

Anti-Poaching and Wildlife Law Enforcement in Africa

What works, where and why?

Draft Report

November 2014

Preface

This assessment of wildlife law enforcement practice in Africa is being carried out by the Frankfurt Zoological Society (FZS) and the German Agency for International Cooperation (GIZ), with technical support from the Conservation Development Centre, Nairobi. The analysis and study is financed by the German Federal Ministry for Economic Cooperation and Development (BMZ). Please send any comments and feedback to africalereview@cdc.info.



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1 Introduction

1.1 Background

Unprecedented levels of elephant and rhino poaching across Africa are severely threatening the future of these species and the ecosystems they inhabit. This crisis demands a re-evaluation of current law enforcement practices across the continent. As poaching groups increase in size, number and sophistication, it is more important than ever that law enforcement responses are robust, reliable, and effective. This assessment aims to help address this need by providing a systematic review of effective wildlife law enforcement practices across the continent.

It is hoped this work will improve communication and knowledge sharing across sectors and countries, and help to guide the implementation of more effective anti-poaching interventions, from park-level procedures to national-level policies. It is also anticipated that the guidance provided can be used to help direct future law enforcement activities and support across the continent, by helping to ensure that existing shortfalls are being addressed by activities that have been proven to achieve success.

In line with these aims, it should be noted that this assessment only provides an overview of the subjects it covers. Many of the topics covered here have a long history and a detailed body of research and experience behind them. This report does not aim to report or repeat the in-depth details of each aspect of law enforcement covered, but rather aims to present in a single document the full spectrum of approaches that effective wildlife law enforcement require and to provide an insight into approaches that have worked and could potentially be adapted to other circumstances.

During the implementation of this assessment, it became clear that the most effective wildlife law enforcement approaches are often simple, but not easy. A variety of inter-related issues are impacting wildlife law enforcement, and unfortunately there are no stand-alone, simple or universal solutions to addressing wildlife crime. Rather, successful wildlife law enforcement depends on sustained and well-targeted actions across a number of fronts, many of which require determination and hard work in areas that are neither glamorous nor attractive.

1.2 Methods and Approach

The following sections provide an overview of the methods and approaches used during the assessment.

1.2.1 Literature Review

A review of relevant literature and past studies was first conducted to inform the development of the study, and to avoid duplicating past work. The areas covered by the literature were necessarily broad in response to the scope of the work. Key documents reviewed included a number of peer-reviewed

papers, official reports, such as the International Consortium on Combating Wildlife Crime Tool-Kit, and a variety of grey literature (including workshop outputs, area assessments and consultant reports).

1.2.2 Analytical Framework Development

Building on this information review, a wildlife law enforcement analytical framework was then developed to provide the technical foundation for study. The framework divided up the wildlife law enforcement chain into a series 'pillars', which were further broken down into a series of law enforcement 'benchmarks', each of which could then be investigated in more detail. Before finalisation, the framework was reviewed by a number of stakeholders with practical experience and expertise at key stages in the wildlife law enforcement chain, including FZS staff and CITES Monitoring the Illegal Killing of Elephants (MIKE) Programme staff.

1.2.3 Online Survey Design and Implementation

An online survey was judged to be the most cost-effective and efficient mechanism for obtaining feedback from a large number of experts and practitioners involved in wildlife law enforcement across the continent. The survey was developed based on the wildlife law enforcement analytical framework, and aimed to identify the key success factors that are most critical and most challenging for each of the nine pillars. The survey was first piloted on a small selection of conservation practitioners and CITES MIKE Programme staff, before being translated into French and finally sent out to around 300 people.

The survey was challenging and longer than typically advised for an online survey. This in effect forced responders to pass a 'high-hurdle' for participation, which helped to ensure that the responses were of a high quality. Despite the survey's difficulty, over 100 respondents completed it (which is roughly line with a typical email survey response rate). Around 30% of respondents provided additional information, including examples of areas and countries where approaches have worked well, and details of key people to consult.

1.2.4 Preliminary Information Analysis

Both the quantitative and qualitative information from the survey was then analysed. Qualitative analysis focused on identifying the most important and challenging critical success factors for each pillar. Section 5.1 provides an example of the survey outputs illustrating these factors. While qualitative information came from the comments, suggestions and other additional details provided in the survey responses. These proved particularly useful and were taken into consideration when planning the follow-up targeted stakeholder consultations.

1.2.5 Targeted Stakeholder Consultations

Section 5.2 provides a summary of the locations visited and stakeholders consulted during the assessment. The first set of follow-up consultations with stakeholders took place from 17 – 29 June,

2014, and was timed to coincide with invitations to present preliminary results of the assessment at stakeholder workshops in Mozambique and Namibia. The preliminary findings were presented to over 60 people, while consultations took place in Mozambique, South Africa, and Namibia. The consultations yielded particularly useful insights on intelligence gathering and use, and law enforcement operations

The second set of follow up consultations with stakeholders took place from 26 June - 5 September, 2014, and focused on Gabon and Togo, both of which had emerged from the online survey as regional examples of best practice regarding law enforcement patrols and national level operations. Consultations in Gabon took place both in the capital city, Libreville, and at Lopé National Park. In Togo, all consultations were held in the capital city, Lomé. The consultations yielded particularly useful insights on the role of NGOs in supporting law enforcement operations.

The third set of stakeholder consultations took place from September 15 - September 30, 2014, and focused on Zimbabwe and Zambia. A number of areas were visited focusing on experience and expertise that has developed in wildlife enforcement patrols, in particular focusing on training patrol staff, use of intelligence, and law enforcement operations management, including the use of ranger-based monitoring systems and the development of management systems that are needed to support law enforcement patrol implementation.

1.2.6 Framework Refinement

Based on the outputs of these stakeholder consultations, and related work on the MIKE Programme Law Enforcement Benchmarks, the analytical framework was then further revised, and consolidated to focus on the most important areas that were emerging. As part of this process, the overall number of pillars was reduced, and benchmarks, and key components that had emerged were reviewed and clarified. This redesign was also intended to make relevant sections of the final report findings more accessible to different audiences.

1.2.7 Review and Finalisation

The final stage in the process is the review and subsequent compilation of the information gathered through the various methods described above into the final report. This was first done as a draft document. Following this, it is planned that key stakeholders that have either provided inputs or have particular expertise or experience in particular pillars and/or benchmarks will have the opportunity provide feedback on this version of the document. A final version of the report will subsequently be produced.

1.3 Document Structure

The structure of this document is based on the wildlife law enforcement analytical framework developed during the assessment (as described in the previous section). Based on this framework a limited number of 'pillars' have been identified that represent the major approaches and most

important aspects of efforts to address wildlife crime. These pillars are intended to enable a structured and in-depth analysis of the major aspects of anti-poaching and wildlife law enforcement that must be addressed at the protected area level if wildlife crime is to be effectively prevented, detected and responded to.

Three inter-related pillars have been identified as critical for successful anti-poaching and wildlife law enforcement at the site level, and are outlined in some detail in the following sections of this document. These three site-level pillars are:

1. **Law Enforcement Patrols.** This pillar sets out important benchmarks for optimising the effectiveness of law enforcement patrols, with a particular focus on the capacity of the scout/ranger¹ force.
2. **Law Enforcement Management.** This pillar describes the benchmarks for maximising the effective management, planning and implementation of law enforcement operations.
3. **Investigations and Intelligence Operations.** This pillar provides the benchmarks the successful implementation and integration of intelligence and investigations into law enforcement operations.

Each of these three pillars is then further divided into a ‘**Benchmarks**’ that describe a series of wildlife law enforcement best practice components that need to be addressed to effectively implement each pillar. An overview of these pillars and their benchmarks is presented in the table below. The assumption is that when considered together the benchmarks are all sufficient and necessary to ensure that the relevant pillar is being effectively implemented.

Pillar	Benchmark
Law Enforcement Patrols	<ol style="list-style-type: none"> 1. Skilled and Knowledgeable Rangers/Scouts 2. Experienced and Competent Patrol Leaders 3. Suitable and Sufficient Equipment and Provisions 4. Appropriate Terms and Conditions of Service 5. Supported and Incentivised Patrol Staff
Law Enforcement Management	<ol style="list-style-type: none"> 1. Competent and Effective Leaders 2. Proactive and Dynamic Patrol Strategies 3. Collection and Use of Patrol Data 4. Effective Management Systems & Infrastructure

¹ The term ranger/scout is used throughout this document to refer wildlife patrol staff commonly called rangers in East Africa, Scouts in Southern Africa, and Ecoguards in Central and parts of West Africa.

Pillar	Benchmark
	5. Clear and Consistent Management Procedures
Intelligence and Investigations	<ol style="list-style-type: none"> 1. Specialised and Capable Staff 2. Proficient Crime Scene Management 3. Comprehensive Intelligence Gathering 4. Efficient Data Management and Reporting 5. Competent Case Development

Finally, in order to enable a more in-depth analysis, each benchmark is split into a series of ‘**Key Components**’ that describe in detail important features of each benchmark. The boxes included throughout the document are designed to provide additional details and examples of key points, and each section concludes with a series of ‘**Success Factors**’ that aim to summarise important points under each key component.

Key Assumptions

The following points summarise the assumptions that the benchmarks build on to develop meaningful guidance for enhancing law enforcement effectiveness at the site level:

- **Law enforcement activities are necessary for wildlife protection:** Studies have shown that law enforcement activities have the greatest impact on illegal activities in an areaⁱ. While community outreach and engagement is undoubtedly important, a huge amount of work has already taken place in this area and it is therefore not considered in this document.
- **More patrol staff leads to improved wildlife law enforcement:** The density of rangers has been shown in studies to be the factor that correlates most strongly with law enforcement effectivenessⁱⁱ and some have identified the ideal number of rangers/scouts for an area or habitat type. However, this approach has been questioned by some managers and was not followed in this document.

In reality, the number of rangers/scouts needed for effective enforcement depends on a variety of factors (e.g. training, equipment, motivation, transport), and ultimately staff numbers are beyond the control of many area managers. So while recognising the need for more staff in many areas, the pillars here focus on making best use of staff that are available.

- **Increased law enforcement effort reduces illegal activities:** Studies have shown that as law enforcement activities increase, poaching declinesⁱⁱⁱ and fewer illegal activities take place (due to the deterrent of an active ranger force)^{iv}. The following pillars therefore focus on factors that help improve the number and effectiveness of patrols that do take place.

2 Law Enforcement Patrols

2.1 Overview

Law enforcement patrols are the front line of efforts to stop poaching and combat wildlife crime. Their effectiveness, and in particular that of the patrol staff involved in their implementation, is one of the most important factors influencing the success or failure of law enforcement efforts at the site level. The majority of an area's staff are typically involved in either the direct implementation or in supporting an effective patrol regime across an area, and therefore represent the most important available resource for maximising the impact of site-based law enforcement efforts.

However, the poachers that patrol staff are combating, while often not particularly sophisticated or well resourced, are often highly skilled (they may know the area well or will work with someone who does, and can have years of poaching experience), are extremely driven in that they are only paid based on results and usually have few alternative options for generating income, and are seriously committed to their work, demonstrated by the fact that they are willing to accept the risk of imprisonment, being injured or even killed as a result of their activities.

A fundamental challenge for area managers is therefore to develop a ranger/scout force with the abilities, motivation and dedication that matches or exceeds that of the poachers they are up against. Unfortunately, due to a variety of institutional, personnel management, resource allocation and other issues, this has rarely been achieved. This pillar therefore aims to identify key issues and steps that can be taken by area managers to develop their patrol staff abilities, intrinsic motivation and dedication to their work, the area they work in, and the organisation they work for.

There are no simple or universal solutions that area managers can implement that will result in the development of these three key attributes. Such qualities are built up over time and are dependent on innumerable small acts, incremental changes, and continual positive interactions with management. However, the following sections provide an overview of five benchmarks that have been identified as critical for the development of the abilities, motivation and dedication of an area's patrol staff that should improve overall patrol effectiveness. These five benchmarks are:

- 1. Skilled and Knowledgeable Rangers/Scouts**
- 2. Experienced and Competent Patrol Leaders**
- 3. Suitable and Sufficient Equipment and Provisions**
- 4. Appropriate Terms and Conditions of Service**
- 5. Supported and Incentivised Patrol Staff**

Each of these benchmarks, along with their subsidiary key components are defined and elaborated in more detail in the following sections. The key components describe the details of current best practice and approaches for key aspects of each benchmark.

2.2 Skilled and Knowledgeable Rangers/Scouts

The ability of rangers/scouts to carry out their duties is a key foundation for the overall effectiveness of all site-based law enforcement operations. Three inter-related components have been identified for developing skilled and knowledgeable staff. These are: 1) getting the best people for the job through the a robust recruitment process; 2) ensuring that those selected have the skills and attributes necessary through rigorous basic training; and 3) ensuring that these skills and attributes are maintained over time through in-service training. Each of these components is discussed in the following sections.

2.2.1 Recruitment

The process of recruiting rangers/scouts is a critical step for improving the overall quality of the candidates that proceed to basic training, and provides an important opportunity for strengthening the performance of an area's scout/ranger force over the long-term. In contrast, ineffective recruitment, resulting in the appointment of inappropriate candidates, is not only a missed opportunity for reinforcing the area's ranger force, but can also lead to poor performance, interpersonal difficulties and low ranger/scout morale and motivation.

In many countries, scouts/rangers are often presently recruited as part of a national process, and once recruited there is often little meaningful assessment or a selection process during the subsequent basic training. In addition, commonly used stipulations on minimal education requirements can disqualify some of the most suitable potential candidates from the outset, particularly those from more rural areas, who may have more practical experience and appropriate skills for a field-based position than their better educated peers.

This situation has contributed to a significant numbers of ranger/scouts in many sites being ill suited for the demands of the position, which in some cases has led to poor performance norms, low motivation, ineffective operations and increased management costs. A generic national recruitment process also prevents the selection of candidates against a profile of desired skills that can be tailored to the particular needs of the target protected area. For example, the desirability of tracking skills, military experience, or language skills may vary between protected areas.

Although beyond the scope of many area wardens in centrally managed national wildlife organizations, some managers have begun to address these issues by focusing recruitment in areas surrounding the site they work in, thus increasing the likelihood of targeting people used to living and working in basic conditions (this may require measures to offset the risk of complicity, see section 3.6.2). This, combined with a simple but rigorous selection process, involving physical tests and an interview to assess the interest and motivation of candidates, is often all it takes to identify a small subset of highly suitable candidates.

Although the criteria for recruitment processes are similar in many cases, with a common focus on physical fitness, knowledge of wildlife and motivation for work, the recruitment processes themselves

do vary in intensity and duration. The box below describes two similar yet contrasting processes that have been used in Zambia and Zimbabwe. The two examples also illustrate the trade-off between the up-front time invested in the initial recruitment process, and the successful completion of the following basic training.

Although a robust recruitment process does involve initial costs and effort, many protected area managers see it is an essential pre-requisite for developing a capable and motivated ranger force, and describe very high performance standards for staff recruited through a rigorous recruitment process compared to their colleagues that have not passed through the system. Such a process also helps ensure that the significant investment in putting selected candidates through basic training is focused on those with the attributes and motivation that the role demands.

Approaches to Recruitment and Selection

Gonarezhou National Park, Zimbabwe. ‘Cadet rangers’ have been recruited locally to supplement the staff deployed by the national wildlife agency (The Zimbabwe Parks and Wildlife Authority) in Gonarezhou National Park. The recruitment and selection process usually takes around one-day, and consists of a series of physical tests followed by an interview. Selected candidates then proceed to basic training. This approach has the advantage of keeping the process efficient, while still enabling the selection of the most suitable potential candidates (typically around 10-20% of recruits are selected for training); however this relatively streamlined process can contribute to a relatively high drop-out rate during the following basic training.

South Luangwa National Park, Zambia. ‘Village Game Scouts’ have been recruited to work alongside staff from the national wildlife agency (The Zambia Wildlife Authority) in and around South Luangwa National Park. This recruitment and selection process is more lengthy and rigorous - taking place over several days in community managed areas around the park, and involves daily 10 km route marches, additional physical exercises, discipline assessments and an informal ‘job preview’ outlining the nature of the work as a mechanism to help manage candidate expectations. Although more lengthy, about 50% of recruits that complete the process are selected for basic training, and a very low drop-out rate during basic training typically follows.

Integrating Nationally and Locally Recruited Staff

Although recruiting rangers/scouts on an individual site basis and targeting people living around an area for recruitment has many advantages, it does present a number of administrative challenges for protected area managers working in centrally managed national wildlife agencies that may not have the autonomy, resources or budget to implement these kind of processes at the site level. However, these obstacles have been overcome in a number of cases, often with the help of an NGO partner and the use of donor funding.

In a number of areas, the recruitment of staff on a site-specific basis has been achieved by using the staff selected locally to supplement rather than replace nationally recruited staff. For example in

Zambia, 'Escort Scouts' are recruited by the Zambia Wildlife Authority on a regional basis (and only on short-term contracts of around six months), and a robust recruitment and selection process has been used for employing Village Game Scouts that work alongside national wildlife agency staff in and around South Luangwa National Park (see box above).

Elsewhere, such as in Gonarezhou National Park, in Zimbabwe, the recruitment, assessment and final appointment of local candidates for basic training has been achieved through the creation of the new 'cadet scout' position in the park. While these scouts are formally contracted and employed by the national wildlife agency, they are only deployed to Gonarezhou National Park and the costs of their recruitment, training and continued employment are supported through the provision of salaries and equipment by donor funding (also see the box above for details).

Recruitment: Success factors

- In many places large numbers of potential recruits will try out for a limited number of positions. The initial recruitment process can therefore cast wide but be very rigorous.
- The initial selection process need not be complicated. Basic physical tests followed by a simple interview are usually sufficient to identify the most suitable candidates for training.
- Formal education is not essential for effective rangers/scouts, and minimum education requirements risks disqualifying some of the best potential candidates.
- In some areas, managers prefer to focus recruitment on people living around the area as they are used to living and working in the conditions they will be working in.
- Ideally, successful local candidates should be deployed a good distance from their home areas to reduce risks of complicity and other distractions.
- A rigorous recruitment process has the benefit of improving the successful completion of the following basic training and reducing investment in unsuitable candidates.

2.2.2 Basic Training

In addition to ensuring that all ranger/scouts have the skills and knowledge required to efficiently and effectively carry out their duties, the initial training of new ranger/scout recruits is a one-time opportunity to establish a strong work ethic and high performance standards among the trainees. The initial training is also a chance to build the confidence and strong team cohesion among the recruits. If done well, this initial training process can be an essential tool for developing a highly skilled, confident and motivated ranger/scout force.

Although the topics covered in initial trainings are relatively standard (see box below) there are two common approaches for implementing the trainings. One approach, often linked to national recruitment, is the training of all newly recruited staff at a dedicated training institution (often run by the national wildlife agency) according to a standard curriculum. This has the advantage of simplifying

logistics and enabling the processing of a high number of recruits that can then be deployed on a needs basis to any protected area in the country.

When many of these training centres were established, such as Kenya Wildlife Service's Manyani Training Centre, they were designed to offer training in a field environment similar to the working conditions that a ranger/scout can expect. As such, no permanent accommodation or facilities were built and classes were conducted under makeshift shades so that trainees could get used to field conditions. However in many cases, often due to increasing demands on the training centres, permanent facilities have developed over time and this aspect of the training has been lost.

One impact of this change is that it makes it more difficult to assess the performance of recruits *in-situ*. A centrally coordinated training process can also undermine team cohesion (as trainees may be subsequently deployed to different areas), makes it harder for individual area managers to build relationships with new recruits during their formation, and prevents the development of high performance norms and expectations associated with a particular site and/or area manager that can then be carried forwards into day-to-day operations.

The second approach to training, often linked to a site-specific recruitment, is to conduct training in the field in basic or temporary camps, ideally in the actual area that successful recruits would be working. This enables the evaluation of a recruit's suitability in the circumstances that they would be doing the work, and avoids many of the issues described above associated with a centrally coordinated and more generic approach to training. However, this does require a level of training capacity at the site and can make it difficult to train large numbers of recruits.

One approach that brings in elements of both of these approaches is that used by the Uganda Wildlife Authority. In this case a temporary training facility is established in one of the country's national parks that is then used to train staff from areas throughout the national park network together. Although losing some of the benefits linked to a site-specific training described above, this approach does capture many of the important aspects associated with carrying out the ranger/scout training in a field setting.

Common Basic Training Topics

The following topics typically form the basic foundation of many initial ranger/scout training courses. Assessment is often through combination of tests (which can often be written and/or oral) and practical exercises. A basic training typically takes place over 8-12 weeks.

- Wildlife laws. For example, the national laws and other regulations of a protected area and other wildlife crimes.
- Musketry. Including the handling, maintenance, storage and management of firearms and ammunition.
- Legal issues. Such as the rights of suspects, the rules of engagement, the process of arrest, the prosecution process, evidence handling and crime scene control.
- Bush craft. Including a variety of topics such as tracking, orienteering, basic first aid, camp

management etc.

- Tactics. Including use of patrols, ambushes, night operations, observation posts, communication protocols, crime scene control and protocols, etc.

Regardless of the approach used, a key element of successful basic training is the use of a rigorous selection process to eliminate recruits that do not meet the required standards as the training continues, which is based on a fair and transparent assessment process. To improve assessment accuracy and fairness, a variety of approaches can be combined for evaluation, including trainer observation, formal testing, and peer evaluation or 'buddy-ranking'. The box below gives example criteria typically used to assess trainee suitability.

Trainee Assessment Criteria

Recruits undertake a variety of lectures and practical exercises during training that are designed to assess their employability and suitability for the role. This is typically based on the following five factors:

- Discipline (ability to follow instructions and maintain standards)
- Physical fitness
- Route march (typically carrying around 20kg and a firearm (or firearm substitute))
- Team work
- Ability to absorb theory (e.g. basic tactics, laws, first aid)

Although not uncontroversial, the continued elimination of lower quality recruits during basic training is an important mechanism for not only ensuring that only the very best candidates are eventually appointed as rangers/scouts, but, as experience from military selection processes has proved, the process of selection itself is a critical factor for building stronger team cohesiveness and overall higher performance standards among those recruits that do successfully complete the training than would otherwise be the case.

An increasing number of the approaches and topics used for recruitment and training are drawn from the body of experience built up from the armed forces and the police service. As the level of professional poaching escalates, military, investigative and other skills that have traditionally been a strength of these organisations are increasingly being required in patrol staff. As such, using trainers and/or facilities from these organisations has an increasingly important role in building the capacity of ranger/scouts in these areas that have not historically been a specialty of many wildlife agencies.

Basic Training: Success factors

- Whenever possible basic training should take place in the field and ideally in the area that the successful candidates will be working.
- High recruit performance needs to be demonstrated and maintained – successful training

completion rates typically vary between 15 – 50%.

- Retaining recruits on temporary or casual contracts clarifies the need to perform to recruits and simplifies elimination of unsuitable trainees.
- Evaluation processes must be fair and transparent. A variety of techniques should be used including trainer observation (overt and covert), testing, and peer evaluation.
- Some candidates may not be well nourished at the start of the training; gradually increasing the physical elements of the course can help ensure all can compete equally.
- Ideally the trainer should also participate in all physical aspects of the training as this builds respect for the trainer as well as a stronger trainer-trainee relationship.
- Celebrating successful completion with a parade, ceremony and certificate consolidates a sense of achievement. Inviting close family members to participate can enhance this.
- The use of staff and/or facilities from other armed forces is one method of building ranger/scout capacity in areas that are not a traditional strength of wildlife agencies.

