt Zoological Society, North Carolina Zoological Park

reporting structures, the tool is scalable in meeting reporting obligations in addressing progress towards national, regional and global biodiversity targets.

The first public release of SMART was launched in February 2013 and to date is being piloted in more than 70 demonstration sites worldwide. The SMART approach is unique in combining the software tool with a significant capacity building component and the broad dissemination of best practices in improving site-based law enforcement monitoring and adaptive management. Through the support of USAID and the ABCG, our goal is to scale up this approach and promote SMART as a standardized LEM and adaptive management tool across protected areas in Africa.

Project objectives and activities

On order to achieve this goal we aim to 1) build a cadre of well trained SMART users within Central and East Africa motivated to sustain use and encourage broad adoption of SMART within their own countries; 2) demonstrate implementation of SMART across 5 new sites within Central and East Africa; and 3) build a constituency for rigorous and transparent accounting of conservation effectiveness.

Year 1 progress report on activities

Objective 1) Build a cadre of well trained SMART users within Central and East Africa motivated to sustain use and encourage broad adoption of SMART within their own countries

During FY13 ABCG supported, and leveraged additional funds for, two regional SMART Training of Trainers technical workshops in Africa. These represented the first such workshops conducted in Africa for SMART roll-out and succeeded in introducing SMART and its capabilities to a very broad audience.

The first workshop targeted at francophone Africa was hosted by WCS and WWF in Lope National Park in Gabon. 16 participants attended from Congo, Democratic Republic of Congo, Cameroon, Gabon, and Central African Republic. The second workshop targeted primarily at East Africa was hosted by WCS and AWF in Arusha, Tanzania. 30 participants attended from Tanzania, Kenya, Uganda, South Sudan, Mozambique, Madagascar, Nigeria and Rwanda. Both workshops presented the first opportunity to formally introduce SMART to the region. The main aims of the workshops were to provide an introduction to SMART capabilities in improving law enforcement effectiveness and patrol management to both government and NGO partners as well as a structured technical overview of SMART 1.0 using the SMART training materials. The workshops also succeeded in building a cadre of national technical expertise in SMART across the two subregions with which to provide further local-level training and support to SMART demonstration sites. The workshops engaged participants from NGO partner agencies (WCS, North Carolina Zoo, World Wildlife Fund, Jane Goodall Institute, African Wildlife Foundation,

Frankfurt Zoological Society, Honeyguide Foundation) and technical staff from government agencies (Kenya Wildlife Service, Madagascar National Park, Gabon National Parks Agency and Ministry of Water and Forests, Tanzania National Parks Agency, Tanzania Wildlife Research Institute, Uganda Wildlife Authority and Cameroon Ministry of Forests).

To support these workshops, technical training manuals and support materials for SMART Version 1 were developed in both English and French and, together with localized versions of the SMART 1 software, are available for download from the SMART website (www.smartconservationstools.org).

Objective 2) Demonstrate implementation of SMART across 5 new sites within Central and East Africa

Through direct and leveraged support from the first regional workshops, SMART is now being piloted in more than 20 demonstration sites across 12 countries in Africa **(see Figure 1).**

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

Wildlife Conservation Society

Demonstration sites directly supported through USAID/ABCG:

Gabon's National Park Network

- Following the Gabon workshop, SMART was initially piloted in three national parks in Gabon: Pongara, Akanda, and Lope National Parks. Of these, Pongara and Akanda include both a terrestrial and marine enforcement element.

- The Gabon National Parks Agency (ANPN: Agence Nationale des Parc Nationaux) has mandated testing of SMART (and eventual updating of all existing MIST databases to SMART) in all 13 of its national parks, together with the Presidential Reserve of Wonga-Wongué. Under this mandate, WCS, in collaboration with WWF, coordinated a training of SMART focal points from all 14 protected areas in Gabon, together with central agency technical staff from both ANPN and the Ministry of Water and Forests, in June, 2013, in technical operation of SMART, standardized data collection and reporting, and the role of SMART in adaptive management.