2.2.3 In-Service Training

Experience has shown that the training of ranger/scouts as a one-off, stand-alone event is unlikely to have a significant or sustained impact on their performance in an area over time. Continued investment in training is essential to ensure that patrol staff maintain their skills to the required levels, are updated with new knowledge and technologies as they become relevant, and, importantly, as a mechanism for area management to demonstrate the continued value and importance of patrol staff to site operations.

In-service training has often been used as a mechanism for achieving these aims. Traditionally, in-service training often follows a similar curriculum to that outlined in the previous section for basic training, and takes place over several weeks away from the site. However, for a variety of reasons, such as financial shortfalls, manpower limitations or low management priority, the implementation of such training has often been sporadic and infrequent, often contributing to a steady degeneration of ranger/scout force capacity over time.

More recently, the management of some areas has recognized the need to shift from viewing training as a discrete event undertaken by external professionals towards an on-going function of area management itself, and of fostering the development of a 'continual learning' approach. This represents a major shift from the traditional attitudes towards training prevalent in many wildlife agencies, and requires an institutional cultural change by adapting conventional hierarchical working relationships towards a more collaborative way of operating.

A continual learning approach is widely used in military organisations. It necessitates a level of site-based training capacity and senior staff with the aptitude to foster such engagement. Success rests on the ability of managers and patrol staff to work collaboratively in the continual analysis of incidents and

operations as they occur, without fear of failure or punishment. The approach typically includes the on-going collaborative assessment by managers and patrol staff of situations as they occur, proposed responses and potential alternatives, as well as incident debriefs and 'after-action reviews'.

One practical way that some protected areas are achieving a gradual change towards continual learning is to adapt the traditional 'in-service' refresher trainings that have typically taken place every three or four years throughout the scouts/ranger's employment (at best) to a model based on more frequent, smaller and shorter trainings that last around a week. In some sites, rangers/scouts are selected from different units across an area to participate in such trainings, which may take place two or three times a year.

Compared with the traditional approach, more frequent site-based trainings have less impact on daily operations, motivate patrol staff by providing additional task variety, build relationships amongst patrol staff from different units within an area, increase interaction between patrol staff and management, and provide management with manpower they can use for specific tasks linked to training. Although a relatively small and well-funded site, one area where this has been successfully implemented is the Malilangwe Wildlife Reserve in Zimbabwe.

Over time, through a rigorous recruitment process combined with a continuous in-service training programme, Malilangwe Wildlife Reserve management have also built up a small cadre of skilled and experienced law enforcement staff at the site (linked to the establishment of an elite anti-poaching unit) that have the capacity to oversee most of the regular and continual training of the ranger/scout force, with periodic inputs from senior managers. This peer-to-peer training has in turn served to minimise the impacts of continued training on senior management's time.

In-Service Training: Success factors

- Training needs to be continual and not a standalone or one-off event if it is to have a sustained impact in an area.
- Training needs to be viewed as one of the key functions of site management itself, not something that is outsourced to Headquarters or a human resource department.
- An institutional shift towards the development of a continual and collaborative learning environment enables opportunities for on-going capacity to be maximized.
- Frequent (i.e. two or three times per year), smaller and in-house training opportunities for all staff can be efficient and effective if sufficient capacity exists at the site.
- Developing a cadre of skilled and experienced law enforcement staff at the site will reduce the burden of frequent trainings on senior site management.

2.3 Experienced and Competent Patrol Leaders

Patrol leaders take the lead in implementing and managing patrols once they are deployed. Strong and effective leadership is essential to ensure that all patrols are effective and efficient. Two key components have been identified as critical for developing competent patrol leaders: 1) ensuring that leaders are experienced patrol staff; and 2) ensuring that leaders have the right personal attributes to manage patrols.

2.3.1 Significant Experience

A strong patrol leader can be an essential element in ensuring the overall effectiveness of a patrol once it has been deployed. They are required to fulfil a number of important tasks, including directing tactical operations during the deployment, taking overall accountability for all equipment issued to the patrol (see section 2.4.1), ensuring that all ranger based monitoring data is collected in accordance with the required standards (see section 3.4), and ensuring adherence to communications (see section 2.6.1) and other protocols (such as crime scene handling, see section 4.3).

In some areas a patrol leader is an official position above that of other patrol members, while in others it is an informal position where leadership rotates between patrol staff. Regardless of the formality of the position, the patrol leader provides a link between senior area managers and the rest of the patrol staff, and needs to have the confidence of both parties in order to be able to fulfil this role. They also need the respect of the patrol staff they are leading, in order for them to be able to delegate the responsibilities for individual tasks and deal with any personnel issues that may arise during a patrol.

While the development of certain skills and attributes (discussed below) is important in developing this confidence and respect, there is no substitution for patrol leaders having substantial direct experience of implementing patrols in the area, ideally over many years. This experience should have enabled competent staff to develop an understanding of the patterns of wildlife distributions and illegal activities in the area, which combined with a solid understanding of law enforcement patrol procedures and protocols, can make them an essential element of effective law enforcement patrols.

Even if appointment to the patrol leader position is informal and done only on a patrol-by-patrol basis, senior management are frequently involved in their selection. Some managers have noted that if allowed to select their own leaders, some patrols select weaker staff members that are more likely to allow them more freedom during the patrol deployment. If the position is a formal appointment this should ideally be based on a performance evaluation (see section 2.5.3) and an assessment of key skills and attributes the role requires (see next section).

2.3.2 Skills and Attributes

In order to optimise their effectiveness, in addition to experience, patrol leaders should ideally have a clear understanding of and be able to apply a range of skills in the execution of their duties, as well as

the personal attributes that good leadership of staff in a field situation requires. Patrol leaders must lead the patrol team with confidence based on a thorough understanding of their role and the area in which they are patrolling, and be able to effectively manage, motivate and control their patrol team teams for extended periods in the field.

Not all experienced staff may have these skills or personal attributes, and as such a number of areas have begun implementing specific trainings for patrol leaders to either help develop the required qualities in the existing leaders, or as a part of the selection process for the appointment of new patrol leaders. These courses need not be particularly extensive, and in one recently implemented training course in North Luangwa National Park, in Zambia, the following subjects were covered over a seven-day course:

- Operational planning and deployments
- Patrol management
- Care and maintenance of equipment
- Intelligence handling
- Standing operating procedures (SOP)
- Scene of crimes training (field forensics)
- Fitness training

The results of the assessments on the above subjects, combined with senior management knowledge of the intrinsic leadership qualities and abilities of the staff concerned, can provide an objective and transparent mechanism for the appointment of patrol leaders. If such a process is established in an area and linked to the appointment of patrol leaders, it can also serve to motivate high performing patrol staff by providing opportunities to advance along a career path (while enabling valuable personnel to remain in the field) and providing recognition for increased effort and performance.

Patrol Leaders: Success Factors

- Significant direct experience of implementing patrols in the area, ideally over many years, is essential for patrol leaders to establish confidence and respect.
- If the position is informal and done only on a patrol-by-patrol basis, senior management should (in most cases) be involved in the patrol leader selection.
- If the position is a formal appointment it should be based on transparent and objective evaluation that incorporates senior management knowledge an individual's leadership qualities and abilities.
- Informal rotation of patrol leadership has the advantage of empowering staff and enabling management to gauge the abilities of a greater number of ranger/scouts.
- Formal appointment has the advantage of providing a career development staff for more ambitious and high performing ranger/scouts, while keeping them in field based positions.

2.4 Suitable and Sufficient Equipment and Supplies

Suitable and sufficient equipment and provisions are critical for enabling rangers/scouts to effectively and confidently carry out patrols. Four components have been identified for ensuring patrol staff have the equipment and supplies needed. These aim to ensure that patrol staff have: 1) basic field equipment needed to operate with a reasonable level of comfort while on patrol; 2) sufficient rations to support them while they are in the field; 3) a reliable communication system with Headquarters; and 4) appropriate firearms and sufficient ammunition to confidently carry out patrols. Each of these components is discussed in the following sections.

2.4.1 Field Equipment

Appropriate field equipment is essential to keep rangers/scout effective and motivated in the difficult and inclement environments where much of their work takes place. Appropriate equipment can not only make the work of the ranger/scouts more comfortable, but is also an opportunity to demonstrate the importance of patrol staff to area management and to strengthen their motivation and commitment to carrying out patrols. It is the factor that patrol staff in many areas highlight as the most important issue that they would like addressed.

However, although often touted as the ‘front line’ in the fight against poaching, in many cases rangers/scouts appear to be last in line when it comes to the provision of equipment. This can be particularly problematic in remote sites, areas that are not seen as a national priority, and in areas that have not been supported by donor funding. In such cases, insufficient and inappropriate field equipment has often undermined both the ability and the motivation of rangers/scouts to carry out law enforcement patrols.

Even when suitable field kit has been provided, there is an inevitable rate of attrition through loss, breakage or over use. However, the repurchase of patrol equipment is often not sufficiently planned for. Donor projects, for example, frequently make provisions for new equipment at the start of the project (often linked to training) but fail to account for replacement costs in later years. The poor planning of replacing kit often leaves patrol staff using equipment (e.g. boots, which may need to be replaced every three years) well beyond their useful life.

The minimum basic equipment that patrol staff should be ideally provided with is summarised in the box below. As shown, the suggested focus is on providing simple, robust and reliable equipment that is easily obtainable and simple to maintain. Fortunately all the basic equipment that patrol staff require is neither expensive nor difficult to procure. While other more complicated equipment may bring some benefits, the opportunity costs of purchasing and investing time in training, combined with additional maintenance requirements often negate much of the potential value.

Ideally each item of the ‘individual field kit’ listed below would be issued to each ranger/scout, who is then held responsible for its maintenance. However, in reality, resource restrictions often necessitate issuing many of the items to ranger/scouts each time they go on patrol (e.g. sleeping equipment, back packs etc.) This requires efficient record keeping and strong stores management (see section 3.5.4) to enable accountability of patrol staff, and ensure inventories are sustained and equipment is well maintained.

Individual Field Equipment	Team Field Equipment
<p>The following basic equipment is ideally issued to each patrol member:</p> <ul style="list-style-type: none"> • Rucksack large x 1 • Chest webbing/day pack x 1 • Water bottles x 2 • Uniform x 2 • Belt x 1 • Boots x 2 • Socks x 2 • Hat x 1 • Waterproof/poncho x 1 • Sleeping bag x 1 • Sleeping mat x 1 • Tent/dome net x 1 • Handcuffs x 1 • Firearm and ammunition (see section below) 	<p>The following basic equipment is ideally distributed between members of a patrol:</p> <ul style="list-style-type: none"> • Radio and spare battery or charger (see communication section below) • GPS plus spare batteries or solar charger (see communication section below) • Binoculars • Camera and spare battery or charger (see communication section below)

Due to its high-perceived value by patrol staff, the provision of new equipment has successfully been used to encourage performance improvements in some areas. For example in Lower Zambezi National Park, Zambia, staff from Conservation Lower Zambezi made the provision of new equipment that was identified as a priority by patrol staff contingent on preceding improvements in patrol effort over a number of months. Combined with increased senior management engagement, this contributed to significant improvements in performance as well as the relations between management and patrol staff.

Field Equipment: Success Factors

- The best equipment is generally simple, robust and reliable, and is easily obtainable and simple to maintain.
- Ideally, each ranger/scout should maintain their own personal equipment, but good stores and inventory management can compensate for this if resources are limited.
- Provision of equipment should be seen as an on-going, reoccurring event rather than a one-off cost when budgeting.
- Some redundancy is necessary (e.g. two uniforms, as if staff are only provided with one uniform it is often only used for parade and not in the field).
- Provision of equipment is highly valued by patrol staff and can be used as an incentive to help improve performance before it is provided.

2.4.2 Patrol Rations

The timely provision of sufficient rations that rangers/scouts take on patrol is another issue, along with patrol equipment, that is seen as a key by many law enforcement staff. If patrol staff do not have sufficient, appropriate rations they may either not go on patrol, or they may spend a significant amount of time on patrol gathering food, through, for example fishing or, in some areas, killing wildlife for food. This not only reduces the impact of patrols, but also sets an extremely damaging precedent when dealing with park-adjacent community members.

The on-going provision of rations to support patrols is a time consuming task, especially remote areas, and frequently becomes a complex and contentious issue. Most areas have therefore developed a standardised formula for issuing rations based on the number of patrol staff and the planned length of a patrol. The development of such a system has the advantage of reducing conflict and enables monitoring of the balance of rations provided against actual patrol effort. The box below gives an example of the typical rations issued per person per patrol day.

Typical standardised rations

- Maize flour – 500 grams/person/day
- Sugar – 100 grams/person/day
- Rice – 100 grams/person/day
- Beans/lentils – 100 grams/person/day
- Dried fish/meat – 125 grams/person/day
- Tinned meat – 60 grams/person/day
- Cooking oil – 25 ml/person/day

- Salt – 20 grams/person/day
- Stock – 200 grams/person/10 days
- Tea – 30 grams/person/10 days
- Curry powder– 1 packet/patrol/10 days

However, even with an established formula, the management burden of purchasing, storing, and managing rations can be significant. In response, some agencies (such as Ezemvelo KZN Wildlife, which manages Kwa-Zulu Natal’s protected areas in South Africa) have stopped providing rations altogether, and instead simply provide cash that patrol staff then organize their own supplies. However, this approach can only be implemented in less remote areas, and requires a relatively high-level of discipline and organisation among patrol staff.

In most areas this approach is not seen as practical, as poor organisation by patrol staff risks delaying deployment, the provision of cash can quickly become viewed as an intrinsic part of the payment package rather than to support patrol implementation, and there is the risk that the money is not used for its intended purpose, with patrol staff reverting to using a site’s natural resources for food. As such, despite the effort involved, a simple and standardised system for issuing and managing rations remains the best option for many managers.

Patrol Rations: Success factors

- Using a standardised formula to allocate rations can help simplify the process and enable assessment of amount allocated against actual patrol days.
- Although specialised ration packs are available, for typical law enforcement patrols on foot, simple, locally-available food is all that is required.
- If collection of wood is an issue or concealment is important, gas camping stoves can be used for cooking, but this complicates logistics.
- In some circumstances cash for patrol staff to organise their own rations can reduce the burden on management.

2.4.3 Communication Equipment

Reliable communication links between patrol staff and a senior manager with decision-making authority is critical to enable patrol members to report incidents, request support logistical or back up support if needed, and to enhance the overall confidence of patrol staff during operations. From a management perspective, reliable communications are essential for enabling the monitoring of patrol progress and the rapid adaptation of patrol movements in response to new information or changing conditions on the ground.

In the vast majority of areas, such communication has traditionally been achieved using an analogue VHF handheld radios that are linked to a central control room via a system of repeater stations distributed throughout the area. However, many areas are now transitioning to the use of digital VHF radios, which, despite the higher costs and some additional complexity of operation, have a number of advantages over the traditional analogue system. Some of the key advantages include:

- The real-time tracking and monitoring of patrols with all patrol routes, patrol location and voice data being stored for future reference.
- Increased simultaneous talking paths, and the ability to embed information such as enhanced text messages into a single digital radio channel.
- Improved battery life and more efficient use of bandwidth enabling multiple paths on the same channel and more secure communications.
- The digital conversion process improves audio quality and clarity by reducing external background noises.
- The digital platform provides a migration path that allows for simultaneous use of digital and analogue radios.

These advantages, and particularly the ability to track the real time location of the patrol through the VHF radio, have led to the rapid adoption of the digital platform over recent years. A number of managers report improved reliability and quality of communication compared to the traditional analogue system. However, the system still requires a network of repeaters throughout the area that need to be secured and serviced. As such, in large, insecure, and remote areas a potential alternative remains the use of portable HF 'manpack' radios, although these are often prohibitively expensive.

However, despite the improved battery life of digital VHF radios, it is still not sufficient for a multi-day patrol. One option to address this being applied in North Luangwa National Park, Zambia, is the use of commercially available portable solar panels and chargers that are designed to be compatible with a variety of electronic devices, such as VHF radios, GPS, phone and laptops. The panels are small enough to be carried on a backpack and connected to the charging unit while on patrol, which is then used to recharge radios or other devices overnight, enabling their continued use throughout a patrol.

A solar panel and charger that can be used to recharge VHF radios and other equipment.



Mobile Phones: Blessing or Curse?

Cellular network coverage has now reached many protected areas, and will reach many more in the near future as networks continue to expand. If appropriately capitalised on, this development can bring significant benefits for area management, such as improved emergency communications, and the ability to enhance ranger-based monitoring systems by enabling faster speeds of information flow. However, due to a variety of issues, such as device reliability, airtime availability and battery life, mobile phones are unlikely to replace the need for an effective VHF network.

However, improved communications also increases the risk of corruption, complicity and patrol movements being compromised, and as such many area managers have developed policies to manage the use of personal mobile phones. Many areas have simply banned the carrying of personal phones on patrol by any staff. This has proved difficult to enforce in some cases, and by communicating a sense of mistrust and reducing the accessibility of staff to their family, this approach also risks undermining patrol staff morale.

Some areas, such as parks in Kwa-Zulu Natal, South Africa, have also found that this approach is impossible to enforce and have 'recognised that all staff have the right to communications', as such they have opted to allow staff to take personal mobiles on patrol, but insist that they are kept switched off or on silent mode during patrol exercises. Some area managers feel that in the long run the technology must be embraced, and management attention should be focused on fostering wise and appropriate use of personal phones rather than enforcing an outright ban.

Communication Equipment: Success factors

- Digital (rather than analogue) VHF radio networks are rapidly becoming the standard for within site communications.
- The advantages they provide over the traditional analogue radios outweigh the additional costs and learning needed for their operations.
- Key advantages include longer battery life, clearer signals, more efficient use of bandwidth and the ability to track position in real time.
- Portable solar panels and chargers provide an appropriate option for keeping radios operational on multi-day patrols.

2.4.4 Firearms and Ammunition

Studies have shown that alongside the overall number of days spent on patrol, the arming of rangers/scouts is the most important factor influencing a patrol's probability of encountering poachers. According to the same study, this is due to the increased confidence firearms give patrol staff^v. In addition, studies have also shown that the use of more severe fines and longer imprisonment for wildlife

poaching risks increasing the likelihood of patrol staff encountering aggressive resistance from poachers when encountered^{vi}.

However, despite the benefits and increasing need for rangers/scouts to be supported by appropriate arms and sufficient ammunition, in many areas a lack of both is seriously undermining ranger/scout operational effectiveness and confidence. This is due to a variety of factors, such as insufficient funding for new firearms, but is often related to broader issues such as institutional conflict between agencies and legislative weaknesses. As such, it can be very difficult for area managers to address this problem at the site level.

For example, the Zambia Wildlife Authority has had difficulties procuring military grade semi-automatic rifles, such as AK-47s, which is to a large part due to the army's concern about allowing a wider distribution of such firearms. Ironically most of the semi-automatic rifles used by patrol staff in some areas, such as North Luangwa National Park, have been confiscated from poachers (many are in a poor state of repair). Elsewhere, such as in Gabon, national legislation does not allow for ranger/scouts to carry firearms, and as such joint patrols have to be implemented with other armed forces.

Legislative constraints can also be a particularly important issue in private reserves or community managed areas that contain high value wildlife species that require armed protection. These restrictions have however been overcome in a number of different ways. For example in the privately managed Malilangwe Wildlife Reserve in Zimbabwe, high specification, small calibre firearms are used that are allowed under national legislation. Whereas in Kenya, many community game scouts have gained police reservist status that enables them to carry arms (see box below).

Arming Community Game Scouts in Kenya^{vii}

Across much of Kenya, Police Reserves (KPR) are the most visible and dependable form of community security. Reservists are most commonly recruited from local pastoral communities, so they speak the local language; understand the security context; and are familiar with the area's geography, terrain, and climate. For the government, the KPR is a cost-effective security body that is well placed to protect livestock, which has traditionally been its primary function. KPRs are authorised to carry firearms, which should be inspected and accounted for by the commanding officer at the local police station.

Over recent years, KPRs have increasingly been used in community conservancies in Kenya, mainly in the Laikipia region. By early 2012 there were 30 conservancies in Laikipia, a number that has continued to increase. These areas may be made up of one or several private ranches or areas of communal land. Thus they may be privately owned (Lewa, Borana), community owned (Il Ngwesi, Tasia), or government owned (Mutara). In 2012, there were there were an estimated 1,137 KPRs distributed between these community conservancies, just below a quarter of which were authorised to carry firearms.

This situation has effectively resulted in two KPR models emerging alongside each other in this region: the traditional KPR, and the KPRs working as ranger/scouts in community conservancies. Traditional KPRs are not uniformed and tend to wear *shukas* (simple blankets) and open shoes (or no shoes), and carry firearms. While ranger/scouts are generally younger and are provided with uniforms, training, and

salaries. Many have VHF radios, binoculars, GPS, and other field equipment, and are often supported by significant resources, such as tracker dogs, vehicles, airplanes, etc.

As a result, some ranger/scouts view traditional KPRs as illegitimate and as ‘members of the public carrying arms’ while the rangers/scouts have in turn been accused of usurping security powers. However, there is no financial support from the government for community conservancies, which are a relatively new concept not covered by government policy. As such the use of KPRs remains the only viable option for providing protection for wildlife in these areas. Despite armed KPRs, poaching remains a threat to wildlife and the benefits that many communities derive from wildlife-based tourism.

In some recently developed wildlife legislation, measures have been included to overcome these issues. For example in the 2013 South Sudan Wildlife Bill, wildlife agency staff have been given the ability to ‘exercise all or any of the powers conferred upon any policeman under the Code of Criminal Procedure Act, 2008’. This enables them to: make arrests; seize weapons, belongings and wildlife contraband; search people, vehicles and buildings, and, importantly, to carry firearms. This legislative provision effectively removes many of the legal constraints undermining ranger/scout performance.

Alongside training in the safe handling and management of firearms, any provision of firearms must be accompanied by the capacity for their secure storage in the area and a robust management system that ensures all arms and ammunition (ideally a minimum of 30 rounds per person per patrol) are continually accounted for. In addition, on-site capacity to service and maintain the firearms is also critical, which should ideally be linked to a system of ensuring that each firearm is cleaned and maintained each time it returns from patrol.

Firearms and Ammunition: Success factors

- Ideally national legislation should make provisions for rangers/scouts to carry firearms suitable for addressing increasingly organised and professional poachers.
- In many cases provisions in national legislation according rangers/scouts similar status and rights to a national police officer is sufficient for this.
- If this is impossible other mechanisms can be investigated to enable armed patrols. For example, registering rangers/scouts as police reservists or joint patrols with other armed forces.
- Provision of firearms needs to be accompanied by strong inventory and stores management systems, and procedures to ensure all firearms are well maintained.

2.5 Appropriate Terms and Conditions of Service

Appropriate terms and conditions of employment form the basis of the relationship between patrol staff and management, and, if well-developed, lay strong foundations for optimal staff performance. Four components have been identified for ensuring patrol staff have appropriate terms and conditions of

service. These are: 1) defining and communicating the roles and responsibilities of the position; 2) designing the job to ensure opportunities for growth and increasing motivation; 3) informing staff how they are performing and where improvements are needed; and 4) using contracts that support performance and the retention of good staff. Each of these is discussed in the following sections.

2.5.1 Roles and Responsibilities

If they are to be able to perform effectively, rangers/scouts need a clear understanding of the expectations of the rights, duties, and responsibilities of the role, the desired types of behaviours that will lead to the fulfilment of these expectations. Research from a number of sectors has shown that unless these aspects of a job are made clear to employees, the resulting 'role ambiguity' can increase job dissatisfaction, staff frustration and the employee turnover, all of which has a negative impact on performance and effectiveness.

One commonly used tool to reduce the risk of role ambiguity is a formal job description, which defines the above aspects of a particular position. Alongside providing guidance to patrol staff, a formal job description can also help area managers in a number of ways, for example, improving the recruitment process by enabling a better match between recruit attributes and the specific needs of an area. A clear job description also provides an essential foundation for the implementation of objective employee performance evaluations (see next section).

Unfortunately however, often due to its connection with the formal appointment process, the utility of a job description as a management tool is frequently lost. Its review by employees has often been reduced to a box to check rather than a mechanism to help guide and improve performance. As a result, even if it exists, a job description is only likely to be reviewed once (at best) during the initial hiring process. In addition, a written document using official language is often a poor medium for communicating the key functions of a ranger/scout to many patrol staff.

In response, different strategies have been used in different areas to help build awareness of ranger/scout roles and responsibilities among patrol staff. Both Malilangwe Wildlife Reserve in Zimbabwe and South Luangwa Conservation Society in Zambia, spend a significant amount of time during initial selection clarifying the ranger/scout role, responsibilities and performance expectations and measurements. In other areas, such as community conservancies in Namibia, posters that provide an overview of the role are placed in key positions to remind ranger/scouts of their responsibilities.

Other sites are investigating the use of laminated, foldable documents outlining key performance points for patrol staff to carry with them (these can also be used to remind rangers/scouts of other protocols, such as crime scene handling). While in other areas, such as Grumeti Game Reserves in Tanzania, desired behaviour is constantly reinforced through the use of a 10% monthly bonus that is provided as default to all employees. However, any infraction, not matter how minor, results in its loss for that month. This ensures all employees are continually reminded of the requirements of their role.

Roles and Responsibilities: Success factors

- Job descriptions should be clear and concise, and free from unnecessarily complex language. If necessary an informal version could be used to complement the official document.
- A job description can be included with the contract and signed by the employee on appointment, but this is unlikely to have an impact on individual behaviour.
- The initial recruitment process and subsequent in-service trainings can be used to clearly instil an idea of the role and responsibilities of a ranger/scout.
- Innovative and appropriate ways such as bonuses, posters or portable laminated cards can be used to continually refresh important aspects of the ranger/scout position.
- The description should be defined so that it helps other aspects of area management, such as recruitment and performance evaluations.

2.5.2 Job Design

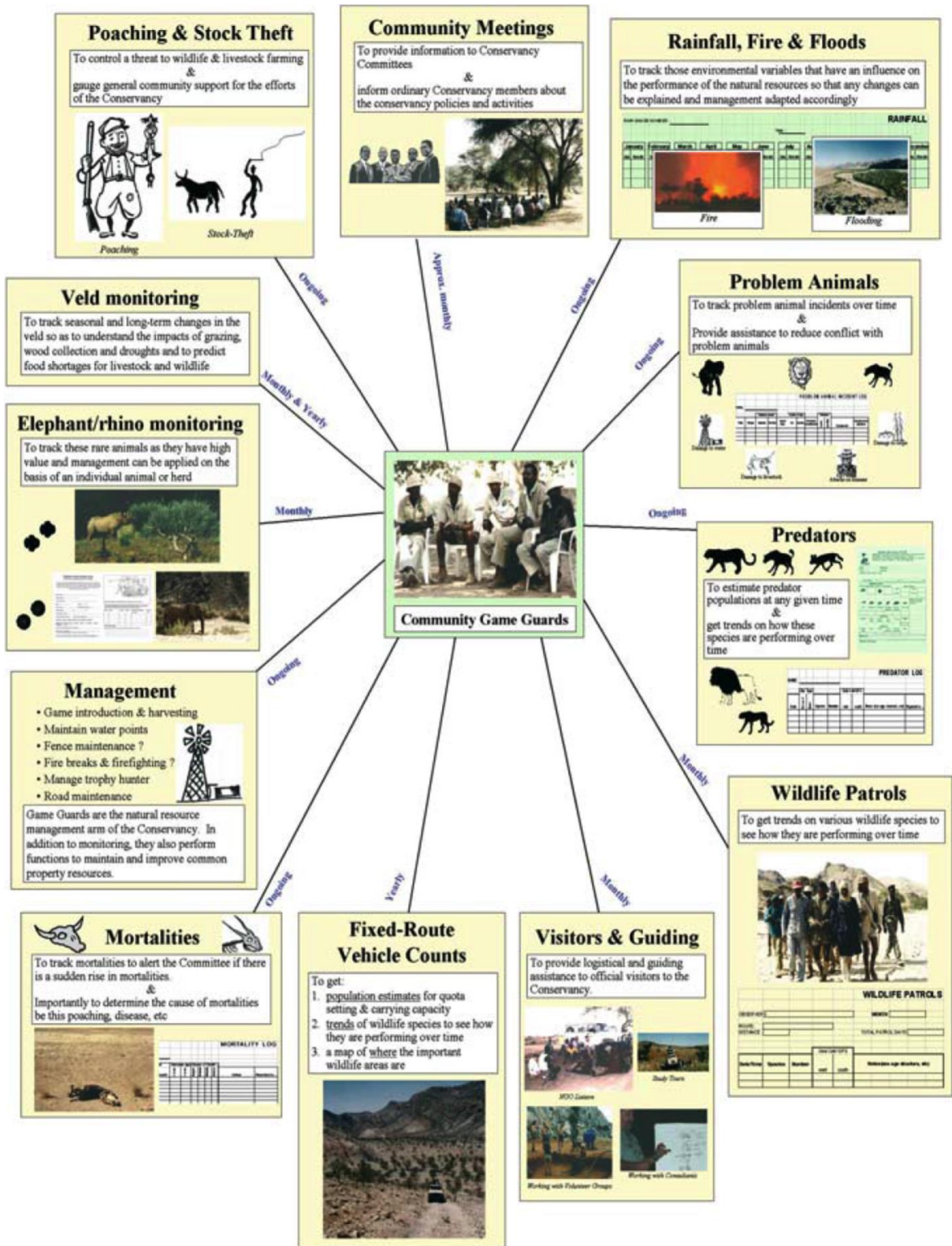
Although beyond the scope of some area managers in centrally administrated wildlife agencies, 'job design' (or redesign as would be the case for many ranger/scouts roles) has been shown to have significant and sustained positive impacts on employee motivation, job satisfaction and commitment^{viii}. Through job design, organisations try to raise performance levels by offering non-monetary rewards such as greater satisfaction from a sense of personal achievement in meeting increased challenges and responsibilities that are integrated into their role.

Many jobs have traditionally been designed to encourage specialisation, for example, in the case of ranger/scouts focusing mainly on the implementation of foot patrols. Whilst some ranger/scouts may become very efficient and skilled at this activity, the lack of variety in their work can lead to boredom and a feeling of detachment from the overall goals and success of the area they work in (especially in high performers). They may feel that as long as they complete their job satisfactorily, there is no need to be concerned with a greater involvement in improving current operations or an area's overall goals.

One possible solution to this problem involves providing employees with more variety in their work. There are three common techniques to do this that are listed below in order of increasing effectiveness:

1. Job rotation: moving employees between different jobs periodically. This reduces the monotony of their work and develops a team with a wider range of skills. For ranger/scouts this could mean rotating responsibilities for patrol leadership, data recording, communications or other roles.
2. Job enlargement: gradually providing employees with more challenging work and greater responsibility. This also leads of overall improvements in staff capacity. This could mean adding responsibilities for equipment management, entering monitoring data, training of peers etc.

A job description poster for Community Game Scouts in Namibia



3. Job enrichment: providing employees with more control over the work they do. Providing more authority and responsibility encourages staff to find better ways to accomplish their work. This could include patrol planning, leave scheduling, purchase of rations, etc.

Well-designed jobs that increase the job satisfaction have been shown to lead to improvements in efficiency, performance and morale. In turn, this can reduce staff turnover and absenteeism, and improve overall performance. However, this approach does rely on an effective recruitment process that ensures a high standard of staff that have the intrinsic desire to improve themselves and to perform highly. It works best when linked to a performance evaluation process that recognises increased efforts and contractual arrangements that enable corrective measures (see following sections).

Job Design: Success factors

- Job design is predicated on the desire for staff to improve themselves and relies on a good recruitment process to select motivated individuals.
- Observing high performing individuals can help identify behaviours that can then be encouraged in other staff members.
- Any changes should be made incrementally from job rotation, to enlargement and then finally job enrichment if staff respond positively.
- Additional investments in training may be necessary during the early stages of implementation; peer-to-peer training can reduce the impacts of this on management's time.
- Job design will not be suitable in all circumstances, for example if staff lack any internal motivation to improve themselves and their performance.

2.5.3 Performance Evaluation

Evaluation or appraisal of staff performance is a commonly, if not always appropriately, used tool in many organisations. If done well, it can fulfil a number of useful functions for any organisation: it informs employees where they stand relative to performance expectations and where they need to improve; it provides management with information that can help them to make appropriate personnel decisions (such as promotions, pay rises, terminations); and it helps identify employees with training and other development needs.

If supervisors continually and carefully assess the performance of employees, and the results are communicated clearly to them, they are more likely to understand the linkages between performance and rewards or corrective measures. In addition, if management make informed recommendations based on objective data for pay rises, promotions, training and terminations, employees should hopefully perceive the practises as being fair, understandable, responsive and necessary, which should lead to increased motivation and commitment to their jobs and the organisation.

However, in practice, the majority of rangers/scouts do not receive any useful structured appraisal of their performance. Evaluation processes typically suffer from a low organisational priority or a lack of understanding of their potential benefits by managers. If appraisal processes do exist they have often not been developed with the goal of providing information to area management, but to rather fulfil the requirements of a centrally-based human resource department. In the few cases where evaluations have been used (e.g. village game scouts around South Luangwa National Park) the process has had a punitive rather than constructive approach and not been maintained.

Although developing a performance evaluation system may require some additional initial work, once the fundamentals are in place it can be designed to run without placing too heavy a burden on area management. A significant amount of research has been carried out to identify what makes up an effective appraisal system. A summary of the conclusions from this work is provided in the following five bullet points:

- **Clear objectives:** The objectives of appraisal should be clear and specific. An effective performance system will have specific appraisal attributes to match the employee's job description.
- **Reliable data:** An effective performance appraisal system provides data that is consistent, reliable and has implications for the role in question.
- **Defined criteria:** Effective performance appraisal has standard appraisal forms, rules and appraisal procedures. It will have well defined performance criteria and standards.
- **Minimal impact on operations:** Effective performance appraisal systems are designed to be economical and use the minimal time possible.
- **Clear feedback:** The results must be communicated to employees; ideally feedback should include '360° feedback' that incorporates comments from subordinates, peers and supervisors.

The box below provides examples of the most commonly used methods used to measure performance. These measures are most commonly implemented through a standardised, short written or oral assessment (often a short form) combined with follow up discussions with an employee's supervisor. Wherever possible, the employee assessment should include feedback from peers, subordinates and supervisors. Although formal evaluations typically take place on an annual basis, they are most effective when complemented by regular informal feedback sessions.

Common Performance Measurement Methods

The following points summarise some of the common approaches that can be used for evaluating employee performance.

- **Rating Scales:** Rating scales consists of several numerical scales representing job related performance criteria such as dependability, initiative, output, attendance, attitude etc. Each scale ranges from excellent to poor. The total numerical scores are computed and final conclusions are derived. Advantages – Adaptability, easy to use, low cost, every type of job can be evaluated, large

number of employees covered, no formal training required. Disadvantages – Rater's biases

- **Checklist:** Under this method, checklist of statements of traits of employee in the form of 'Yes' or 'No' based questions is prepared. The total scores are then calculated and final conclusions are derived. Advantages – economy, ease of administration, limited training required, standardisation. Disadvantages – Rater's biases, use of improper weights, does not allow the rater to give relative ratings
- **Easy Narrative:** The rater writes down the employee description within a number of broad categories like, overall impression of performance, suitability for promotion, existing capabilities and qualifications of performing jobs, strengths and weaknesses and training needs. Advantage – It is useful in filling information gaps about the employees that often occur in a better-structured checklist. Disadvantages – It is highly dependent upon the writing skills of the rater.
- **Critical Incidents:** The approach is focused on certain critical behaviours of employee. Supervisors record such incidents as and when they occur. Advantages – Evaluations are based on actual job behaviours, ratings are supported by descriptions, and feedback is easy. Disadvantages – Negative incidents can be prioritized, incidents can be forgotten, requires close supervision; feedback may be too much and may appear to be punishment.

Performance Evaluation: Success factors

- Developing clear job descriptions is an important foundational step for implementation performance evaluation.
- If area managers are involved in the design of evaluation processes they can ensure they are appropriate and will provide them with the information they need.
- Keeping the process simple and streamlined minimises the burden on management; there are a number of approaches and methods that can be used to ensure this.
- A number of standardised methods can be combined to form part of a simple performance assessment (e.g. rating scale and easy narrative)
- The evaluation should include '360° feedback' that includes comments from peers and supervisors to help provide a full picture of the employee.
- The formal evaluation process should ideally be combined with more regular informal sessions throughout the year.
- Using the process as a basis for making key personnel decisions helps employees perceive the process as being fair, understandable, responsive and necessary.

2.5.4 Contractual Arrangements

Finding the right balance between patrol staff job security and the ability of area managers to either discipline poor conduct or reward high performance is essential for maintaining the capacity of an area's ranger/scout force (assuming that decisions are based on the results of an objective and transparent performance appraisal system, as discussed above). The wrong balance can result in either a high turnover of temporary staff increasing training and management costs or, at the other extreme, the retention of poor performing and unsuitable staff.

Unfortunately, many protected areas suffer from the latter problem. Permanent civil service contracts, combined with a slow bureaucracy and centralised decision-making process, are in many cases severely restricting the ability of senior area managers to either discipline poor performers or reward those with good records. As such, talented and ambitious patrol staff often feel under-appreciated and are more likely to leave (in many cases to work for conservation NGOs working in the same area). Overtime this contributes to a gradual decline in the overall capacity of an area's ranger force.

This issue is difficult for many managers to address at the site level, but in areas where rangers/scouts have been recruited locally and put on shorter-term contracts and with simple discipline procedures, performance standards have been consistently higher. Although in some cases, such as Gonarezhou National Park, this is also linked to a more rigorous recruitment process, in other circumstances, such as the use of 'Escort Scouts' on temporary contracts in Zambia, the difference in performance is more easily attributed to the links between high performance and retaining employment.

Although this is an issue that was highlighted by a number of protected area managers, very little progress has been made in addressing it in most government-managed areas. However, some agencies, such as Ezemvelo KZN Wildlife, in South Africa, are moving employees to performance-based contracts based on measurable 'Key Performance Indicators' defined for each specific role. Linking decisions to an objective and transparent performance evaluation, combined with clearly defined decision-making processes, and delegating responsibility to area managers can also reduce the impacts of this issue.

Contractual Arrangements: Success factors

- Using performance-based contracts provides an objective method of ensuring that high performing staff are retained and rewarded.
- These contracts need to be linked to clear job descriptions, specific 'Key Performance Indicators' and objective and transparent performance evaluations.
- Delegating more responsibility and autonomy for staff recruitment and retention to individual area managers could also help reduce the impacts of this issue.

2.6 Supported and Incentivised Patrol Staff

Much of the work of a ranger/scout takes place in a difficult and potentially dangerous environment, and typically involves lengthy periods away from home. As such, any steps that area management can take to offset these difficulties by supporting and inspiring staff can help improve overall staff performance. Two key components for achieving this have been identified. These are: 1) making sure that the basic needs of patrol staff are met and 2) providing incentives to encourage and reward high performance. Each of these components is discussed in the following sections.

2.6.1 Satisfaction of Basic Needs

Perhaps more than most positions, many of the aspects of a ranger/scouts job can create challenges for patrol staff. This includes, for example, working in a remote, inclement and sometimes dangerous environment, and spending significant amounts of time away from friends and family while on duty. If left unaddressed, this can contribute to the build-up of resentment and dissatisfaction among rangers/scouts, impacting their ability to focus on their work and undermining management efforts to improve overall performance.

Studies have shown that a number of factors related to the context a job takes place in (rather than the actual the work itself) have a profound impact on the level of dissatisfaction that employees experience. Importantly, the factors causing this dissatisfaction need to be addressed before using other methods to promote performance, such as job design or incentives.^{ix} That is, while these ‘dissatisfiers’ don't themselves have any motivational value when addressed, they do have a de-motivational impact if left unattended by management.

However, many of these dissatisfying factors are well known and typically include issues such as: status, salary and benefits, job security, personal life and work conditions. Fortunately, many of these issues are relatively simple and inexpensive to address and many areas have a strong track record in doing so. The table below provides a list of common ‘dissatisfiers’ and examples of how and where they have been addressed in different areas.

Common Dissatisfiers	How and where addressed?
Status	<ul style="list-style-type: none"> • Provided new uniforms and good field equipment, Kruger National Park, South Africa and Niassa Reserve, Mozambique • Holds annual celebration to show management appreciation for the work of patrol staff, Malilangwe Wildlife Reserve, Zimbabwe • Holds annual ‘Labour Day; award ceremony to recognise high performing staff, South Luangwa Conservation Society, Zambia
Salary and Benefits	<ul style="list-style-type: none"> • Raised basic salaries to the national minimum wage, Niassa Reserve, Mozambique • Provided life insurance for patrol staff that supports any widows of patrol staff killed on duty, Africa Parks

Common Dissatisfiers	How and where addressed?
Job Security	<ul style="list-style-type: none"> • Lawyer retained and made immediately available to provide legal support advice after a contact, Kruger National Park, South Africa • Increased use of performance contracts to enable objective performance evaluation, Ezemvelo KZN Wildlife, South Africa
Personal Life	<ul style="list-style-type: none"> • Mandatory assessment of all rangers/scouts involved in a firefight by a psychologist, Kruger National Park, South Africa • Funded a medical clinic and provided care to ranger/scouts and their families, Malilangwe Wildlife Reserve, Zimbabwe • Supported local schools and provided boarding facilities for patrol staff children, North Luangwa National Park, Zambia
Working Conditions	<ul style="list-style-type: none"> • Improved quality of ranger/scout accommodation and facilities, Gonarezhou National Park, Zimbabwe • Built basic sporting facilities at ranger/scout postings, Kruger National Park, South Africa • Provided monthly transport to all out-posted for purchasing of rations and personal supplies, North Luangwa National Park, Zambia

It should be noted that the approach of reducing the impact of these dissatisfiers is a common theme that is implicit in many of the benchmarks discussed under this pillar. For example, status is improved through investments in training and the provision of field equipment (as discussed previously). Other dissatisfiers, notably the nature of supervision, are also implicitly addressed through the approaches to in-service training and the development of a constant learning environment (also discussed in previous sections).

However, it is commonly accepted that while a necessary step on the path to improving performance, the best result that can reasonably be expected from reducing dissatisfiers is 'neutral indifference'. As such, there remains the need to proactively take other steps that are focused on improving overall staff motivation. This is explicitly addressed under the section on Terms and Conditions of Service and through the implementation of properly aligned incentives scheme (which is discussed in the following section).

Satisfaction of Basic Needs: Success factors

- Fundamental 'dissatisfiers' associated with the job of a ranger/scout need to be addressed as a precursor to implementing measures to improve overall motivation and commitment of patrol staff.
- The relatively small and tangible nature of these changes makes them appealing projects for some smaller or locally-focused donor organisations that can be approached for support.

- To leverage maximum benefit, this approach should be followed with attempts to increase both intrinsic motivation (e.g. through job design) and extrinsic motivation (e.g. through incentives).

2.6.2 Incentives

Incentives strongly influence employee effort and performance levels. When recognised and rewarded for high performance, employees show increased morale, higher job satisfaction and more involvement in their work. A well planned and implemented incentive scheme can therefore help develop a positive and productive work environment, foster good relations between management and rangers/scouts, and increase the perceived linkages between effort and reward that is essential for encouraging and retaining high performing staff.

Unfortunately, the centralised funding and management of many government-administrated areas makes an incentive scheme difficult to implement, and as a result they have often only been developed in areas that have been fortunate to have the support of flexible donor financing (and in many cases even this has proved difficult). A lack of incentives can result in severe disruption of ranger/scout's 'line of sight' linking performance to rewards, as all staff, no matter how poorly performing, often receive the same remuneration.

If the conditions do allow the implementation of an incentive scheme, its development requires careful consideration. Before implementing a scheme, a basic level of discipline and ideally a ranger/scout 'Code of Conduct' (or equivalent) needs to be present and understood. Staff expectations need to be well managed to prevent any payments being seen as an entitlement, and the sustainability of the scheme needs to be reviewed as the subsequent removal of incentives can drastically impact patrol staff performance (as happened in South Luangwa National Park when donor support was reduced).

Finally, the actual structure of the scheme itself needs careful design as if not rewarded appropriately the scheme can actually undermine the motivation of patrol staff (see box below) and set up perverse incentives. The most commonly used incentives for ranger/scouts are based on arrests and confiscation of wildlife contraband, firearms and other equipment used in poaching. Although viewed by many managers as more desirable, basing rewards on prosecutions is difficult in many areas due to slow and sometimes ineffective or corrupt prosecution process.

Incentive Schemes and Equity Theory

Equity theory^x is based on the assumption that all employees are constantly comparing the efforts that they exert and the rewards they receive with their colleagues. It is based on the idea that individuals are motivated by fairness, and the higher an individual's perception of equity of an incentive scheme, the more motivated they will be, and vice versa - if someone perceives an unfair environment, they will quickly become demotivated. If this situation occurs, they will seek to adjust their efforts to reach their perceived equity (potentially through trying harder, but more likely by reducing their effort).

The easiest way to see the equity theory at work, and probably the most common way it impacts

employees, is when colleagues compare the work they do to someone else that gets paid the same as them for doing less work. For example, without incentives, a ranger/scout that risks his safety in making arrests on patrol is often paid the same as a ranger/scout that stays in the Headquarters. In this situation, the ranger compares his own effort-to-reward ratio to his colleague and loses motivation in the process. As such, it is the **perceived fairness** of an incentive scheme is absolutely critical.

Some areas, such as North Luangwa National Park, have developed a two-tier system of rewards. One tier of rewards is based on general arrests and confiscations, which can take time to get back to the ranger/scout as written verification is needed from the police and the court before being submitted to management for approval. However, a separate tier is used for crimes related to rhino or elephant poaching and/or the confiscation of military grade weapons, which, if accompanied by sufficient proof, is paid out immediately. The box below provides an overview of an incentive scheme from Zimbabwe.

Example Incentive Scheme

Guidelines for Incentive Payments

Incentives will be paid on discretion. An incentive payment is not a right but a privilege. The following guidelines outline under what circumstances an incentive can be paid.