- The transition to SMART in Gabon has also led to a greater emphasis being placed on the role of Law Enforcement Monitoring (LEM) in adaptive management and a revised

reporting and evaluation system at central level to ensure that SMART results feed directly back into on-the-ground action.

Nigeria's Yankari Game Reserve

- Yankari Game Reserve was selected as a SMART pilot site in Nigeria and two Yankari site-based staff participated at the regional SMART training held in Tanzania in May 2013, including a refresher training course for one participant in the most recent version of SMART. Full site-based testing and roll-out in Yankari will proceed following release of SMART 2.0 with mobile data gathering support in the second half of 2013.

- A SMART data model is in the process of being developed at the site level. In the meantime, patrol-based monitoring is continuing at the site through the use of Cybertracker.

Demonstration sites leveraged through USAID/ABCG-supported SMART workshops

- **Republic of Congo:** Participants from several protected areas within Congo attended our regional training workshop in Gabon in March 2013 and are currently piloting SMART. We will schedule an in-country national-level roll-out workshop for SMART, with mobile data gathering support enabled in the last quarter of 2013 and first quarter of 2014 with NGO and government participation.

- **Democratic Republic of Congo:** WCS is currently working with the Congolese Wildlife Authority (ICCN: Institut Congolais pour la Conservation de la Nature) to pilot SMART in Eastern DR Congo: specifically Maiko National Park, Kahuzi-Biega National Park, Kabobo Forest and the Itombwe Massif. Plans for 2014 include roll-out in Salonga National Park and Okapi Faunal Reserve.

- **Cameroon:** Staff from Mbam Djerem National Park, Deng-Deng National Park and Lobeke National Park participated in the regional SMART workshop held in Gabon in March 2013. A WCS SMART advisor conducted a subsequent technical site visit to Mbam Djerem and Deng-Deng NPs in May 2013, during which a pilot SMART system was set up at the site level and is now operating full-time. It is anticipated that both Mbam Djerem and Deng Deng will complete SMART rollout following SMART 2.0 release with mobile data gathering support in 2014.

- **Tanzania:** SMART is currently being piloted by both Frankfurt Zoological Society and WCS in Selous Game Reserve and Ruaha National Park respectively. WCS will focus on Tanzania as one of its demonstration sites under ACBG Year 2 funding.

- **Madagascar:** SMART is currently being piloted by WCS in Masoala National Park, with a view to ultimately rolling this out nationally in collaboration with Madagascar National Parks (who participated in our May training in Tanzania). The Durrell Wildlife

Conservation Trust in Madagascar has also approached WCS for SMART uptake and we are in the initial stages of discussion and planning.

- **Mozambique:** SMART is currently scheduled for implementation in Niassa Game Reserve.

- **Uganda:** SMART is currently being piloted in the Queen Elizabeth National Park by WCS and UWA, and the Uganda Wildlife Authority have now mandated an upgrade from MIST to SMART across all their protected areas.

African Wildlife Foundation

Kilimanjaro Landscape, Tanzania/Kenya

AWF fosters game scout programs in four conservancies — Eleria, Imbirikani, Kimana, and Olgulilui-- neighboring Amboseli National Park, Kenya and supports the Big Life Foundation who coordinate game scout operations in Enduimet Wildlife Management Area, Tanzania.

- BigLife continues to lead SMART LEM in the Enduimet Wildlife Management Area, Tanzania.

- Zoological Society of London, Kenya Wildlife Service, and AWF created standardized data collection modules aiming for more comprehensive and compatible data collection for much of the Kenyan side of the landscape. This sets the stage for a major joint-training targeting Amboseli and Chyulu National Parks in addition to Imbirikani and Kuku conservancies slated for early 2014.

- The AWF Kilimanjaro landscape ecologist is gradually providing preliminary SMART LEM training to Kenyan conservancies featuring transect-based ecological monitoring.