1. Only arrests made within the boundaries of Gonarezhou National Park or arrests made after a follow up on poachers involved in an illegal incident in the GNP will be considered.
2. Only arrests made on a long foot patrol (7 days and more) will be considered. Any other arrests will be calculated at 50 % of the bonus as specified in the categories guide.
3. To qualify for the bonus the following steps need to take place:
 - a. When the arrest is made it should be communicated to the control room that will record it in the **Incidence Book** using the correct Patrol ID.
 - b. The incident should then be recorded in the **Observation Form – Illegal Incidents** with the correct patrol ID.
 - c. An **Incentive Claim Form** will be filled in correctly with all the details provided and correct ID during debriefing.
 - d. The incidence will then be recorded in the **Crime Register Book** using the correct ID.
 - e. The incentive form will then be stapled together with the **Patrol Forms** and it will be submitted to the supervising officer before the end of the month.
4. Only if the above steps are followed will the payment be made. It is the patrol leader's duty to make sure the steps are followed and that the correct information is provided.
5. Payments will only be considered for arrests made within that specific month or the previous month. No payments will be made in arrears.
6. Payments will be made to the senior wildlife officer who will pay the patrol leader and it is his duty

to distribute the bonus.

Categories For Incentive Payments

Category 1

- Arrest of any person who has hunted a rhino or elephant inside GNP

Category 2

- Arrest of person where it can be proved beyond doubt that the particular person had an intention to hunt a rhino or elephant inside GNP.
- Arrests of any person outside the GNP who is in possession of illegal part of a rhino which is believed to have been killed inside the GNP.
- Arrest of any person in possession of a unlicensed firearm or a firearm that was not declared to management.
- Arrest of any person who has deliberately killed lion, leopard, sable antelope, wild dog, cheetah and roan antelope inside GNP.

Category 3

- Arrests of any person outside GNP who is in possession of illegal part of an animal described in category 2 which is believed to have been killed inside GNP.
- Arrest of any person who has deliberately killed buffalo, eland, giraffe, or zebra.
- Recovering of a fully functional fire arm that was used or intended to be used for poaching in GNP.

Category 4

- Arrests of any person outside the GNP who is in possession of illegal part of an animal described in category 3 which is believed to have been killed inside the GNP.
- Arrest of any person who has killed any animal, bird, reptile apart from those specified above.
- Arrest of a person who was checking his/her snare line inside GNP.
- Arrest of a person hunting with dogs inside the GNP.

While individual incentives can help to motivate rangers/scouts in the short-term, experience has shown that performance improvements are better maintained if these types of schemes are overlaid with (but not replaced by) longer-term rewards linked to team (or patrol) performance over a longer period of time, typically a year^{xi}. This approach proved effective when employed by the South Luangwa Conservation Society in Zambia, and resulted in higher performance improvements than individual based, short-term incentives alone.

This corresponds well with experience from other sectors which has shown that the use of team-based incentives helps attract and retain high performing staff, improve motivation and performance (if

rewards are timely and significant), and help move the organisational culture towards one that focuses on and values high performance. Studies have also shown that comparing different team performance relative to each other and defined targets throughout the year can also foster an atmosphere of friendly competition between teams, resulting in dramatic performance improvements^{xii}.

Incentives and Rewards: Success factors

- The limitation of any incentive scheme needs to be recognised from the outset: it may make good staff better, but will not make bad staff good.
- A basic level of discipline and good behaviour needs to be established among patrol staff before the implementation of incentives.
- Incentives should be paid on the basis of performance (e.g. arrests or prosecutions) rather than effort (e.g. patrol days).
- The incentive scheme rewards and processes need to be transparent and effectively communicated to all patrol staff.
- The basis for paying out incentives needs to be measureable and verifiable, police and/or court records can be used to help with this.
- The rewards need to be significant enough to motivate patrol staff to exert the extra effort that obtaining them demands.
- Rewards should be paid out as quickly as possible to strengthen the perception of their link to high performance.
- Separating and fast tracking rewards paid for critical performance, such as actions linked to elephant or rhino poaching, can help avoid payment delays in key cases.
- Longer-term, team rewards can be overlain with individual incentives to further enhance motivation and performance.

3 Law Enforcement Management

3.1 Overview

The effective implementation of anti-poaching patrols and other wildlife law enforcement activities depends on a firm foundation of underlying institutional competencies and functions. This includes strong leadership from senior managers, effective operational planning, and efficient systems for organising and allocating resources. Without such capacities, even the most skilled, motivated and dedicated law enforcement staff will be unlikely to have a significant and sustained impact on illegal activities.

However, institutional capacity in many areas is currently being undermined by shortcomings in both leadership and management. Senior staff are frequently constrained by cumbersome bureaucratic procedures, and are often required to spend significant times away from the areas they are responsible for managing. Furthermore, the development of essential administrative and organisational systems is often challenging in areas that are operating under severe resource constraints and that face sustained pressures from illegal activities that require immediate management responses.

Contrastingly, the organisation of poaching groups and associated networks is typically cellular and dynamic, made up of autonomous groups with little or no direct top-down external control. Inspired by significant potential rewards, such groups are able to plan and rapidly adapt their strategies and tactics in response to changing law enforcement approaches or market conditions. Moreover, the significant profits from such activities enable these groups to easily obtain and organise the resources they require in support of their activities (such as arms, ammunition, transport, etc.).

As such, a key challenge facing many areas is developing and retaining leaders with the skills and attributes to inspire law enforcement staff, the establishment of processes to optimise law enforcement planning, and the development of organisation systems that can efficiently allocate the resources that field patrols and other operations depend on. This pillar therefore identifies key issues and steps that can be taken to help ensure that sites have the management and organisational capacity to provide the level of staff inspiration, operational planning and resource organisation that law enforcement operations need.

Again, there is no simple or swift solution that will result in these desired characteristics. Their development depends on sustained efforts to address a wide range of factors that underlie and influence diverse aspects of an area's management. However, the following sections provide an overview of five benchmarks that have been identified as critical for the improving the level of staff inspiration, operational planning and resource organisation in an area, and which can make significant contributions to improvements in law enforcement effectiveness. These five benchmarks are:

1. **Competent and Effective Leaders**
2. **Proactive and Dynamic Patrol Strategies**
3. **Collection and Use of Patrol Data**
4. **Effective Management Systems and Infrastructure**
5. **Clear and Consistent Management Procedures**

Each of these benchmarks, along with their subsidiary key components are defined and elaborated in more detail in the following sections. The key components describe the details of current best practices and approaches for key aspects of each benchmark.

3.2 Competent and Effective Leaders

Effective leadership has been repeatedly highlighted as one of the most critical factors influencing the success of law enforcement operations at the site level. Although it has proved difficult to define the precise qualities that are essential for effective leadership, this section attempts to make progress towards this goal by outlining three key components that have been highlighted as important for successful leadership at the site level. These are: 1) practical experience; 2) decision-making authority; and 3) engagement with frontline staff.

3.2.1 Practical Experience

Long-term, first-hand experience of the area being managed and the implementation of law enforcement activities can significantly improve the credibility and effectiveness of an area's leadership. One of an area's greatest assets can be management that understands the situation on the ground, developed through a long history with the area. Such knowledge, developed *in-situ* and overtime is exceptionally useful in ensuring that the law enforcement strategies implemented are appropriate for the site concerned, are practical, and, ultimately, have a high chance of success.

It is for this reason that all police officers in many countries are obliged to spend time on patrol duty, even if they are eventually destined for more senior management positions. Although unglamorous, this experience has proved vital for helping to ensure that senior management is able to relate to issues on the ground, and can understand the circumstances in which front-line staff operate. Leaders without such practical experience increase the risks of management isolation and creating communication barriers between senior management and patrol staff.

Fortunately, many area managers began their careers as ranger/scouts and have been promoted through the ranks. However, senior managers in many wildlife agencies are frequently rotated between sites, which they may have little or no experience of working in. This can be demotivating, undermine their ability to develop relationships with staff, and reduce their personal commitment to a particular area. Critically, it also prevents the development of 'intuition' of when conditions stray from the norm

(for example unusual patterns of illegal activities), which can only emerge over years of working in an area.

When many national park agencies were established, senior management would typically remain in place for many years. While this is not without risks, longer tenure can help senior staff develop stronger connections to their subordinates and strengthen commitment to the area. For example, in some areas administered by NGOs, a five-year commitment is considered an ideal minimum. However, any increases in management tenure should be based on a performance evaluation (see section 2.5.3), ideally including an element of management peer review, such as that used by Ezemvelo KZN Wildlife.

Practical Experience: Success factors

- First-hand experience of the area being managed and the implementation of law enforcement activities can significantly improve the credibility and effectiveness of an area's leadership.
- Extended experience in an area is essential for senior staff to develop a valuable sense of 'intuition' of when conditions stray from the norm.
- Ideally, increases in management tenure should be based on a performance evaluation, which includes peer review and comparison with other areas.

3.2.2 Decision-making Authority

According to the American Management Association, one of the key principles of good management is that the authority and responsibilities of a position must match. Authority without responsibility can lead to abuses of power, while responsibility without the authority to influence situations can be demoralising. This is particularly important for senior protected area managers that may have significant resources under their control and may be operating in a relatively loose supervisory environment with only periodic inputs from supervisors in national Headquarters.

Unfortunately, a degree of mismatch between these two factors has developed in many centrally managed areas, particularly with regard human resources. In some areas this is limited to restrictions on the ability of area management to recruit suitable staff, promote high calibre personnel or discipline poor performers, which can lead to a decline in the overall capacity of an area's ranger force (as discussed under section 2.5.4). In other areas, site-based staff may be transferred or rotated between areas on orders from Headquarters, without senior management approval or even knowledge.

As such, a re-examination of the balance between senior staff authority and responsibility has the potential to contribute to significant improvements in operational effectiveness in many areas. At present, slow bureaucracy and centralised decision-making processes often prevent managers providing the strong and decisive leadership that is required. In general, more autonomous areas where management has more authority appear to experience less internal disruption and higher staff performance (although these areas are often also better funded than many centrally managed areas).

Decision-making Authority: Success factors

- To be effective, the authority and responsibilities of senior area management positions must match; responsibility for management situations without the authority to influence those situations can be demoralising and lead to poor management outcomes.
- A re-examination of the balance between senior staff authority and responsibility (particularly regarding human resources) has the potential to improve operational effectiveness in many areas.
- In general, more autonomous areas where senior management has more authority appear to experience less internal disruption and higher staff performance.

3.2.3 Engagement with Frontline Staff

Visible senior management involvement in day-to-day law enforcement activities is essential for providing inspiration, motivation and clear direction to patrol staff. It can help senior management develop a better understanding of the issues that rangers/scouts are facing on the ground, while helping them build positive relations with patrol staff. Studies have shown that the relationship between frequency of visits to outposts by senior staff and the number of serious offences encountered per patrol is highly significant, with poaching sharply declining as the regularity of visits increases^{xiii}.

Unfortunately, many area managers, especially those working in centrally managed, national institutions, are frequently burdened with obligations by Headquarters, and may have to spend significant amounts of time away from the field in national capitals attending meetings or addressing administrative issues. This is compounded by the fact that career progression in many of these institutions is often Headquarters-centric, rather than based on performance in the field. As such, many rangers/scouts rarely, if ever, meet senior managers during the course of their regular duties.

However, the resulting distance between management and frontline staff is not unique to wildlife institutions and has long been recognised in the private sector. This has been addressed in many successful companies by managers making spontaneous visits to employees in the workplace and has become a common practice known as 'Management by Walking Around' (see box below). This approach of in-person engagement and demonstrating an interest in staff can be particularly important given the difficult and sometimes dangerous environmental conditions in which many ranger/scouts operate.

Management by Walking Around (MBWA)

MBWA is the unstructured approach to hands-on, direct participation by the managers in the work-related affairs of their staff. In practice, this means managers spend a significant amount of their time making informal visits to work areas and listening to the employees. The purpose of this approach is to collect qualitative information, listen to suggestions and complaints, and keep in touch with prevailing sentiments and attitudes in the organisation.

The potential benefits include for managers include:

- Approachability – When staff management regularly they are be more likely to be open with them. This can increase the likelihood of learning about issues before they become serious problems.
- Trust – As management and staff interact more frequently trust will naturally develop. This should improve communication and reduce workforce disruption.
- Knowledge – Regular management visits to difference parts of an area gives an unparalleled understanding of the situation on the ground and potential issues.
- Accountability – Frequent interactions make any agreements made more likely to be respected. Because of regular meetings all parties are more motivated to follow up on commitments.
- Morale – Staff often feel better about their jobs and their organisation when they have opportunities to be heard. Regular interactions make such opportunities available.
- Productivity – Many creative ideas come from casual exchanges. Regular visits promote casual discussions, and enables staff to approach management with ideas and suggestions.

Although unstructured, MBWA does require a determined and genuine effort on the part of management to understand staff, their work and what can be done to make their work more effective and conditions better. Studies have shown that focusing on easy-to-solve problems, rather than entrenched issues, is most associated with improved performance as it results in greater action on the part of management.^{xiv}

Linked to spending time in the field engaging with staff is the ability of management to empathise with their needs, issues and concerns. Some researchers have identified empathy as the most important trait that a leader can possess,^{xv} and it has been highlighted as particularly important for relations between senior area management and patrol staff. While empathy does not mean management has to agree with how staff may be feeling, or even relate to their feelings, it does mean being aware of how staff feel and using that awareness to better understand how it affects their needs.

This level of understanding is key to establishing trust between management and patrol staff, and builds faith in staff that management will at least take their feelings into consideration when making decisions. Although at odds with the traditional hierarchical nature of many working relations in protected areas, developing this understanding can also help management make more efficient use of resources by enabling them to better target staff needs, which in turn can further strengthen relationships, increase collaboration and improve overall performance.

Engagement with Frontline Staff: Success factors

- Visible senior management involvement in law enforcement activities is essential for providing inspiration, motivation and clear direction to patrol staff.
- Spontaneous senior management visits to employees in the workplace have become a common

practice in many successful companies (i.e. Management by Walking Around).

- The ability of management to empathise with staff needs, issues and concerns is critical for forging positive and constructive relations.
- Improved understanding resulting from increased management – staff contact can help management to use resources more effectively and better address staff needs.

3.3 Proactive and Dynamic Patrol Strategies

Although routine foot patrols form the backbone of law enforcement efforts in most areas, law enforcement activities need to be proactively developed and remain dynamic if they are to be able to anticipate and respond to changing situations on the ground. Two key components have been identified as important for achieving this. These are 1) using pre-emptive and strategic planning to guide future activities and 2) making use of a range of complementary law enforcement tactics and approaches. These components are discussed in the following sections.

3.3.1 Pre-emptive Strategic Planning

The proactive planning of law enforcement activities provides an opportunity for area management to take stock of changing patterns of illegal activities and assess the effectiveness of past law enforcement activities. Importantly, it can also provide an opportunity to review emerging threats, key management risks and critical gaps in capacity, skills, equipment and infrastructure that need to be addressed. This information can provide the basis for adaptations designed to improve the effectiveness of law enforcement activities over future years.

Studies have shown that proactive assessment of law enforcement effectiveness is essential as poacher tactics continually evolve in response to any changes^{xvi xvii}. For example, in Kruger National Park it was noted that rhino poaching increased during full moon periods. Management responded by increasing patrols during this time. However, subsequent analysis showed that poachers had countered this move by shifting their activities to dark moon periods. (This example also illustrates the important of data collection and analysis for effective planning, discussed in the following section.)

However, in many areas, law enforcement efforts are not reviewed and planned in such a way, and foot patrols continue to be implemented without a formal review, assessment or adaptive planning process. This can reduce patrol planning to a largely reactive process responding to threats that have emerged, rather than proactively anticipating and responding to changing conditions. Although immediate pressures can make it difficult for management to make time for strategic planning, if approached in the right way and provided information is available, the process need not take up an excessive amount of time.

The development of a medium-term law enforcement plan has been used in some areas as a mechanism to focus and drive the collection and analysis of such information. The development of this document

helps ensure that management effort is based on all available information, provides a set of clear and achievable common goals that can be used to improve the motivation and commitment of area staff, helps to preserve institutional memory if senior staff leave or are transferred, and can be used for assessing the effectiveness of law enforcement efforts against specific performance targets.

In some areas, such as Bangweulu Wetlands in Zambia, pro-active planning has been achieved by developing a three-year law enforcement strategy, which is then updated every year. The document draws heavily on the information and data gathered from various sources over the planning period (e.g. ranger data collection, section 3.4 and/or poacher interviews, section 4.4). The resulting plan sets out specific objectives for the year, based on an analysis of illegal activities and law enforcement patterns collected from the previous year, and a series of activities that are designed to achieve these objectives.

Alongside the objectives, a typical plan can contain activities relating to patrol planning, use of complementary approaches (see below), equipment to be purchased, training to be carried out, and activities focused on species that require special protection. Each activity is accompanied by a 'SMART' target (Specific, Measureable, Achievable, Relevant and Time bound) to be achieved (and that can later serve as a basis for evaluation) and is allocated to a particular staff member for implementation. A document with this level of detail also has the benefit of providing a basis for budgeting, if appropriate.

Although it may take some time to set up the initial document structure and gather the information for the first three-year plan, the annual revisions can simply be inserted into this document keeping the plan relevant and avoiding the need for lengthy re-writes. In addition the presentation of information using maps (e.g. for illegal activities and patrol effort) and the use of tables rather than text for activity planning can help reduce the time it takes for preparing and updating the plan. Involving all senior law enforcement staff in its development will also help improve overall awareness of the plan.

Pre-emptive Strategic Planning: Success factors

- Good information collection and analysis on law enforcement efforts and illegal activities is critical to effective planning.
- Strategic planning should focus on medium-term goals that are the focus of efforts over the next one to three years.
- The plan should be kept as short and as simple as possible, using maps, graphs and tables can help reduce the text needed.
- If activities are included, they should ideally be accompanied by a timeframe, responsibility for implementation, and a SMART target.
- Involving all senior law enforcement staff in plan development builds awareness of its contents (even if it is not reviewed by them again during the year).
- The plan's objectives can be used as a focus for generating staff motivation and commitment around a common, achievable set of goals.

3.3.2 Adaptable and Diverse Tactics

As noted above, poachers quickly become accustomed to law enforcement approaches and it is essential to keep approaches dynamic and unpredictable if they are to remain effective. Although extended, multi-day foot patrols are likely to continue to form the foundation of law enforcement activities in most areas, the patrols themselves can be adapted in response to changing circumstances, and a variety of other law enforcement approaches and tactics can be employed to complement a robust regime of foot patrols in an area.

However, despite the increasing range of options for diversifying law enforcement efforts, many of them have only been implemented in a limited number of areas. While to a degree this can be ascribed to the additional resources that some of the approaches require, in other cases it is due to a lack of awareness of their potential positive impacts on law enforcement efforts or as a result of institutional inertia in taking advantage of new opportunities. The following sections provide overview some of the most common tactics that have been employed and that have demonstrated success in a number of sites.

Different Patrol Types

Alongside standardised multi-day law enforcement foot patrols, which form the mainstay of law enforcement activities in many areas, there are a number of adaptations or complementary patrol types that have been used to significantly increase the effectiveness of law enforcement activities. The utility of these approaches depends to a large degree on the nature of the poaching threat and the environment conditions in the site concerned (and the management resources available). However the table below lists a variety of commonly used patrol types that have proved effective in a number of areas.

Patrol Type	Description and Typical Uses
Variation of Foot Patrol Duration	Studies and experience have shown that in many cases the effectiveness of foot patrols remains high up to around eight days, after which it declines ^{xviii} . Varying the typical length of foot patrols is a simple way to enhance ranger/scout work routine and adapt the intensity of patrol efforts to improve effectiveness in specific parts of an area. E.g. Studies from Kafue National Park Zambia, and experience from North Luangwa National Park, Zambia.
Mobile Observation Posts	The primary objective of an observation post (OP) is to locate and observe poachers and/or monitor their movements. A small team, of as few as two men, can effectively observe a relatively large area if equipped appropriately equipped (ideally with spotter scopes, thermal imaging and a VHF radio). This approach has been used effectively in a number of areas, including Lewa Wildlife Conservancy, Kenya.

Patrol Type	Description and Typical Uses
Motorbike Assisted Patrols	Patrols on motorbikes are primarily effective as a deterrent to poaching as they are noisy and demonstrate management presence in an area, and can also be effective when used for pursuing poachers. They enable a rapid response, and can be especially useful (compared to foot patrols) when combined with air support (see below). Motorbike patrols been effectively used in Bangweulu Wetlands, in Zambia.
Vehicle Assisted Patrols	These usually take place over three or four nights, and involve vehicle-assisted deployment of patrol staff that set up a night ambush in a key location each night. Vehicle presence improves staff confidence in case of a nocturnal contact; and if senior managers take part (see box on MBWA above) this can also improve staff motivation and internal relations without using up significant amounts of management's time. They have been used in Bangweulu Wetlands, Zambia
Airplane Assisted Patrols	The use of an airplane gives management a significant operational advantage. An airplane is particularly effective for general surveillance, monitoring patrol staff activities, and for coordinating ground patrols in pursuit of suspects (however, this requires practice and good ground-air communications to be effective). Airplane assisted patrols have been used effectively in Lewa Wildlife Conservancy, Kenya and other areas.

Success factors

- If logistics allow, restricting patrols within a maximum of eight days can help keep effectiveness high, and avoid reducing the last few days to a 'route march home'.
- Static observation posts should be avoided as they can easily become known to poachers; providing staff with a flask for hot tea can help maintain attention during nocturnal OP operations.
- Ideally motorbike patrols should be made up of at least three bikes, as the final pursuit and apprehension will be on foot and one ranger/scout will need to remain with the bikes.
- The involvement of senior staff in vehicle-assisted patrols helps build motivation and strengthens management-staff relations without taking up excessive amounts of management's time.
- Airplane support can be effective for guiding ranger/scouts on foot (and particularly motorbikes) but good communications and training are essential.

Elite or Specialist Units

Elite units are made up of a small number of the highest performing ranger/scouts in an area. They are typically based at a Headquarters and provide management with a valuable resource that can be rapidly

deployed to address incidents throughout the site. A small group of highly skilled, motivated and dedicated rangers/scouts can also be used to lead elements of in-service training (see section 2.2.3), and to verify the activities of the rest of the patrol force. The existence of such a unit can also provide an aspirational career path for patrol staff with high motivation.

Many areas have successfully developed and utilised elite or specialised units, and integrated them with their law enforcement operations (some countries, such as Kenya, have also recently developed elite units at the national level). In Kwa-Zulu Natal in South Africa and Malilangwe in Zambia, the elite units are kept very small (typically 8 – 18 men) and focused on responding rapidly to incidents. While elsewhere, such as North Luangwa National Park, a greater number of high performing patrol staff (around 36) have been selected to focus on providing protection for rhinos.

Regardless of the specific purpose of an elite unit, if it is to be effective, and be able to attract and retain the most suitable staff, appointment to the unit needs to be perceived as prestigious and attractive. As such, measures need to be taken to offset the inconveniences of the position, which can involve being on call 24-hours a day, a much greater amount of time spent in the field than a typical ranger/scout, and the increased risks associated with the significantly higher probability of being involved in an aggressive encounter with poachers.

These issues are often offset through increased basic salaries for members of the elite unit, in many cases this is combined with either field allowances, overtime or 'danger pay', all of which serve to increase the attractiveness of appointment to the unit. In addition, members of the unit typically receive additional training and are provided with the best field equipment and most effective firearms available. The box below provides an example the training and equipment provided to the specialised rhino protection unit deployed in North Luangwa National Park.

The Rhino Protection Unit, North Luangwa National Park

Zambia once held Africa's third largest black rhino population until the poaching throughout the 1970s-80s resulted in their 'national extinction' in 1998. However, in 2003 efforts began to translocate black rhino back to Zambia's North Luangwa National Park. Wildlife agencies across South Africa donated 25 individuals and, by 2010, all the animals had been released into a sanctuary in the centre of an Intensive Protection Zone. As of 2014 there has been no poaching of black rhino. The establishment of the elite Rhino Protection Unit in the park aims to ensure this remains the case.

The unit is made up of 36 ranger/scouts selected from the regular patrol staff, which have been divided into six squads of six men. All of the men have received three weeks 'Specialised Rapid Response Tactical' training by former members of the British special forces, with patrol commanders receiving an additional seven-days training to enhance their daily operational management of staff, field deployments, and use of tactics involved in planning and conducting operations. Two members of each squad have also undergone training in field first aid and advanced trauma management.

A significant part of the advanced training was linked to use of the advanced equipment provided to the unit. This includes regular basic field equipment, GPS, and long-range optics ('spotter scopes') and

thermal imaging equipment for use in night operations. In addition, each ranger scout is issued with a minimum of two bandages and a combat tourniquet, and each patrol has a more comprehensive patrol medical pack that can be used by the trained staff based in advanced first aid and trauma to mitigate a wide variety of injuries.

The result is a unit comprised of six squads of six highly skilled and motivated individuals, each of which can operate autonomously once deployed. Strong leadership at the patrol level and the close relationship with senior area managers further enhances the effectiveness of the unit, while the knowledge of first aid and trauma management gives members additional confidence. In the near future it is hoped that an additional 12 men will join the unit bringing it to full strength, and members will be selected for driver training to optimise use of a dedicated vehicle to support unit operations.

Training in the use of long-range optics for use in observation posts ***Field equipment issued to rhino protection unit staff***



In addition to being seen as attractive and prestigious, an elite unit also needs to be perceived as distinct from the regular patrol force. As such, members of the unit are typically housed separately from other patrol staff, and report directly to the area manager (who should ideally have a personal relationship with all members of the unit). Some area managers have combined this with other approaches to enhance cohesion, such as branding it with a striking name (along the lines of the 'Hawks' in the South African Police Force) or printing t-shirts for all unit members.

Two main approaches have been used to recruit staff for such units. Some area managers strongly prefer to recruit staff from outside the regular patrol force as this strengthens the separateness of the unit (this is especially important if the unit is being used for internal controls and checks). Whereas other managers prefer to select the highest performing members from within the regular patrol force to the unit, which has advantage of providing a career path that high-performing regular staff members can aspire towards.

Once appointed to the unit, it is important that membership remains performance-based in order to maintain high standards. In theory, the evaluation of performance should be based on an objective

evaluation (see section 2.5.3); however, in reality the close relationships between senior managers and unit staff should also inform any decisions. Ideally appropriate positions would be found for maturing unit members that make optimal use of the skills they have developed, such as training or supervisory positions, rather than 'demoting' them to the regular patrol force.

Adaptable and Diverse Tactics: Success factors

- Appointment to the elite unit needs to be seen as prestigious and attractive; enhancements in benefits, additional training and good equipment can help achieve this.
- Keeping the unit's staff in separate accommodation from regular rangers/scouts, and with direct reporting lines to senior helps build the unit's distinction.
- Ideally senior management should have a personal relationship with all members of the unit, this helps build commitment and ensure performance standards are maintained.
- Membership of the unit should remain a privilege that is earned, not a right; under-performing staff need to be reassigned back to regular duties or retired into supervisory position.

Tracker and Detection Dogs

The benefits from the use of dogs as part of law enforcement operations has long been realised in police, customs and military operations. However, in recent years their potential benefit for enhancing the effectiveness of wildlife law enforcement operations has become increasingly recognised. Alongside actual operational improvements in the effectiveness of wildlife law enforcement operations, the use of dogs can also provide a significant psychological advantage and deterrent preventing wildlife crime throughout an area.

The two principle uses of dogs for helping to combat wildlife crime that have been made use of to date are as 'tracker dogs', that can be used to help trace poachers (often from a crime scene) and as 'detection dogs' that can be used at check points along major transport routes to help reduce the movement of wildlife contraband (such as bushmeat, ivory or rhino horn) from an area. The use of 'attack dogs' has also been discussed in some areas, but the use of these animals has not yet been implemented due in part to legal uncertainties and ethical concerns.

However, the effective use of dogs poses a number of challenges. To be effective the dogs require expensive specialised training (which is often different for tracker and detection dogs), they need trained handlers that are able to work effectively with the animals, and, in addition to the initial costs of procurement, habituation and accommodation, have significant on-going costs associated with their upkeep, such as the specialist food that some breeds require and reoccurring veterinary expenses. All of which has led to the limited use of dogs to date in support of wildlife law enforcement operations.

Emerging Technology

The use of recently developed technology to support wildlife law enforcement efforts has received an increasing amount of attention in recent years as poaching has escalated throughout the continent, and the potential for transferring technology, which was often initially developed for the military uses, to support wildlife law enforcement operations has increasingly been investigated. The table below provides a short summary of the most frequently discussed approaches that have at least been piloted in one or more areas in Africa.

Approach	Description and Typical Uses
Unmanned Aerial Vehicles ('drones')	Use of drones for monitoring activities such as poaching and illegal logging has been applied in Africa, Asia and South America. At the end of 2012, Google awarded a US\$5 million grant to the World Wildlife Fund (WWF) to pilot the use of drones, alongside other technologies, to track wildlife at risk of poaching. This technology has recently been piloted in Namibia by the Ministry of Environment and Tourism and WWF and by SANParks in Kruger National Park, South Africa.
Acoustic Traps ('echo' technology)	Used to monitor sound waves for sharp noises such as gunshots, chain saws, truck engines, blasts or airplane engines. Most systems consist of unattended sensors that can be stationed throughout an area to triangulate the source of suspicious sounds and provide accurate real-time information on the precise location of the sound. They can be equipped to automatically deploy unmanned aerial devices to collect footage. Piloted in Kruger National Park, South Africa.
Camera Traps	Camera traps traditionally used for monitoring wildlife have been adapted to track the movement of poachers. This has become increasingly viable with recent improvements in the specifications of some camera trap models, which come equipped with live video feeds, triggers based on heat or vibration, and use thermal imaging or infrared cameras. Currently being piloted in Tsavo West National Park, Kenya.

At present, most of these approaches are in the early pilot stages, and it is too early to assess their effectiveness. However, the majority of area managers consulted felt that the potential of most of these approaches was limited in typical African circumstances, due to the high cost and the level of expertise required for their implementation. Although possibly due to a lack of knowledge of their potential benefits, many site managers felt that resources at the site level are better directed at strengthening the effectiveness of patrols, operations management and the use of intelligence.

3.4 Collection and Use of Patrol Data

The planning and management of law enforcement efforts should ideally be based on objective and reliable spatial and temporal information on illegal activities and law enforcement efforts. Two key components have been identified as important for achieving this ideal. These are 1) the effective collection and analysis of data, and 2) ensuring this information is provided to management and incorporated into operational planning. These components are discussed in the following sections.

3.4.1 Data Collection and Analysis

The importance of using data collected by patrol staff as part of their regular patrols has long been recognised. If properly implemented, the information generated can be used to assess both the effort and effectiveness of law enforcement patrols, provide management with an overview of the extent and intensity of illegal activities in an area, and offer valuable information on key aspects of the site, such as location of key species, incidences of fire etc., all of which can help improve the planning and implementation of law enforcement operations.

There is a relatively long history of ranger-based monitoring (RBM) in Africa, and a number of common features of successful RBM systems have emerged. These include: ensuring the system has clearly defined information requirements to avoid over-burdening patrol staff and 'data swamp' during analysis; using data recording forms that are designed to enable completion by patrol staff with little formal education; and keeping any data collection equipment simple, robust (ideally dust and waterproof) and easy to maintain or replace (see the box below).

Common Equipment Used for RBM Data Collection

The following paragraphs provide a brief overview of the different equipment types that have been most frequently used to enable data collection by patrol staff.

Handheld GPS

A handheld, basic GPS navigation device is the most common equipment used by patrol staff to collect RBM data. In the majority of circumstances only the most basic features are needed (i.e. the ability to take 'waypoints' and record a 'tracklog') As such, low specification devices are generally sufficient and can be purchased relatively cheaply. GPS are relatively robust, typically use standard AA batteries, and some more recent models are small enough to remain permanently attached to a ranger/scout's wrist. However, in many cases their operation is not particularly intuitive or user-



friendly, and their limited data recording capacity necessitates the use of complementary patrol forms.

Trimbles

A significant step up from a basic GPS device in capacity (and price), Trimbles are promoted as an 'all in one mobile solution'. They are effectively a combination of a GPS device, digital camera, PDA, and mobile phone. As such, they are able to provide location data through their GPS, geo-referenced digital images, are compatible with RBM software (see below) reducing the need for patrol data forms, and can be used to make phone calls and transfer data over a cellular mobile network. Some models are also specifically designed to cope with rugged field conditions, and have battery life that is only slightly lower than a typical handheld GPS device.

Smartphones

The potential use of smartphones as an effective alternative to dedicated GPS devices or Trimbles is increasing as their prices continue to decline and specifications increase. Smartphones with many of the desirable features of a Trimble (e.g. GPS, camera, cellular access, and compatibility with RBM software) can now be purchased for a fraction of their cost. Although these phones will lack the robustness and high degree of accuracy a Trimble provides, in the vast majority of cases this is accuracy is superfluous. As technology and battery life continue to improve the future use of smartphones for RBM data collection is likely to become increasingly important.

Basic GPS devices have commonly been used to collect RBM data.



Trimbles provide a robust, comprehensive RBM collection method, but are expensive

Photo credit: Ezemvelo KZN Wildlife



Smartphones provide an increasingly viable option for RBM data collection.

Photo credit: Emma Stokes, Wildlife Conservation Society

Once collected, RBM data needs to be collated in a database, analysed and used to generate management-orientated information. It is critical that this database is simple to use and can be managed at the site level where information technology equipment and skills are commonly limited.

Fortunately, a variety of systems have been developed over recent years to facilitate the collation of relevant data, and have been implemented with varying degrees of success in a number of areas across Africa. A summary of the most common is provided in the box below.

Regardless of the RBM data collection and analysis methods used, the successful implementation of any RBM relies heavily on appropriate staff training. For patrol staff this is often reasonably straightforward, and focuses on improving understanding of the system’s purpose and functions, the use and maintenance of data collection equipment, the completion of patrol forms, and procedures to ensure the data enters the system following the completion of patrols. Ideally, as with other aspects of ranger/scout training discussed under sections 2.2.2/3, this training should also take place *in-situ*.

Common Systems for Collating and Analysing RBM data

Management Oriented Monitoring System (MOMs)



MOMs was developed to enable communities to monitor aspects of their conservancies, including wildlife numbers, patrol records and illegal activities. A distinctive feature of the system is that the community dictates what needs to be monitored and undertake all data analysis. The system is based on a series of different colour forms that can easily be completed by community members with minimal education. Aggregation of the data occurs at the site level, and is based purely on the forms completed by community members with no need for computers or other equipment. Over 30 conservancies at least six national parks in Namibia have adopted the system.

Cybertracker



Cybertracker software was originally developed to enable illiterate trackers to record wildlife data on hand-held computers. Since then it has been adapted significantly to support operations in a wide range of sectors, and has been used extensively by wildlife agencies in South Africa. Its main strength has been to support collection of ‘front end’ data through a user-friendly interface on handheld devices such as Trimbles and smartphones. Complementary PC software also provides data analysis, including maps of incident locations, patrol routes etc. in a format that can be used by area managers. The software is free and can be adapted to suit the needs of a particular area or organisation. It is also compatible with SMART (see below).

Management Information SysTem (MIST)



MIST has been specifically designed to service protected area management needs, providing a standardized, computer-based system for recording wildlife and human activities during ranger patrols. The data entry and analyses are designed to be simple. Outputs include ranger patrol coverage, wildlife encountered, and standardized indicators that allow trends in patrol activities to be tracked over time. Although its developers have placed it into long-term support (i.e. no new development), MIST remains the standard system for many areas and countries. The software is free and open source.

**Spatial
Monitoring and
Reporting Tool
(SMART)**



SMART has been specifically developed for measuring and evaluating the effectiveness of wildlife law enforcement patrols. In contrast to Cybertracker, development has focused on the 'back end' data input and analysis, compatibility with the range of hardware used for data collection, a user-friendly interface, and on generating maps and reports in a format that can be used by area managers. The software has been designed to enable analysis at the individual outpost, the area, or the national level. SMART is fully compatible and can easily be used with existing RBM tools, such as CyberTracker. The software is free and open source.

Equally important is building sufficient capacity for staff to manage data collation and analysis at the site level; however, in many areas this has proved more challenging. Although, once a system has been set up, only basic computer skills are typically required, staff with IT capacity are often in high demand and it has been difficult to retain them in many areas as they are often redeployed to other duties or transferred to other areas. For truly effective input and analysis, each site also requires multiple staff with sufficient skills (to cover absences, leave etc.) to prevent a backlog of data developing.

Finally, a number of area managers noted that the use of an RBM system itself can encourage improvements in patrol effort and effectiveness, as patrol staff know that the results of patrols are regularly reviewed by senior area management (this corresponds with experience from other sectors, see box below on the Hawthorne Effect). Studies have also shown that providing feedback to rangers/scouts on the effectiveness of different units can help foster an atmosphere of friendly competition with sometimes dramatic impacts on law enforcement effort and effectiveness^{xix}.

The Hawthorne Effect

The Hawthorne effect is a psychological phenomenon in which people change their behaviour or performance in response to being observed. In the workplace, the Hawthorne explains how the more attention an employee receives, the higher the level of effort and productivity. Essentially, productivity increases when employees think that they are being watched or observed closely. The effect was first described in work from the Hawthorne works electric company. The company commissioned research to determine if there was a relationship between productivity and work environment. The focus of the original studies was to determine if increasing or decreasing the amount of light workers received would have an effect on worker productivity. Results showed that productivity increased when the light was increased, and when it was decreased! And plummeted after the experiment was over. Researchers showed that the increases in employee productivity were due to the additional attention staff were receiving, and not because of changes in any environmental variables.

Data Collection and Analysis: Success factors

- The RBM information collected needs to be well focused to avoid overburdening patrol staff and

complicating analysis. Large amounts of data can rapidly accumulate.

- Data collection forms need to be as simple as possible with the minimum amount of writing required. Use of check boxes, tables etc. on the forms can help achieve this.
- Hardware used to collect data needs to be simple, robust (ideally dust and waterproof) and easy to maintain or replace.
- Software needs to be simple to use, and multiple staff (to allow for leave and absences) with data collation and analysis skills need to be trained and retained at each site.
- Continually using the same staff for data management and analysis can help develop the skill to identify potential issues and interpret emerging trends.
- Providing feedback from RBM outputs (e.g. maps or diagrams) to patrol staff collecting the data can help strengthen motivation and improve the quality of the information collected.
- The implementation of an RBM system can itself lead to improvements in law enforcement patrol staff effort and performance.

3.4.2 Feedback and Use of Information

Providing management with concise, relevant information that can be used to inform decisions is arguably the most important part of any RBM system. If done effectively, information from patrols can provide area managers with a valuable resource informing both the short-term tactical deployment of patrols, and the medium-term strategic planning of law enforcement priorities and approaches. However, despite its importance, providing this feedback to management in a timely and appropriate format has proved difficult to establish and maintain in many areas.

With regard short-term operational planning, the challenge of collecting the data from patrols, analysing it and then providing information to management in time to inform adaptive management has been hard to overcome in many areas; even achieving this turnaround on a monthly basis has proved impossible in most cases. This is often due to the logistical difficulties inherent in large and remote areas, which is frequently compounded by a shortage of staff with the skills to input and analyse the data (discussed in the previous section).

Areas where such information has successfully been used to inform short-term management, for example Grumeti Game Reserve, in Tanzania (where it occurs on a weekly basis), are typically small, well-equipped with vehicles, and have senior managers that place a high priority on the use of the data. In other larger areas, such as Gonarezhou National Park, Zimbabwe, some monthly management-orientated reports have been generated; however, it has proved impossible to include data from all patrols due to logistical difficulties and the reassignment of staff responsible for data management.

In some areas with cellular coverage, such as Hluhluwe-iMfolozi Game Reserve in South Africa, managed by Ezemvelo KZN Wildlife, real-time information transfer has been achieved using a combination of

Trimbles, Cybertracker and a novel 'reporter' software that automatically reviews all data, and generates reports. This has achieved 'complete automation in monitoring patrol data and its seamless delivery through to the organisation's existing databases'. However, reaching this stage took over two years of dedicated work and a level of investment in equipment that is well beyond most areas.

Although some RBM systems are investigating the use of techniques such as cloud computing to overcome logistical difficulties, such approaches are unlikely to be suitable for the majority of areas in the foreseeable future. As such, patrol data has more typically been used for elucidating long-term trends, which have then informed medium-term strategic operational planning (as discussed section 3.3.1). The box overpage illustrates how information generated from patrol data been used to inform the medium-term planning of law enforcement operations in North Luangwa National Park, Zambia.

However, if the system is to be successfully used to support such medium-term planning, it is essential that it be designed to address the specific needs and information requirements of area managers. In some counties, such as Gabon, the system has primarily been used to measure and evaluate the level of law enforcement effort in different protected areas against national standards. While this may provide staff in Headquarters with information they need to measure area performance, much of the potential operational benefit from the system, and support for its implementation, has been lost at the site level.

Use of Other Information

A number of managers commented that in reality most important information used for short-term planning is based on a combination of senior management's knowledge of local trends and circumstances, and effective patrol debriefs and incident reports. Key points from these sources can be instantly communicated over the radio, and followed in due course by the associated paperwork and patrol logs for incorporation into the formal system. (N.B. The integration of information from intelligence gathering is covered separately under Pillar 3).

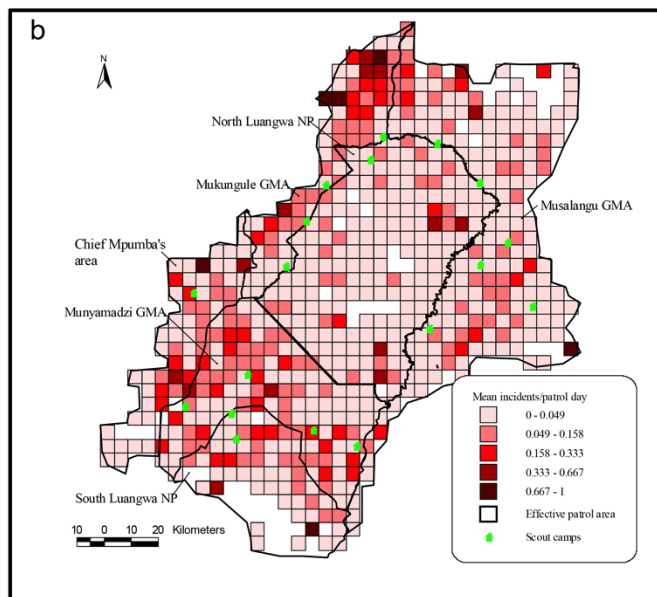
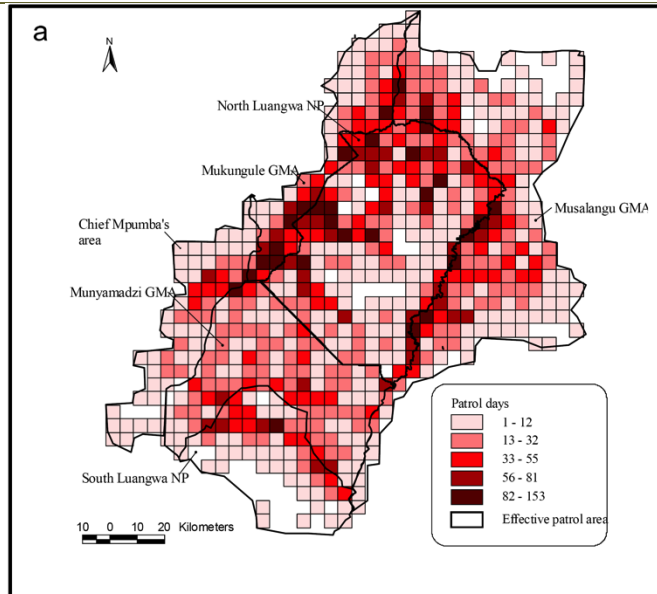
In addition, in many areas all significant events are recorded in an 'incident book' in the control room. (Key features of an effective control room are discussed under the following pillar.) This includes all information as it is reported by patrols, as well as information from a range of other from sources (such as tourists, airplane surveillance etc.). As such, in many cases, the incident book provides management with the most up-to-date and comprehensive source data that can help inform short-term tactical patrol planning.

Ranger Based Monitoring and Strategic Planning in North Luangwa National Park

An example from North Luangwa National Park shows how a ranger based monitoring system can provide managers with effective information on which areas of the park are most at risk. The data was collected by rangers/scouts between 2001 and 2005 and was compiled into a central database at the park Headquarters. An analysis of 857 illegal events collected during 1808 foot-patrols (a total of 15,310 patrol days).

Figure a shows the total number of patrol days and high levels of protection around the eastern and western boundaries; Figure b shows the mean number of illegal events per patrol and suggests the majority of poacher activity was in game reserves to the west and south of the national park and not inside the national park itself (data from (Van der Westhuizen, 2006^{xx xxi})).

Further analysis showed the mean number of poachers arrested and animal carcasses recovered per patrol declined over the period, but the number of snares recovered increased. These results suggested poachers might have been switching from guns to snares in a response to increased law enforcement. Based on this information, law enforcement strategies could be adapted.



Feedback and Use of Information: Success factors

- Good communications or transport links, combined with senior area managers that place a high priority on the use of the data, are important for getting feedback in time for short-term planning.
- Management support is strongest when the RBM system is designed to address the specific needs and information requirements of the area.
- In areas with cellular coverage, real-time information transfer has been achieved, but this requires

significant technical capacity and investment in equipment and training.

- Use of other sources of information (e.g. incident book, patrol debriefs, management knowledge) can offset management need for a rapid turnaround in formal reporting of patrol data.
- Even if information turnaround is too slow for short-term tactical planning, it can still provide an important foundation for medium-term strategic planning.

3.5 Effective Management Systems and Infrastructure

The effectiveness of law enforcement in any protected area is built on an underlying foundation of supportive management systems and infrastructure that are essential for creating an enabling environment for the implementation and management of law enforcement operations. Without such systems and infrastructure, even the most basic law enforcement tasks, such as organising and deploying a patrol, can become a difficult and time-consuming activity.

Although the links between some of the components described under this benchmark and effective law enforcement operations may not be immediately obvious, many area managers have repeatedly clarified their importance. The diversity of the infrastructure and systems highlighted as important in the following sections also illustrates the integrated approach needed as part of efforts to enhance the overall effectiveness of law enforcement operations in a particular area.

In this regard, four key components of effective management systems and infrastructure have been identified that are needed to provide a firm foundation for effective law enforcement operations in an area. These are: 1) a control room for coordinating operations; 2) appropriate use of ranger/scout outposts; 3) good access and transportation within the site; and 4) efficient stores and inventory management systems. Each of these components is discussed in the following sections.