- A contractor was hired to review, organize and compile older game scout LEM data from AWF-supported conservancy scout programs for incorporation into SMART to extend trend assessments of select LEM parameters.

AWF African Apes Initiative (AAI)

Building on the Gabon SMART LEM training, AWF AAI is using Cybertracker data collection as an entry point for adopting SMART 2.0 with Cybertracker support (launched in December 2013). Cybertracker LEM began in two sites: Lomako-Yokokala Faunal Reserve, DRC, Dja Forest Reserve, Cameroon. Currently data are being captured and managed using ArcGIS but the team expects to transition to SMART 2.0 when available.

- Lomako-Yokoka: trained rangers from the Institut Congolais pour la Conservation de la Nature (ICCN) in Cybertracker data collection. Rangers have conducted LEM surveys documenting the distribution, density, and threats to the endangered bonobo and other

large mammals. Plans are to extend LEM surveys to other regions of the landscape to improve understanding of the status of and threats to the forest elephant.

- Dja Forest Reserve: trained rangers in the eastern sector of DFR in Cybertracker LEM. Preliminary results from this pilot project confirm significant poaching is occurring in the eastern section of the DFR. Patrols have identified spatio-temporal poaching patterns, hunting camps in addition to adding to the understanding of the distribution and abundances of lowland gorillas, chimpanzees and forest elephants. Currently, AWF is working with the senior DFR management to adapt appropriate tactics to mitigate active poaching activities.

Jane Goodall Institute

Tchimpounga Faunal Reserve, Republic of Congo

On 23-24 of November a training workshop for ecoguards was conducted in Tchimpunga Nature Reserve, Congo (see photo below). Participants were trained in the use of Android tablets and Open Data Kit (ODK) to record data on patrols, human activities and threats, and chimpanzee and wildlife presence. Six forms were developed using SMART standards to the extent possible. In Year 2 the project plans to develop approaches to manage and analyze ODK data in SMART to support day-to-day management of the reserve.

Status of SMART implementation through ABCG and SMART Partners in protected areas across Africa

Status of SMART implementation in protected areas:
- Implementation
- Preparation
- Training