3.5.1 Operations Control Room

A control room is the heart of site-based law enforcement operations. It is the central location through which all information passes from patrols to senior management and vice versa. A well-equipped, suitably staffed and efficiently managed control room is therefore a critical component of any site's law enforcement system. Broadly speaking there are two models of control room that have developed in different areas: one where information is recorded and passed to management for action; and the second where control room staff are empowered to make operational decisions.

In general, the former approach is used where the control room is less 'secure', for example located amongst site Headquarters where the room can easily be accessed by a large number of staff. The second approach is typically used in more restricted locations, where access to the room is limited and more information can be displayed with less risk of compromising patrol effectiveness. Regardless of the

approached used there are number of common features that have emerged as essential for an effective operations room, these are:

- Reliable and secure radio or other communications with law enforcement staff in the field (and other key staff, such as intelligence officers).
- Presence (or direct links to) a senior member of area management staff who has decision-making authority with regard patrol deployments and movements.
- 24-hour operations (even if the room itself is not manned at night, at least one control room staff member and one senior manager should remain on call).
- Sufficient numbers of staff trained in radio communication protocols and basic record keeping (ideally with computer skills).
- Clearly defined standard operating procedures (SOPs) regarding communications and reporting (see following section for more details on SOPs)
- A summary of the patrols deployed, including: date out, patrol leader and the number of days planned patrol.
- An 'incident book' (which can be a spreadsheet or database) to record all information provided by patrol staff and other sources of information as it occurs.

If the control room is restricted or in a more secure location, the following features are also typically included:

- A map of the area showing the last reported location of patrols deployed and the recent past patrol routes taken, and illegal activities/encounters.
- Senior management staff with the capacity, authority and responsibility to make real-time decisions on patrol deployment and routing.

Direct links between the control room and senior management with decision-making power is one of the most important features of an effective control room. Without an efficient decision-making process, much of the potential benefit of a control room is lost, especially in urgent situations. Some areas, such as Zakouma National Park in Central African Republic, have addressed this by locating the head of operations and the head of intelligence in the same office adjacent to the control room. This has the advantages of enabling a rapid decision making, promoting discussion, and reducing silos.

Control Room: Success factors

- 24-hour secure communications with all deployed patrol staff and direct links to at least one member of senior management with decision-making authority are essential.
- Key equipment required includes radios, computers for record keeping; clear protocols are needed for reporting to management and communicating orders to patrols.
- Strong information management and record keeping systems are important, and an 'incident book'

for recording all occurrences can be a useful part of this system.

3.5.2 Ranger/Scout Outposts

Ranger/scout outposts are used to enable the permanent deployment of law enforcement staff to locations that are often remote or hard to reach, where it would otherwise be difficult to maintain a management presence. If well planned and developed effectively, a network of ranger/scout outposts across an area can greatly simplify the organisation and logistics of supporting patrols, and can help ensure a permanent law enforcement presence in parts of an area that may otherwise be left unsecured.

However, to be effective outposts require strong management. The permanent deployment of staff in remote locations with little supervision raises the risk of declining performance standards overtime and the increasing likelihood of staff corruption developing. The risk of these impacts has become so pronounced in some areas (e.g. Bangwelu Wetlands in Zambia) that management has stopped using the majority of permanent ranger/scouts outposts in the area and have made the decision to focus on supporting multi-day mobile foot patrols instead, despite the logistical challenges this presents.

In other areas where these problems have surfaced, such as Lewa Wildlife Conservancy in Kenya, management opted to retain the outposts but implemented measures to strengthen their management. This included regularly rotating patrol staff between outposts as a mechanism to maintain performance (see section 2.5.2 on task variety) and reduce the risk of corruption. While in North Luangwa National Park, in Zambia, access to the outposts was improved, which made management inspections more feasible also (see section 3.2.3 above regarding the positive impacts of management visits).

Facilities at outposts have also been improved in many areas with the aim of maintaining staff morale and motivation. While typically consisting of simple accommodation and basic mess facilities, providing clean water, electricity and basic recreational facilities has also been highlighted as important for maintaining staff morale. An increasing number of areas have also allowed immediate family members to stay temporarily or permanently with outposted staff, which, combined with initiatives such as monthly transport to assist staff with personal resupply, can also improve staff morale and motivation.

Ultimately, many managers felt that while outposts would ideally be avoided, in large or difficult to access areas they may be the most realistic option available. However, both patrol staff and outpost leaders need to be rotated, and a concerted effort is needed to keep law enforcement activities dynamic. If access to the area improves, then it may be more effective to implement longer multi-day patrols from Headquarters, as this fosters a more unpredictable patrol pattern and makes it easier to manage equipment, rations and patrol debriefs and RBM data.

Ranger/Scout Outposts: Success factors

- Rotating outposted patrol staff (and less frequently leaders) between outposts and units can help maintain staff performance and reduce the risk of staff corruption.
- Providing good facilities, such as water, electricity, and basic recreational facilities, can help maintain the morale of outposted staff.
- Allowing immediate family members to stay with outposted staff on a temporary or permanent basis has also improved worked well and improved morale in many areas.
- Regular visits by senior management to outposts can help maintain staff performance and increase motivation, which is more likely with reasonable access.
- The costs and benefits of using outposts against supporting multi-day foot patrols should be periodically reviewed.

3.5.3 Access and Transportation

The ability to move patrol staff quickly and efficiently throughout an area, either in response to specific incidents or as part of a regular patrol planning, is an essential component of many law enforcement regimes. This ability relies on sufficient, well-serviced, suitable vehicles and a well-designed and maintained transport network. Unfortunately, both of these elements are capital intensive and many areas have not received the level of investment that enables them to maintain the level of mobility that effective law enforcement activities require.

The majority of (terrestrial) areas favour the use of Toyota Landcruisers for transportation, which are relatively robust and easy to service, and have spare parts that are mostly available. However, any vehicles need to be accompanied by the on-site ability to carry out basic services and repairs (see below), and, as such, typically carry significant on-going costs. Such costs can be difficult to budget for, especially if the vehicle has been paid for with external funding. In many areas the impact of these costs (resulting in poor servicing and maintenance) has resulted in a significant reduction in the useful life of vehicles.

Of particular importance is the use of competent drivers, that, depending on the environmental conditions in the area, have experience in handling 4WD vehicles (particularly in wet conditions) and in using the vehicle recovery equipment that is often provided with the vehicles (such as a winch, manual winch, high-lift jack, etc.). In areas with multiple vehicles and drivers, management has found that allocating a specific vehicle to a particular driver can help to improve accountability for its upkeep and maintenance.

Typical vehicle maintenance skills needed on site:	Typical vehicle parts needed in stock on site:
<ul style="list-style-type: none"> • Ability to carry out vehicle servicing, including: <ul style="list-style-type: none"> ○ Basic Service: Oil and fluid change ○ Interim Service: As above, plus, brakes, steering, suspension and shock absorbers. ○ Full Service: As above, plus fuel filters, spark plugs (wheel alignment and bearings checked if off site). • Knowledge of and ideally ability to repair the following parts: <ul style="list-style-type: none"> ○ Cooling system ○ Suspension ○ Drive chain ○ Brakes ○ Tyres ○ Ignition and fuel systems 	<ul style="list-style-type: none"> • Oil Filters • Air Filters • Fuel Filter • Brake Pads • Brake Shoes • Spark Plugs • Engine Oil • Gear Oil • Brake Fluid • Bushes (complete set) • Shock Absorbers • Inner Tubes • Spare Tyres

In areas that have multiple vehicles, strong fleet management is needed to help ensure that vehicles are checked and serviced regularly. Linked to this is the need for effective stores management (see next section) to ensure that sufficient spare parts (see examples listed above) are kept stocked so that vehicles are kept operational. In areas where the use of such capital intensive transport is not an option, patrols have been supported using motorbikes, bicycles or simply on foot, however these patrols are generally much more restricted in their manpower and range.

Linked to the maintenance a functional fleet is the upkeep of the area's road network. This is also associated with significant costs (although these are offset to a small degree by the reduced cost of operating vehicles on improved roads). Ideally a dedicated road grader should be used to maintain roads, although the purchase and running costs of this is well beyond many areas. A more cost effective option is a tractor-mounted grader. The purchase of a tractor and mounted-grader is still significant, but much cheaper than a dedicated road grader, and the tractor can be used for other management tasks.

Access and Transportation: Success factors

- Strong fleet management is needed to help ensure that vehicles are serviced regularly and before serious problems develop.
- The ability to service vehicles and carry out common repairs on site is essential to keep vehicles operational and minimise down time.
- Good stores and inventory management (see next section) is important to ensure that all commonly used spare parts are available and avoid vehicle down time.
- Using the same model and make of vehicle can reduce the complexity of managing spare parts and enables inter-changeability of parts between vehicles.
- The reoccurring costs associated with running vehicles (fuel, spares, repairs etc.) needs to be recognised and accounted for in budgets.
- Maintaining an area's roads will improve accessibility and reduce vehicle running costs, a road grader is ideal for this, but a tractor and mounted grader is perhaps more suitable for most areas.

3.5.4 Stores and Equipment Management

Appropriate field equipment is essential to keep rangers/scout effective and motivated in the difficult and inclement environments where much of their work takes place. While each item of field kit would be issued to each ranger/scout, in reality, resource restrictions often necessitate issuing items to ranger/scouts each time they go on patrol. This requires efficient record keeping and strong stores management to enable accountability of patrol staff, and ensure inventories are sustained and equipment is well maintained.

Although not necessarily complex (simple check out/in sheets signed by the patrol leader and counter signed by the issuer is typically sufficient), such a system is essential for the efficient deployment of patrols. Perhaps the most critical part of any system is the storekeeper, who must be trustworthy and capable of implementing the system. Keeping the system clear and non-negotiable, including the steps to take when equipment is not returned or is returned damaged is also important. Finally, regular independent checks of the actual stocks against recorded inventory are also essential.

Well stocked and managed stores in Gonarezhou National Park Headquarters, Zimbabwe



Basic equipment storage in an outpost in Southern National Park, South Sudan



Stores and Equipment Management: Success factors

- The system of issuing and receiving equipment needs to be clear, accountable and non-negotiable, it should also cover address steps to take when equipment is damaged/lost.
- A strong, trustworthy and capable storekeeper is absolutely essential for the effective implementation of any system.
- An accurate inventory management system can also be used to assess future requirements (based on past needs) and can therefore assist in budgeting.
- Regular independent checks of the actual stocks against recorded inventory are also essential to check storekeeper performance and the efficiency of the system.

3.6 Clear and Consistent Standards and Procedures

The final benchmark under this Pillar is focused on the use of clear and consistent management procedures to promote desired staff behaviours and measure performance. This is typically achieved through the development of Standard Operating Procedures (SOPs) and guidelines on acceptable conduct and behaviours for ranger/scouts. The final key component under this section deals with measures that can be used to address staff corruption and complicity.

3.6.1 Standards for Procedures and Conduct

Clear procedures on how rangers/scouts should react and operate under certain conditions and circumstances, and guidelines on acceptable conduct and behaviour, is an important part of clarifying what is expected of patrol staff and setting performance standards. The establishment of such standards also provides management with a basis for investigating why staff may have deviated from prescribed behaviour (helping combat corruption, see next section) and a benchmark against which the actions and behaviour of patrol staff can be assessed and measured.

Two types of standards are typically used in protected areas. The first is SOPs that are prescribed methods to be routinely followed during designated operations or in designated situations (see example in box below). These SOPs typically cover a wide variety of circumstances and procedures (see box over page) and can be particularly useful for new staff. The second set of standards is frequently called a Code of Conduct, and sets out a list of behaviours that ranger/scouts are expected to abide by – in some cases both on and off duty - and the infringement of which can lead to disciplinary action.

Examples of Standard Operating Procedures, from Ezemvelo KZN Wildlife, South Africa

Basic Rules and Procedures for Radio Communications

Law enforcement personnel should have a dedicated radio channel. Radio techniques are to be used for brevity and clarity. Radio congestion should be alleviated through pre-planning and reducing radio calls to essential information only. Patrol codes are to be established for each outpost in an area and changed on an annual basis. The codes should be laminated and waterproofed and should indicate patrol areas, time of patrol and whether any other activity is taking place.

Daily Radio Situation Reports

Two situations reports should take place daily from the post to control room at specific times, one in the morning and one in the evening. The situation reports should contain the following information:

- Problems: staff and infrastructure
- Patrol Codes for the next day (provided in the evening)

Emergency Situation Reports

Refers to any security related incident or priority species mortality where urgent interventions or decisions are needed. Procedure:

- Listen before transmission to ensure another transmission is not interrupted
- Prepare message, which should be concise and clear
- Speak clearly and directly; speak ordinary conversation speed with correct pronunciation

- Make full use of accepted standard phrases, procedures and pronunciation
- Release microphone immediately after transmission is complete.

However, despite their potential benefits and the fact that they have been developed in many protected areas, SOPs have often been diminished to part of an area's bureaucracy and may be relatively unknown by patrol staff and under-utilised by management. The standards developed can be very detailed and are typically written in a formal style, which can also make communicating them to rangers/scouts a difficult task, while opportunities and methods to reiterate the standards to patrol staff are often missed by management. As such, in many areas much of the potential utility of defined standards is lost.

Where SOPs have been effective, they have often been developed with a clear target audience in mind, in this case patrol staff, kept relevant to the activities they undertake, and management has taken full advantage of opportunities to frequently remind staff of their stipulations and requirements. This can be done during recruitment processes, during in-service refresher trainings, at staff meetings and through complementary media, such as portable folding cards that can be carried in the patrol staff uniforms for key standards (such as crime scene security or communications).

Often linked to this, but sometimes developed as a separate stand-alone document is a ranger/scout 'Code of Conduct', which focuses more on the general behaviour that rangers/scouts are expected to demonstrate rather than the detailed procedures set out in a typical SOP (see box below). Although in some areas rangers/scouts are expected to review and sign this code, and in many cases infringements can be the basis for disciplinary action, most codes of conduct that have been developed are typically not regularly referred to and patrol staff can effectively plead ignorance against any transgressions.

Studies of the impacts of codes of conduct in the private sector have shown that their use to define an ethical environment and their effective implementation must be linked to an on-going process that requires persistent instruction, reinforcement and measurement^{xxii}. As such, the mere existence of a formal code alone is not sufficient to change behaviour, and, as with SOPs, frequent reminders are needed during trainings, management briefings and ideally through other methods, such as posters placed around Headquarters and outposts.

Example sections of the South Sudan Wildlife Forces Staff Code of Conduct

The Wildlife Forces (WF) are obliged to adhere to the following code-of-conduct while operating within or outside the protected areas:

- WF staffs will know, adhere to and enforce the existing and applicable Wildlife Conservation and National Parks Acts.
- WF staffs will report all infringements of the Acts by fellow Wildlife Forces staff to senior officers or the Park Warden.
- WF staffs must not be involved in any conspiracy with offenders, take bribes or be in any other way involved in illegal activities in or around any protected area.

- WF staffs shall at all times on duty behave in a polite, friendly, responsible and professional manner.
- WF staffs are not allowed to commit crimes, or pose a threat to innocent people, or torture or inflict cruelty to offending persons.
- WF staffs are not allowed to kill for eating or trade meat or other wildlife parts, either dead or alive.
- All confiscated equipment and other evidence seized from offenders or traders must be recorded and kept in secure place as directed by the Park Warden.
- WF staffs must refrain from becoming involved, in any way, in any commercial operations within or outside the protected area.
- WF staffs shall at all times while on duty dress in the official uniform. The uniform must be clean, neat and well presented.
- Any unauthorized use of weapons and ammunition is strictly forbidden. No firearms shall be carried or handled whilst under the influence of alcohol.
- WF staffs should ensure hygiene and cleanliness in Headquarters, substations and at camps in the field.

Some areas such as Malilangwe Wildlife Reserve, Zimbabwe have developed and effectively used such standards to guide the behaviour of their ranger/scouts, and also expect this behaviour to be followed while off duty (rangers/scouts have been disciplined for activities that took place while off duty away from the reserve). This level of implementation, if consistent and combined with frequent opportunistic reminders of the standards and management expectations, can play an important role in fostering a cohesive and constructive organisation culture that reinforces positive behaviours.

Standards for Procedures and Conduct: Success factors

- Developing SOPs that cover a wide variety of circumstances and procedures and can be particularly useful for new staff.
- Where SOPs have been most effective they have often been developed with a clear target audience (i.e. patrol staff).
- Frequently reminding staff of the standards is essential; this can include reviews during the recruitment processes, patrol briefings or other meetings.
- A formal ranger/scout code of conduct alone is not sufficient to impact behaviour; again, frequent reminders are needed during trainings, management briefings etc.
- Using other presentation options such as portable folding cards for key standards (such as crime scene security or communications) and posters can help improve general awareness.

3.6.2 Staff Corruption and Complicity

Unfortunately staff corruption and complicity in wildlife crime is a perennial and pervasive problem. The potentially large financial rewards, combined with the often loose supervisory environment prevalent in many areas (due to their size, inaccessibility and limited staff numbers), has meant that even the most famous and well-funded protected areas - such as Kruger National Park, South Africa and Lewa Wildlife Conservancy) - have been impacted by this issue, although both these areas have recently had some successes in reducing its impact and arresting suspects.

A number of approaches have been tried to help prevent staff corruption developing and to catch those responsible. In some areas, notably Kruger National Park, this has become quite intrusive, for example involving voice stress tests of staff, inclusion of personnel information in the intelligence database, collection of staff phone records, and the use of staff informers. While this approach has had some notable success this year alone (with the arrest of at least one member of senior management member and other more junior staff), it can be seen as intrusive and undermine staff management-relations.

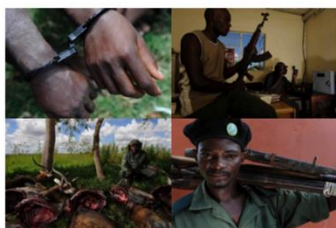
Other more proactive measures that can be taken before such interventions are needed can include the regular rotation of all staff stations (especially at outposts, as discussed previously) and ensuring that any staff recruited from surrounding areas are not posted to their home environs, thus reducing opportunities for corruption or pressure from associates. The use of SOPs, as described above, can also provide guidelines that require an explanation if not followed, while the use of procedures for enabling staff 'whistle blowers' has recently been initiated in some wildlife NGOs.

Ultimately, the ideal approach is the proactive prevention of corruption before it develops. A central component of this rests on the development of a positive and cohesive organisational culture within an area, where corruption and complicity is viewed as simply unacceptable by all levels of staff. As set out throughout this document, this can best be achieved through a sustained and multifaceted approach to building patrol staff motivation and dedication, and building positive and constructive relations between rangers/scouts, their supervisors and senior area management.

Staff Corruption and Complicity: Success factors

- Proactive measures to prevent corruption developing can include the regular rotation staff and deploying locally recruited staff away from their home areas.
- SOPs can provide guidelines that provide management with the basis for assessing any deviation from expected activities.
- In severe cases more intrusive measures can be taken (e.g. stress tests, phone record analysis) but this is likely to undermine staff- management relations.
- Some organisations have developed procedures for enabling and protecting 'whistle blowers' that facility staff reporting inappropriate activity.
- Building a positive and cohesive institutional culture within an area is the best long-term approach, but this difficult and takes time.

An example of standard operating procedures for Bangweulu Wetlands (Zambia) showing the full range of conditions and circumstances that can potentially be addressed by such standards.



Operations and Disciplinary Code for Bangweulu Wetlands Village Game Scouts and Wildlife Police Officers

2013



Operations and Disciplinary Code for Bangweulu Wetlands Village Game Scouts and Wildlife Police Officers

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4 Investigations and Intelligence Operations

4.1 Overview

Investigations and intelligence operations aim to provide tactical and strategic information to support wildlife law enforcement activities with the aim of preventing illegal activities and maximising the chances that perpetrators are apprehended. The use of effective field investigations and intelligence operations are perhaps the most critical proactive measure that protected area management can take against wildlife poachers and traffickers. Such operations can be seen as the first line of defence against wildlife crime.

While field patrols remain an essential element of law enforcement operations, if their effectiveness is to be optimised, they need to be complemented by investigations and intelligence-led operations. Studies show that compared to regular field patrols, investigations and intelligence-led operations are 34 times more likely to encounter poachers, and are 77 times more likely to recover firearms^{xxiii}. Even considering the relatively high level of resources required to gather the information these operations are based on, their cost-effectiveness has been estimated to be over 11 times that of regular patrols^{xxiv}.

However, in order to optimise their potential impact, investigations and intelligence operations must be developed to a professional level. This involves ensuring they are comprehensive, in that they capitalise on the full range of techniques and supporting technology available, are systematic in their approach to collecting, organising and managing information, and are integrated with other aspects of site-based wildlife law enforcement operations (in order to guarantee that their ultimate impact on illegal activities on is maximised).

The development of such approaches to the standards required to address the current level of threat from poaching and wildlife crime is however a significant undertaking, which requires actions in a number of inter-related areas. The following sections aim to provide an overview of five benchmarks that have been identified as critical for developing comprehensive, systematic and integrated investigations and intelligence operations, and which can make significant contributions to improvements in law enforcement effectiveness. These five benchmarks are:

- 1. Specialised and Capable Staff**
- 2. Proficient Crime Scene Management**
- 3. Comprehensive Intelligence Gathering**
- 4. Efficient Data Management and Reporting**

5. Competent Case Development

Each of these benchmarks, along with their subsidiary key components are defined and elaborated in more detail in the following sections. The key components describe the details of current best practices and approaches for key aspects of each benchmark.

4.2 Specialised and Capable Staff

The focus, abilities and aptitude of investigations and intelligence staff is the foundation for the effectiveness of all investigative and intelligence-led activities. The following three key components have been identified as critical for ensuring the effectiveness of investigations and intelligence staff: 1) the use of dedicated units that enable staff to focus on investigation and intelligence activities; 2) ensuring that staff have the skills and attributes the role requires; and 3) providing the resources that the effective implementation of their duties depends on. These are discussed in the following sections.

4.2.1 Dedicated Units

Dedicated units focused on carrying out investigations and intelligence operations are essential if the potential benefits to wildlife law enforcement from these activities are to be fully realised. Such units enable staff to focus full time on their activities (rather than as an incidental addition to other duties) and to better develop the skills and attributes required for the work through repeated experience. While the existence of a separate unit also builds staff cohesiveness and improves internal visibility (hopefully leading to increased recognition and the improved allocation of resources).

As the value and importance of investigations and intelligence operations is progressively recognised, such units are increasingly being established in and around many areas. This will become increasingly important as the variety of skills, techniques and equipment that form an essential part of professional investigations and intelligence operations continues to develop. Unfortunately, many such units remain understaffed and under-resourced, and because many unit staff are posted outside core protected areas, their needs can more easily be overlooked by senior area management.

However, the actual number of staff and resources required to effectively operate an investigations and intelligence unit is relatively small (see below), especially when the costs and impact are contrasted against that involved in implementing ranger/scout patrols. Ideally, staff focused on intelligence gathering and investigative activities should be distributed in key population centres around a protected area, while other members of the unit should be deployed within the site itself (to facilitate information flow to management, handle crime scenes, and interrogate arrested suspects).

For example, in Zimbabwe the intelligence unit closest to Hwange National Park, is actually based 42 km in the nearest large town to the park, with a similar pattern repeated throughout the country. This facilitates a number of aspects of the unit's work, such as intelligence gathering, collaboration with police and giving evidence in court, but does risk weakening the link from intelligence feedback to area

operations. However, in other sites, such as North Luangwa National Park in Zambia, this risk has been alleviated through unified reporting lines and close relations between park staff and unit officers.

Dedicated Investigations and Intelligence Units: Success factors

- Dedicated units are important for improving the effectiveness of investigations and intelligence operations. They enable the use of specialised staff, techniques and equipment.
- Staff from these units should ideally be distributed in key population centres around an area, as well as within the area itself.
- Unified reporting lines (i.e. a common supervisor for protected area managers and investigations and intelligence officers) can help improve feedback to law enforcement operations.
- Personal relationships between unit staff and senior park management are also important for facilitating the rapid flow of information.

4.2.2 Skills and Attributes

Although they often begin their careers as patrol staff, wildlife investigations and intelligence officers require a set of skills and attributes that are significantly different from those needed in an effective ranger/scout. Typical abilities and qualities required for successful investigations and intelligence officers include the able to establish rapport with a variety of people, patience, discretion, and, given the autonomy, independence and sensitivity of much of the work, high levels of honesty and integrity are also especially important.

A number wildlife law enforcement managers have confirmed that the aptitude of an investigations and intelligence officer depends more on the personality, motivation and commitment of the individual concerned rather than any specific skills that can be taught in a formal training environment. Many investigations and intelligence officers are effectively 'self-selected' by demonstrating high levels of success in gathering intelligence from other positions in a wildlife organisation, which has then prompted senior management to officially change the focus of their role.

Of particular importance is the ability to develop good relations with a wide variety of people, and especially the development of networks with informants (see section 4.4), and the police and other law enforcement agencies, which can be particularly important for obtaining information and avoiding administrative delays (see section 4.4.1). In addition, personal contacts between the investigations and intelligence officers and other staff throughout the wildlife agency itself are also critical for facilitating the rapid reporting and exchange of information.

Some areas have however provided training to investigations officers, with the aim of building on their natural affinities for the position. This has been implemented in North Luangwa National Park in Zambia, where field-based wildlife investigation officers have been trained in a number of key areas including: informer recruitment and management; crime scene investigation and management; handling of

suspects and interviewing; statement writing and case preparation; court procedure and giving evidence. Many of these topics are elaborated in subsequent sections under this pillar.

Investigations and Intelligence Skills and Attributes: Success factors

- The personality, motivation and commitment a successful intelligence officer is often more important than skills taught in a formal training environment.
- Of particular importance is the ability to develop good relations with a wide variety of people, and the development of multiple informal networks of contacts.
- Many investigations and intelligence officers are 'self-selected' by demonstrating success in gathering intelligence from other positions in a wildlife organisation.
- Formal training can be important to strengthen already existing desirable qualities, but it is unlikely to be able to establish them in a particular individual.
- However, training can be particularly helpful to help officers understand technical aspects of the role, such as recording statements and giving evidence in court.

4.2.3 Equipment and Resources

The provision of appropriate equipment and resources is particularly important for effective investigations and intelligence operations. A variety of equipment and resource needs are discussed under the relevant sections of this pillar. This includes details of: equipment required for crime scene management (see section 4.3); finances to support a reward systems (see section 4.4.2); specialised equipment for utilising electronic information (see section 4.4.3); and the resources required for the effective implementation of an intelligence database (see section 4.5.1).

However, the nature of investigations and intelligence work is diverse and unpredictable. As such, it can require significant amounts of, often unplanned, travel (for example, if an officer is tailing a suspect), and the ability to be able to gather evidence in a variety of circumstances during the course of operations. As such, effective investigative and intelligence operations also require additional equipment and resources that are essential for supporting the regular, day-to-day operational abilities of investigations and intelligence staff.

Unfortunately, in many areas due to resource constraints and other institutional priorities, such equipment and resources are often not available to support investigations or intelligence operations. Most importantly among these needs is a form of transportation (with motorbikes typically being the most cost-effective option), and the associated ability to access relatively small amounts of cash at short-notice, which can cover operational expenses or reimburse staff for costs they have incurred during their duties.

In addition, the provision of basic and simple-to-use surveillance equipment, such as digital cameras and audio recording device, has been shown to be effective in helping investigative officers to gather

information and add credibility to cases by generating supporting evidence. Such equipment is becoming progressively more available and affordable as technology improves, and, if appropriately used, it has the potential to make increasingly important contributions to investigation and intelligence-gathering operations.

Investigations and Intelligence Equipment and Resources: Success factors

- Access to a means of transportation is essential for investigations and intelligence officers; motorbikes have been highlighted as the most cost-effective option.
- A petty cash fund that can be used by officers to cover operational expenses or reimburse staff for costs they have incurred is important for sustaining continued operations.
- Basic and simple-to-use surveillance equipment, such as digital cameras and audio recording devices can be effective in helping to build a case against suspects.

4.3 Proficient Crime Scene Management

In the vast majority of wildlife crimes there are no witnesses and in the absence of self-incriminating statements by a suspect, the only means of obtaining a conviction may be through physical evidence. The most important components of evidence collection and preservation are 1) maintaining the integrity of the crime scene and 2) the proper collection and management of evidence. Each of these components is discussed in the following sections.

4.3.1 Maintaining Crime Scene Integrity

Crime scene contamination is an unnecessary and serious problem that can ruin evidence and ultimately jeopardise the success of a criminal prosecution. Unfortunately, this can often be caused by well intentioned but ill-informed patrol staff that are first on the scene. While it may be impossible to maintain perfect integrity at every crime scene, developing clear standard methods to guide staff in securing and working a crime scene can help in achieving this and make an important contribution to improving the effectiveness of wildlife crime investigations.

However, the appropriate management of wildlife crime scenes presents a significant number of particular challenges. It can be days or even weeks before the scene is discovered, evidence can be distributed over a large area, and the scenes themselves may be in remote or inaccessible locations. If wildlife agencies have to rely on an officer from another agency, their arrival at the scene can take a significant amount of time, and due to the peculiarities of many wildlife crime scenes, can even then be ineffective due to the lack of experience working in similar situations.

As such, many wildlife agencies and area managers have taken steps to develop the in-house capacity to manage wildlife crime scenes (see box below). In most cases ranger/scouts will be the first to arrive and should ideally secure the crime scene until an investigative officer arrives. However, even if secured

effectively, the proper management of a crime scene that ensures evidence collected will hold up in court is a significant undertaking, requiring not only specialised training and equipment but clear Standing Operating Procedures that need to be followed.

Environmental Crime Investigation Unit, Kruger National Park

A small but effective Environmental Crime Investigation Unit (ECI) has been established in Kruger National Park, based at the park Headquarters, which is responsible for managing all crime scenes and subsequent liaison with the police, as necessary. Once a carcass has been observed, ranger/scouts have been trained to secure the area, minimise interference, and immediately call in the ECI officer to handle the scene. Once on scene the ECI has authority over the area, and is responsible for collecting and managing all evidence, including DNA samples where possible. They also open the case file (or 'docket') which initiates the formal investigation and will eventually be passed to the prosecution should the case come to court. The ECI officer continues to develop the docket in collaboration with the police throughout the process to help ensure it is of the highest quality. Any intelligence gathered throughout the process is added to a database (see section 4.5.1).

The ability of rangers/scouts to initially secure the scene without undue contamination is critical. This requires well-rehearsed SOPs that all ranger/scouts are familiar with (see section 3.6.1). Ideally this should limit access to the area to the patrol leader only, with other patrol staff remaining beyond the security perimeter established. If tracker dogs are available (see section 3.3.2) these should ideally be immediately given access to the site (along with their handlers), after which the site should be secured until the arrival of the responsible investigations officer.

Once at the crime scene, the investigations officer typically has to follow extremely detailed SOPs that have been developed to ensure that the integrity of the crime scene is maintained, and that evidence is properly collected and managed. The box below gives an example of a crime scene management SOP from Ezemvelo KZN Wildlife in South Africa. The particular requirements and related SOPs for the handling and management of any physical evidence collected from the crime scene are discussed in the following section.

Crime Scene Procedures, from Ezemvelo KZN Wildlife, South Africa

First person on scene:

- First person on scene to contact supervisor immediately, giving locality of crime scene. If radio is used, use pre-planned code. Give GPS points if possible.
- Crime scene to be preserved by not touching anything, not walking into the scene and by keeping all persons and animals well away.
- First person on scene to remain on site until relieved by senior person/investigations team. If necessary keep staff on site all night to ward off animals and humans.
- Immediately inform: elite Anti-Poaching Unit; police (organised crime), vet and Dog Unit if

fresh tracks are available for follow-up. Do not delay.

- Seal off entire scene with hazard tape, or placing personnel around periphery. Preserve spoor on scene by covering with spoor boxes or anything at hand, e.g. waterproof, poncho etc.

Investigations Officer:

- Record all details: Date, time, weather conditions, locality, persons first on scene, all details pertaining to actual crime e.g. spoor, number of suspects, estimated time of killing, direction approached and departed, cartridge cases, any other sign that may give information on crime.
- Inspect carcass and note decay, position, wounds, bleeding, etc. Take photographs and measurements. Note presence of blood spoor, which may indicate direction animal had run before dying. Back track to look for clues.
- Use metal detector to look for bullets, cases and other clues.
- Once investigation is complete. Destroy carcass by burning. Salvage as much skin as possible depending on condition. Keep skull in safe place for court case (tagged with all relevant details).

Maintaining Crime Scene Integrity: Success Factors

- If feasible, developing the in-house capacity to manage wildlife crime scenes can speed up response times and improve the quality of crime scene handling.
- The ability of rangers/scouts to initially secure a scene without undue contamination is critical. This requires well-rehearsed SOPs.
- Detailed SOPs are required to ensure proper crime scene management, and the collection and management of all evidence by investigative officers.
- Ideally, the investigative officer should continue to develop the case file in collaboration with the police to help maintain case momentum.
- Any intelligence gathered throughout the process should be added to an intelligence database (see section 4.5.1).

4.3.2 Evidence Collection

The successful prosecution of a case can hinge on physical evidence collected from a crime scene. Attorneys will often scrutinise the integrity of the evidence presented, and questions are commonly asked in court about the methods used to collect and handle evidence. As such, evidence at a crime scene must be properly collected, stored, and managed for retrieval during a trial or other judicial proceeding. Unfortunately, in some countries, such as Uganda, shortfalls in evidence handling have been cited as the single most important factor in losing wildlife crime cases.

Fortunately, maintaining a secure chain of evidence is neither a complicated nor expensive process; however, it does require some basic equipment and facilities (i.e. evidence bags, evidence tags, a secure storage location) and effective management. There are a number of points in the chain of evidence from collection through to storage and retrieval for use in court that need to be well-managed in order to maintain an item's integrity. The major issues to be considered at each stage in the chain of evidence are summarised in the following bullet points:

- **Evidence Collection:** Each piece of evidence should be photographed prior to being removed from the crime scene or before it is destroyed (i.e. spoor). Important evidence can include human tracks, tyre tracks, shell casings, and any items left behind by poachers. Ideally all items should be fingerprinted and tracks should be collected using a plaster mould (see photo below).
- **Evidence Tagging:** At the time of removal every piece of evidence should be given an evidence tag that should be placed inside the evidence bag, but should not be affixed to the evidence itself. The evidence bag should be also clearly marked on the outside to identify it as evidence (see photo below). A tag should show the following information:
 - Case Number
 - Unique Evidence Number
 - Description
 - Location of Collection
 - Date/Time of Collection
 - Name and Signature of Collecting Officer
 - Name and Signature of Witness
- **Evidence Storage:** Evidence should be stored in a locked and controlled location with a permanent custodian responsible for access, and a strict list of personnel who have access to the area. All entries and exits from the area must be logged, and an additional log should be kept documenting who had physical access to which pieces of evidence.
- **Evidence Retrieval:** Evidence should be secured and only retrieved as part of the investigation or for trial. Any movements of evidence outside the evidence room for inspection, testing, or in court should be noted in the evidence log. Evidence rooms should be ideally inspected periodically to verify the accuracy of the inventory.

Crime Scene Evidence Collection: Success Factors

- Each piece of evidence should be photographed prior to being removed from the crime scene or destroyed (in the case of spoor).
- At the time of removal, every piece of evidence should be given an evidence tag that should be placed inside the evidence bag.

- Evidence should be stored in a locked and controlled location with a permanent custodian responsible for access and a strict list of personnel.
- Any movements of evidence outside the evidence room for inspection, testing, or for use in court should be noted in the evidence log.

<p>A cast of a footprint taken from a crime scene.</p>	<p>Evidence properly collected and labelled in a sealed evidence bag</p>
	

4.4 Comprehensive Intelligence Gathering

The collection of accurate and reliable information from as many sources as possible is the foundation of any intelligence system. Three key components have been identified as critical for achieving this: 1) the use of informers to provide information; 2) the provision of rewards to provide an incentive for informers; and 3) the collection of ‘signals intelligence’ information. Each of these components is discussed in the following sections.

4.4.1 Informants

Despite rapid developments in the use of technology, intelligence provided by human sources (HUMINT) is likely to remain the most commonly used and most important source of intelligence in the majority of protected areas for the foreseeable future. However, although potentially the most useful, HUMINT is

also the most difficult to manage, mainly due to the unreliable and untrustworthy nature of many informants who may be motivated by financial rewards or revenge rather than an obligation to report illegal activities.

As such, effective management systems are needed to oversee the use of HUMINT. Although the need for this is increasingly being recognised and addressed in many areas, this has not been a traditional strength of area management, which has more often been focused on preventative law enforcement operations. As a result, guidelines and standards for the recruitment and management of informers, combined with systems to ensure anonymity and track reward payments have only recently been developed, or may still be absent in many areas.

The development of such systems are especially important when linked to informer rewards (see next section), to help ensure that neither the informers nor protected area staff themselves take advantage of the necessary trust inherent in the implementation of such a system. The box below provides a summary of the guidelines provided to all staff from Ezemvelo KZN Wildlife, in South Africa, that are intended to help them effectively recruit and manage informers, while ensuring that the risks to wildlife personnel and informers associated with such activities are minimised.

Example Guidelines on Recruiting Informers, adapted from Ezemvelo KZN Wildlife

- When first formalising contact with an informer, obtain a copy of the source's ID. If you meet the source in a remote area, take a camera and photograph the ID.
- Complete the form 'Source Registration'. Ensure the source understands the details properly. The source must sign the form.
- Complete the form 'Source Details' and allocate a number to the source. This is the number that will appear in his/her receipt of payment. The source must sign the form.
- Complete the 'Source Payment Receipt' form when you pay the source. The source must sign that they have received payment.
- The source must also sign the receipt in the duplicate receipt book, together with a witness (staff member). Only include the source's number, not their name.
- Open a dedicated file for each source and keep all records in this file. This file must at all times be kept in a safe that only the handler has access to.
- For day-to-day information, payments can be made if the information leads to successful arrests or is proved accurate, not in advance.
- Mobile phone airtime can be bought at any time for sources to enable them to contact handlers. Strong management is needed to ensure wise use of this resource.

A number of managers that have successfully cultivated a system of informers, including Malilangwe Game Reserve in Zimbabwe and South Luangwa Conservation Society in Zambia, noted that it is typically a small number of informers that repeated provide accurate and important information, but that it is

difficult, if not impossible, to identify such informers in advance. Consequently, the development of an informer network is typically time consuming, and significant amounts of staff time and resources have to be expended without any immediate or obvious result.

One key approach for enhancing the quality and quantity of intelligence information gathering from informers is to develop networks with multiple kinds of informers (see table below). This not only exposes handlers to more potential information, but also enables the triangulation of intelligence and improves the ability of officers to assess the quality of the information provided. Using a consistent standardised format for information collection can also aid its incorporation in an intelligence database (see next section) and use alongside RBM data in operational planning (see section 3.3.1).

Frequently Used Sources of HUMINT

Source	Value
Community Leaders	Community leaders can assist the investigator to understand the local economic and social frameworks within which poachers operate. However, in order to be effective, a proactive engagement programme with community leaders must often start long before intelligence gathering or an investigation begins, in order to build and establish positive relations that can be capitalised on at a later time.
Community Members	Some members of the community in which poachers live will undoubtedly know about their actions. Officers can take advantage of rivalries, revenge or simply opportunities for financial gain through rewards to extract this information. Over the longer-term, investigators can also work more generally to socially isolate poachers from regular community members, making cooperation more acceptable.
Poachers	Upon apprehension, poachers themselves can volunteer a wealth of potentially useful information. The legally grey area between apprehension and processing by the police can be capitalised on to extract useful intelligence. A checklist of questions to ask and topics of questioning can help ensure field staff cover all important areas, and enable the collation of information to help identify trends and patterns.
Co-workers	Ideally any staff member from the wildlife agency or area management authority should be developing a low-key network of informants, or at least remain alert for potentially useful information. This can greatly multiply the amount of information being generated and reported to intelligence officers, which is especially powerful when linked to an intelligence database (see next section).
Other Law	Other law enforcement agency staff frequently already know of many

Source	Value
Enforcement Staff	wildlife crime suspects through other illegal activities they may be involved in. As such, key staff from other agencies often have important information on wildlife crimes that can be of use to area management. Although formal procedures are important, personal contacts with such agency staff can greatly speed up information flows.

Intelligence from poachers is particularly important, and interrogation of suspects in the period after apprehension by patrol staff but before processing or handing over to police has yielded particularly useful information in many areas. Again, ensuring a standard format for interviewing such suspects can help ensure that patrol staff extract all relevant information. Over time, this can help elucidate trends in poachers and their activities (such as area of origin, target species, point of entry, time spent in area) that can be used to inform law enforcement operations and community outreach activities.

Informants: Success factors

- Guidelines and standards for the recruitment and management of informers, combined with systems to ensure anonymity and track reward payments, can make management easier.
- The development of an informer network is time consuming and requires resources without any immediate result; management need to make allowances for this.
- Developing networks with multiple kinds of informers can enhance the quality and quantity of intelligence information, and enable the triangulation of information received.
- Using a consistent standardised format for intelligence information collection ensuring that all key topics are covered can also aid its analysis and incorporation in an intelligence database.
- Over time, using this standardised format can help elucidate trends in poachers and their activities that can inform law enforcement operations and outreach activities.

4.4.2 Rewards

Providing significant and timely rewards for information from informers is critical if the potential benefits of developing a network of informers are to be realised. Many informers take a serious risk to their personal safety in providing information to wildlife law enforcement officers, and without a financial incentive to offset this threat, they are extremely unlikely to volunteer valuable information. As a result, although potentially difficult to manage, reward systems are an essential part of any intelligence operation.

However, despite the proven benefits of paying rewards, many protected areas have struggled successfully to implement such a system. A major cause of this is the sometimes significant financial backing that an effective system requires, as in order to be effective in preventing serious wildlife crime

rewards must be substantial (some areas pay the equivalent of a ranger/scout annual salary for the most credible information on rhino poaching). Even in areas with external financial assistance, despite the high potential impact, many donor-reporting requirements effectively prevent use of their funds for provision of rewards.

In order to help improve the accountability of reward systems, and make the systems easier to implement, many areas have adopted a standardised, non-negotiable payment system linked to the quality of information and the seriousness of the crime it relates too. Such a system has helped improve the accountability of reward payments made to informers by staff from Ezemvelo KZN Wildlife, in South Africa. This, combined with a simple and efficient administrative system securely recording of informers and payments made, has enabled the system to pass internal auditing standards (see box below).

Other more autonomous areas, such as Malilangwe Game Reserve, base payments on a case-by-case basis through discussions between intelligence staff and senior management. The amount allocated typically depends on the actual information, the value of cultivating the informant and their track record. However such a system necessitates a high degree of trust between senior management and intelligence staff, which may be difficult to develop in larger areas. In addition, a few informants that have repeatedly proved themselves may be paid a stipend to help maintain a continued relationship.

Informant and Reward Payment Management, Ezemvelo KZN Wildlife

The following bullet points summarise the key features of the informant and reward management system that has successfully been used and audited by Ezemvelo KZN Wildlife, South Africa.

- All payments are made according to a schedule related to the nature of the information provided; there is no room for negotiation. Payment is made as soon as possible after the arrest/action.
- Informers must be registered in order for payments to be made. Copies of IDs and personal details are taken and stored only in the senior warden's office. Each informer is allocated a code number (see box above).
- Original receipts completed in full are signed by the informant and the staff member and are kept on file by the senior warden.
- Copies of the receipts are submitted for accounting with the name and ID of the informer blocked out and their code number added instead.
- For very large rewards, photographic evidence is also used to prove that the reward was handed over to the informant.

The vast majority of the rewards are paid only on a results basis, which in most cases means the arrest of suspects. However, some wildlife agencies have noted that, as the level of rewards offered increases so does the risk of 'setups'. In response, they are planning in future to base rewards on a combination of arrests and prosecution (with a 10% - 90% weighting). However, this does run the risk of significant

delays between informers providing information and receiving a reward, and linking the reward to aspects of the case other than the quality of information provided (such as the prosecutor competency).

Informant Rewards: Success factors

- Rewards for intelligence need to be significant and timely if they are to motivate informers to volunteer information.
- Rewards should only be paid on the basis of results; in most cases this means the arrest of suspects or prevention of illegal activities.
- An effective system requires substantial and sustainable financial backing; flexible donor-reporting requirements are sometime needed to enable funds to be used for information payments.
- Many areas have adopted a standardised, non-negotiable reward payment system, which varies depending on the quality and seriousness of the information.
- However, the nature of rewards payments necessitates a high degree of trust between senior management and intelligence staff; proactive steps may be needed to develop this in larger areas.

4.4.3 Electronic Information

As the presence and use of technology becomes increasingly ubiquitous in the daily lives of more and more people, so does the importance of the information based on the use of such technology for intelligence purposes. The interception of such 'signals intelligence' (SIGINT) has long been recognised by the military and other security forces, and there is a rapidly expanding range of approaches and equipment that can be used by wildlife law enforcement officers to capitalise on this increasingly valuable source of information.

However, the interception of such information does typically require specialist equipment, which in many cases can be relatively expensive, and particular skills that are lacking in many protected areas. As such, the potential contributions of SIGINT to inform wildlife crime investigations and law enforcement operational planning has really only just begun to be capitalised on in a limited number of protected areas. There are however a number of approaches that are particularly relevant to wildlife law enforcement in the African context.

One of the most useful approaches is the confiscation of mobile phones immediately following the apprehension of poachers. This can enable the direct extraction of all contact data, user history and other information using bespoke equipment, such as a 'Cellebrite Mobile Forensics' tool. This tool has the ability to extract data from almost any phone (even if the actual data has been deleted by the user). Although quite expensive, this equipment is relatively user-friendly, can be used in the field, and the data extracted can easily be added to most intelligence database software (see next section).

Once suspicious mobile phone numbers are known, many national wildlife agencies have the advantage of being able to approach mobile network providers and to request personal information, geographic

tracking and user history, which can be a particularly valuable method of observing and gathering intelligence without altering the suspect. One way suspicious mobile numbers has been identified has been through collection of used scratch cards at or around crime scenes, which, again with the help of mobile service providers, have been linked to a specific phone number.

The other major source of information on suspects that can be of particular use to investigators monitoring or building a profile of a suspect is the use of the Internet. A number of specialist companies collect all publically available information on people (e.g. criminal records, addresses, phone numbers, car ownership etc.), and make this available for a fee. Although of limited use in countries with a large informal economy, as is common in most of Africa, this approach has been effective in South Africa and investigations linked to other countries outside Africa.