December 2013
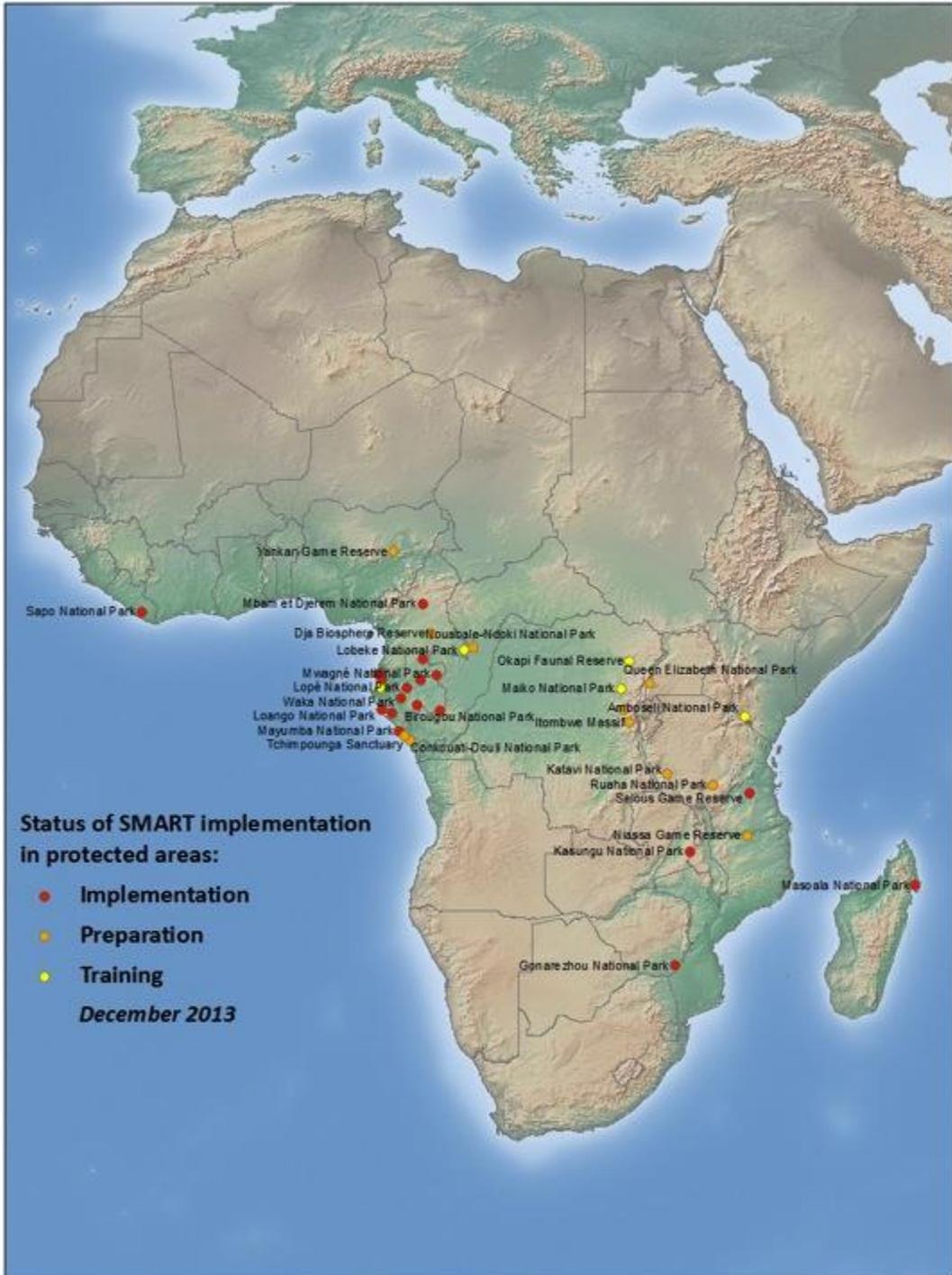
Objective 3) To build a constituency for rigorous and transparent accounting of conservation effectiveness.

The regional workshops provided an excellent opportunity to develop standardized indicators for reporting and measuring progress in law enforcement at site-level. A common data model was discussed and distributed in both French and English to all participating sites, to which site-level customization can be made. These standardized models have now been posted on the SMART website as a standard resource tool. This is the first step in ensuring a minimum level of rigour in measuring conservation effectiveness and progress towards improved management in participating sites.

The convening power of both the ABCG and the broader SMART Partnership provides the perfect forum for disseminating harmonized data structures and collating progress on implementation thus far. Furthermore, within Africa the SMART Partnership is in dialogue with the World Heritage Convention about formally integrating SMART into their Africa Nature training program. Finally, we are in discussion with several partners about showcasing SMART and lessons learned in a series of sessions at the upcoming World Parks Congress in Australia in 2014.

Priority activities for Year 2 of the project

SMART 2.0 is scheduled for release in December 2013. This will add significant new functionality to SMART based on feedback provided from early testing. Specifically, SMART 2.0 will enable mobile data collection from hand-held devices which greatly improves efficiency and speed of data entry and lends itself to improved integration with other, existing mobile data collection platforms (such as ODK) and real-time data connectivity from field to HQ. In addition, SMART 2.0 will offer a Cross Conservation Area Analysis module to enable protected area network-wide analyses.

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 have already received training and are currently actively supporting, or planning to support, SMART implementation. Finally, 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.

Annexe: Project documentation

SMART 1.0 Technical Training Manual (En)
SMART 1.0 Technical Training Manual (Fr)
SMART Central Africa Regional Workshop Report (En)
SMART Central Africa Regional Workshop Report (Fr)
SMART East Africa Regional Workshp Report (En)
Emma Stokes ABCG Presentation on SMART