The increasing use of social networking sites can also provide a significant amount of information on the activities, movement patterns, networks, and contact details of suspects. If they are unaware of being investigated, many suspects can unwittingly volunteer a large amount of valuable information. This has proved to be such a valuable source of information that many specialised intelligence database programmes (discussed in the next section) have been specifically adapted to incorporate information from social networking sites.

Electronic Information: Success factors

- Mobile phones confiscated from poachers can provide a wealth of information; however specialist equipment is need to maximise the use of this technique.
- If suspicious mobile phone numbers are known, national wildlife agencies can request mobile network providers to provide personal information, geographic tracking and user history.
- The Internet can be useful to when building a profile of a suspect is the use of. Specialist companies that collect all publically available information on people can assist with this.
- Social networking sites can also provide a significant amount of information on the activities, movement patterns, networks, and contact details of suspects.

4.5 Efficient Data Management and Reporting

If intelligence information is to be effectively used, it needs to be consolidated and analysed, and the data needs to be transformed into useful information that can inform management action. Two key components have been identified as important for addressing these needs. These are 1) the organisation and analysis of intelligence information collected, and 2) ensuring this information is provided to management in a timely and appropriate format. These components are discussed in the following sections.

4.5.1 Data Organisation and Analysis

The full potential value of information collected can only be fully realised if it is possible to assess the full range of intelligence types (i.e. HUMINT and SIGINT) collected from a diversity of sources in a single database. This becomes increasingly important as areas expand their intelligence gathering activities, and the amount and different types of intelligence information collected increases. Without the ability to combine all the information collected, important linkages may be missed, and the utility of the data gathered can diminish significantly.

Previously an area's senior management or intelligence officer has typically been the depository of such information. This was perhaps effective when the vast majority of the information provided was from informer networks, but as the overall amount and diversity of information types has increased, this has become ever more difficult and ineffective. While HUMINT remains the bedrock of most intelligence operations, the ability to link this with the increasingly common and valuable SIGINT is becoming ever more important.

This, however, is not a problem unique to protected area managers, and a number of software programmes have been specifically developed to help address this challenge. These are designed to enable investigators to input all formats of raw intelligence into a unified database, to reveal the relationships within the data, and to enable data from different sources to be collated and graded. This gives intelligence staff the ability to share, search, analyse and print relationship diagrams, dramatically improving the ability to understand and communicate linkages and patterns.

A variety of software is available that can be used to meet these needs, which ranges considerably in cost, capacity and usability. Some of the most common options available include:

1. MEMEX. The most expensive and elaborate option. It is reportedly more robust, but does not present data as well as i2 (see next bullet point). This software has been successfully used in Kruger National Park, South Africa (see box below).
2. IBM i2. A range of integrated software products supporting information storage and analysis. Less costly than MEMEX, but still a significant investment. The most popular option and fast becoming industry standard. This has been used in Lewa Wildlife Conservancy, Kenya.
3. CASOS *ORA. Developed by developed by CASOS at Carnegie Mellon University. Although the software is free, it is the most difficult to use of the three options presented here. However, free online training and sample data is also provided to help users.

Of the options presented here, the general consensus among users and managers (including MEMEX operators) is that i2 strikes the most appropriate balance between cost, capacity and simplicity of use, and would be the ideal option for most typical protected areas.

Intelligence Management in Kruger National Park

One of the first areas to make use of such software is Kruger National Park, South Africa, which has been incorporating all intelligence information in single unified database since 2007. Currently the system includes over 21 million records, and the software is linked to national intelligence databases. The software used (MEMEX) is able to bring together and grade information from all sources and formats (e.g. informants, investigations, ranger observations, visitor records).

In addition, the programme is also able to begin developing linkages from individual or even partial records, for example, phone numbers, vehicle registrations, national ID, family names, and photos. Combined with additional research examining court proceedings, media, social media, web searches (including search sites that specialise in collating all publically available data on individuals), and other sources, officers are able to build as complete a picture of each record as possible.

In one case, the registration number of a suspicious vehicle was on record from a previous opportunistic observation, but the owner of vehicle was not known. Sometime later the car entered the park, and the registration was picked up by the 'room seeker' system (which records all vehicle registrations and individuals entering the park) and its owner was identified. Staff tracked the individual's activities, eventually leading to an arrest. Without a unified system this linkage would have been missed.

However, such software is only as good as its operators, and even if an area has staff that are familiar with computers, specialised training will be needed in database management and information analysis using the software selected, and in maintaining any additional hardware that maybe required (for example a server if the database is networked). One additional advantage of the i2 software is that there are a relatively large number of organisations offering training courses. To retain effectiveness, multiple staff will be needed with these skills in each area to cover absences and leave, etc.

Intelligence Data Organisation and Analysis: Success factors

- All intelligence collected needs to be collated in a unified database to reveal the relationships within the data and enable information from different sources to be assessed and graded.
- To achieve this, the use of specialised software is increasingly important; for most areas IBM's i2 suite of programmes has the most suitable balance between cost, capacity and simplicity of use.
- To effectively use such software, specialised training is needed in database management and information analysis, and in maintaining any specialised hardware used.
- Multiple staff need to be trained in each area that an intelligence database is implemented in order to maintain capacity and cover absences, leave, etc.

4.5.2 Intelligence Feedback

Providing management with relevant and accurate information that can be used to inform operational decisions is the ultimate aim of any intelligence system. Experience has shown that if this is done effectively, intelligence can have a huge impact on the effectiveness of law enforcement operations, and enable significant efficiency improvements in the use of wildlife law enforcement resources. There are two key types of feedback that law enforcement managers need from an intelligence system: 1) rapid reporting of urgent issues and 2) summaries of on-going investigations.

As illustrated throughout this pillar, intelligence information can come from a variety of sources, and ideally any site staff member should be able to collect and submit information to management that may be important. In some cases this information may require urgent action by area management. However, the traditional chain of command reporting lines that exist in many areas do not support the rapid transfer of information, and each time the information is passed between staff, the risks of compromising its security and utility increase.

As such in some areas, intelligence officers are placed outside the traditional chain-of-command, and any staff member has the right to communicate directly with them, which can rapidly speed up information flow and enhance security. It is also essential that the intelligence officers have direct or rapid links with the operational control room (see section 3.5.1) and/or senior management. Some wildlife agencies have also developed code levels that are assigned to information when reported that specify the threat level and actions required in order to streamline responses (see box below).

Intelligence Information Codes, adapted from Ezemvelo KZN Wildlife, South Africa

The codes below are assigned to intelligence information to clarify the level of threat and speed up management responses.

Code	Threat Definition	Actions Required
1	Reliable and precise information received that poachers have already entered an area. Location and certainty of source is confirmed.	Immediately alert and deploy all law enforcement staff available. Personnel to remain in field until apprehension or proof poachers have left the area.
2	Reliable and credible information received that poachers are going to enter a specific protected area at a known location and/or time.	Deploy resources immediately to ambush and intercept poachers. Known entry and exit routes to be covered. Available backup units on standby.
3	Reliable and credible information received describing approximate time and known route poachers will be traveling to	Deploy roadblocks (in collaboration with police). Put contingencies in place in case of diversion to alternative routes at short

	a specific protected area.	notice.
4	Reliable and credible information received that poachers are intent on entering a specific area within the near future.	Alert protected area in question, and any adjacent areas to be ready for immediate mobilisation. Alert informers that may be able to clarify situation.
5	Reliable and credible information received that poachers are mobilising resources with a view to conducting illegal activities in the general area.	Alert protected areas in the area to upgrade surveillance and state of preparedness. Alert informers that may be able to clarify situation.
6	Possibly reliable and credible information received that certain identified individuals may be involved in poaching in a particular area.	Follow up actions by investigations and intelligence unit staff and inform senior management of outcome. Alert informers that may be able to clarify situation

In other circumstances information relevant to management will have emerged from investigations, and while not urgent, it is nevertheless important that this is communicated to senior staff. Moreover, the information can be the result of an extensive investigation and may require an in-depth explanation to outline potentially complex relationships and links. Unfortunately, while it can be difficult to explain the contents, nuances and process of an investigation to non-specialists, it is essential these are understood to enable the formulation of an appropriate response.

One of the major strengths of the intelligence software (discussed in the previous section) is the ability to visually display the process and timeline of an investigation, combined with the linkages and connections that have emerged. The use of graphics illustrating these points can greatly assist senior management in developing an understanding the situation, and help them to respond appropriately. The box overpage provides a typical example of this type of output, with the steps in the investigations across the top and the linkages between suspects illustrated.

Intelligence Feedback: Success factors

- Placing intelligence officers outside the traditional chain-of-command can enable any staff member to communicate with them and rapidly speed up information flow.
- It is essential that the intelligence officers have direct or rapid links with the operational control room (see section 3.5.1) and/or senior management.
- Developing code levels that can be assigned to information reported that specify the threat level and actions required can speed up management understanding and response times.
- Using graphics to illustrate the process and timeline of an investigation, combined with the linkages and connections that have emerged, can greatly speed up management understanding.

4.6 Competent Case Development

Ultimately, all investigative or intelligence-led operations are intended to result in the arrest or apprehension of suspects. However, to be admissible, the case development process must accord with legal standards. Two key components that have been identified as essential for ensuring that investigations and intelligence staff meet these requirements. These are 1) a good knowledge of the legal processes required for case development; and 2) good collaboration with other law enforcement agencies, especially the police. These are elaborated in the following sections.

4.6.1 Knowledge of Legal Processes

The development of a case (or a 'docket') against a suspect is in itself a legal process that must accord with minimal standards if suspects are to be able to be charged with a crime, and prosecutors are to be able to take the case forward. As such, if wildlife agency staff are to remain involved in the development of a case, they need a good knowledge of the standards required, and acceptable techniques that can be used, to ensure that the resulting docket is of a high standard and its contents will be admissible in court.

Unfortunately, in many instances wildlife officers have not possessed this knowledge, which has led to cases against the perpetrators of wildlife crime being dismissed on what are essentially technical details. For example, legal officers from Uganda have commented that the mishandling of evidence is one of the main reasons why wildlife crime charges brought against suspects fail to hold up in court. Attorneys are aware of this, and questions are commonly asked in court about the processes and methods used during case development.

However, unlike some of the more intuitive aspects of an investigations and intelligence operations, these technical aspects of case development can be taught, and with repeated coaching from more experienced staff, these shortfalls can be overcome. For example, in Kwa-Zulu Natal in South Africa, experienced senior area managers that are familiar with the legal requirements of case development have effectively mentored more junior staff in the important legal aspects and standards they must meet, e.g. regarding recording witness statements, evidence handling, and court procedures.

Other areas have provided formal training to investigations officers to address this need. For example, investigations officer training in North Luangwa National Park, Zambia, includes sessions on handling suspects; statement writing; case preparation; and court procedures and giving evidence. In addition, the situation is further improved in Zambia as both the investigations officer and prosecutor are employed by the national wildlife agency, and are both housed in the same building, thereby enabling constant interaction between officers and prosecutors to ensure robust case development.

Knowledge of Legal Processes: Success factors

- Training investigations officers in the technical aspects of case development, combined with

repeated coaching, can help improve the strength of case development.

- Experienced senior area managers familiar with the legal requirements of case development can provide on-going mentoring to staff as an individual cases progresses.
- Good relations and repeated interactions between investigations officers and prosecutors can also help ensure that cases developed are of a sufficient standard.

4.6.2 Inter-Agency Collaboration

In most countries, at some stage in the process of case development and prosecution it will be necessary for wildlife authority staff to involve the national police service. While the particular stage that this happens varies according the legal systems in different countries, effective collaboration with police (and ideally other security agencies) is essential from a legal perspective, and can significantly improve the strength of the case being developed, through the use of additional information and resources that other agencies may have available.

Unfortunately, in many countries the collaboration between wildlife agency staff and national law enforcement agencies has not been strong. In many cases this due in part to wildlife crime being seen as a low priority by many other law enforcement agencies (that in may cases may be addressing a wide variety of serious crimes). In addition, as many wildlife crimes take place in rural locations, the local police force resources are often extremely limited and they are often unable to provide any meaningful assistance in addressing serious and organised wildlife crime.

However, the issues impacting collaboration have been overcome in a number of ways in different countries. For example, in Zimbabwe, where the investigations and intelligence units have only relatively recently been developed, many of the staff were drawn from the national police service. This, combined with the deployment of staff in towns around protected areas, has enabled many wildlife officers to retain informal contacts with police officers, which has served to increase collaboration and information sharing in a number of areas (for example, around Hwange National Park).

In other countries, more formal approaches have been taken. For example, in Kwa-Zulu Natal all cases of rhino poaching are now handled by the provincial organised crime squad of the national police service, in collaboration with the provincial wildlife agency. This has resulted in improved operational efficiencies and relationships between both agencies, as rural police stations are not longer burdened with trying to address serious organised crimes and the wildlife agency is able to collaborate with a single unit in the police to develop cases, rather than multiple outposts throughout the province.

Inter-Agency Collaboration: Success factors

- Collaboration with the police and other law enforcement agencies can significantly improve the strength of the case being developed.
- Clear division of responsibilities between different law enforcement agency staff can help make

collaboration easier.

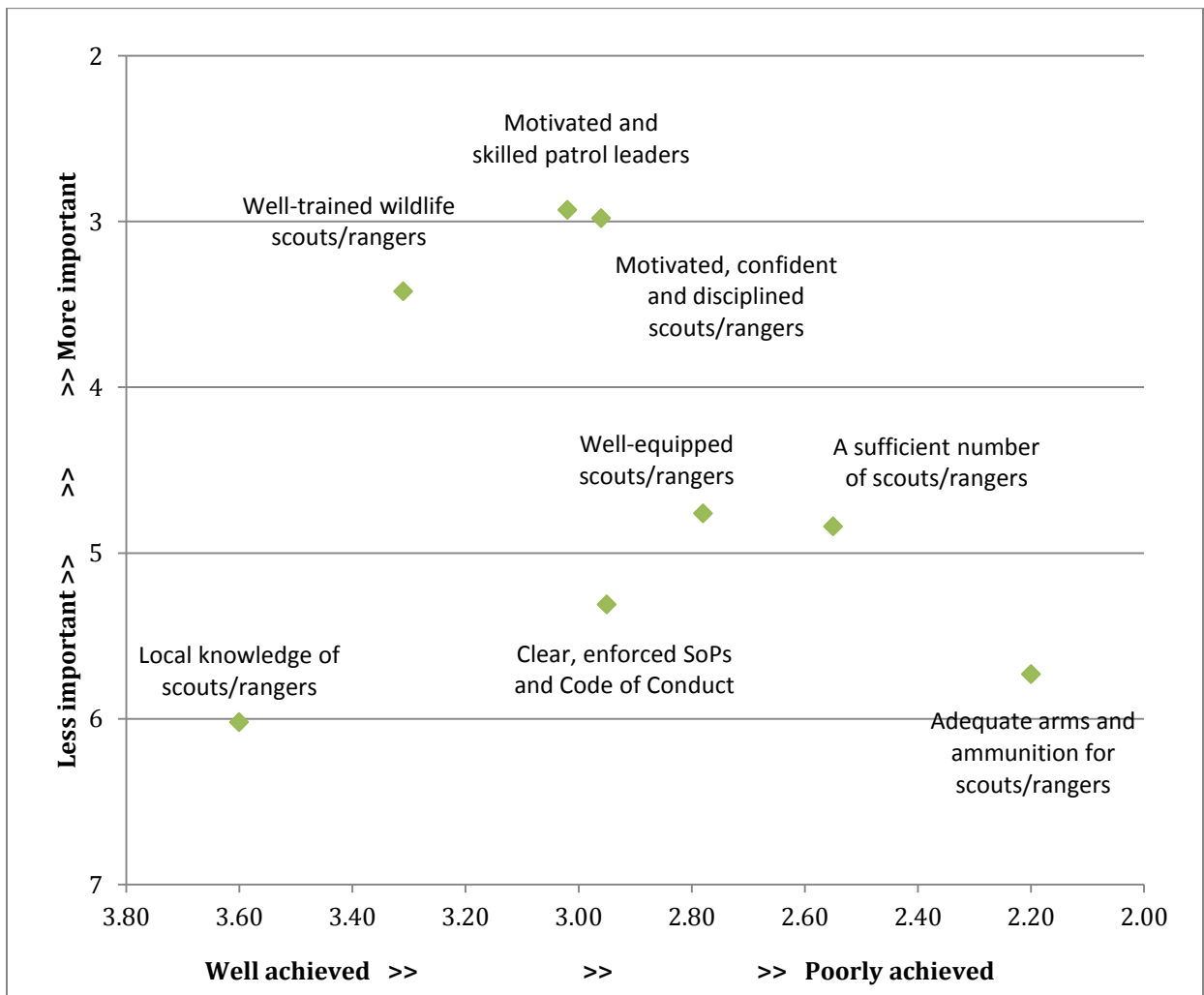
- Informal contacts between wildlife agency staff and police officers have been shown to help increase collaboration in a number of areas.
- Allocating responsibility for all serious wildlife crime to a single unit within the police service can make collaboration easier and facilitate case development.

5 Appendices

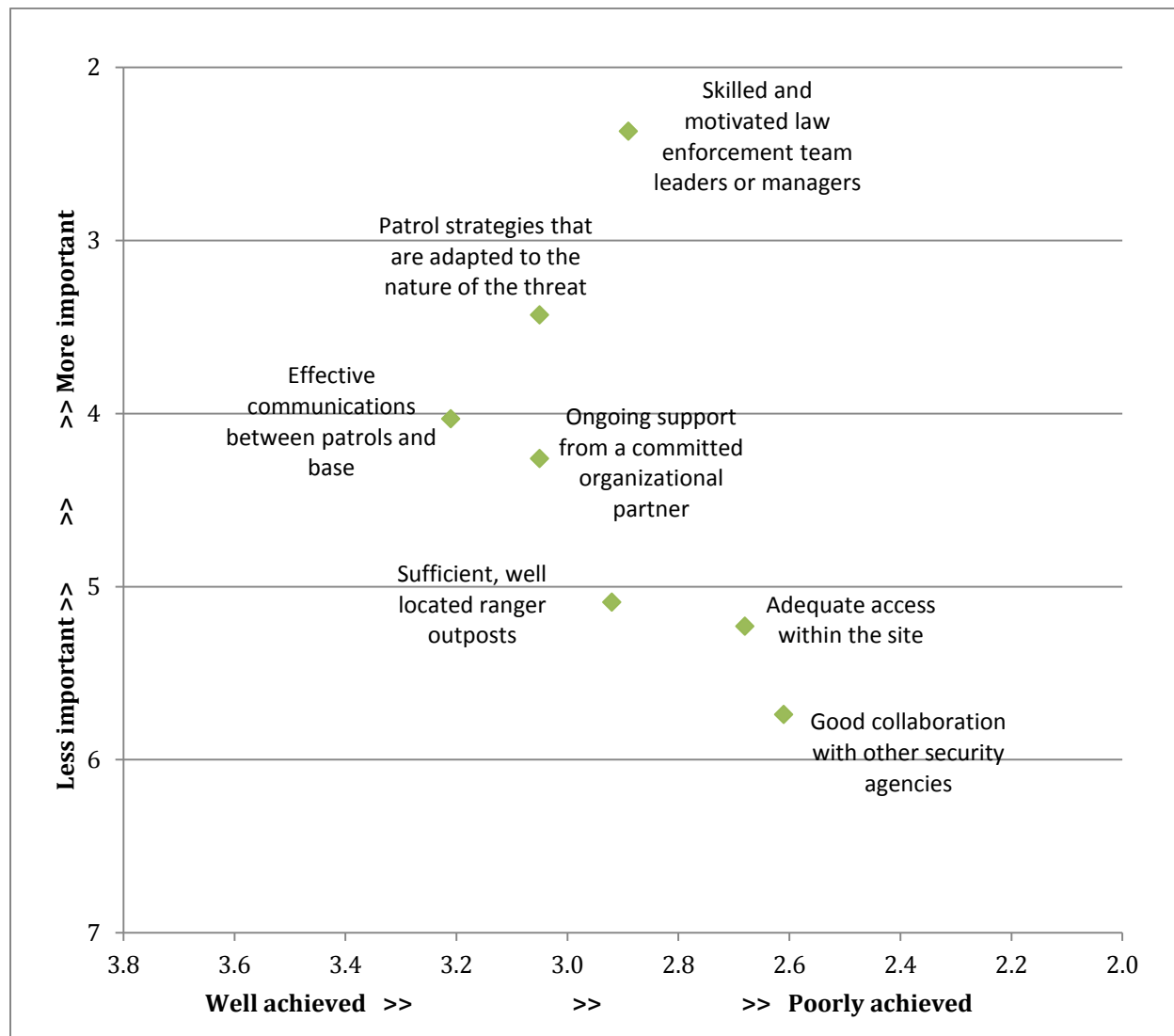
5.1 Online Survey Outputs

The outputs below provide examples of the quantitative analysis performed on the results of the online survey, which provided the foundations for the stakeholder consultations (see next section). It should be noted that these refer to an early version of the framework (for example, ranger based monitoring was organically considered as a separate pillar and as such does not feature in the graphs below).

5.1.1 Pillar 1: Law Enforcement Patrols



5.1.2 Pillar 2: Law Enforcement Management



5.2 Consultations Held

Location	Stakeholders Consulted
Combating Poaching and Illegal Trade Elephant and Rhino Workshop, Mozambique	Alistair Nelson, Country Director, Wildlife Conservation Society
	Nigel Morgan, Managing Director, Focus Africa/Pathfinder
	Jo Shaw, Rhino Coordinator, World Wildlife Fund, South Africa

Location	Stakeholders Consulted
Kruger National Park, South Africa	Ken Maggs Chief of Staff Special Projects, South African National Parks
	Sandra Snelling, Manager: Environmental Crime Investigation, Information, Analysis & Compliance, South African National Parks
KAZA Law Enforcement and Anti-poaching Workshop, Namibia	Colonel Isaac Kgosi Central Anti-Poaching Coordination Office, Botswana
	Morgan Saisai CBNRM Warden, Caprivi NP, Ministry Environment Tourism, Namibia
	Amos Gwema, Senior Investigations and Security Officer, Investigations and Security Department, Zimbabwe Parks & Wildlife Authority
	Russell Taylor, Transfrontier Planning Advisor, World Wildlife Fund, Namibia
iSimangalio Wetland Park, South Africa	Tony Conway, Park Manager, Kwa Zulu-Natal Wildlife
	Johann Gerber, Head: Anti-Poaching Unit, Kwa Zulu-Natal Wildlife
Mkuzi Game Reserve, South Africa	Carmen Van Ticklen, Specialist Wildlife Data and Rhino Security, Kwa Zulu-Natal Wildlife
WCS Gabon office, Libreville, Gabon	Gaspard Abitsi, Representant Directeur Général, Wildlife Conservation Society
	Eric Arnhem, Assistant Technique Senior – Paysage Terrestre, Wildlife Conservation Society
	Helene Blanchard, Assistante Technique SIG, Wildlife Conservation Society
	Elise Mazeyrac-Audiger, Assistante Technique Formation CEDAMM, Wildlife Conservation Society
	Emma Stokes, Regional Technical Advisor, Wildlife Conservation Society

Location	Stakeholders Consulted
ANPN offices, Libreville, Gabon	Hervé Ndong Allogho, Chef de Service chargé des Investigations, de la surveillance et de la Protection, Agence Nationale des Parcs Nationaux
	Omer Ntougou, Directeur de la Communication, Agence Nationale des Parcs Nationaux
	Joseph Vivien Okoui Okoui, Conservateur Sénior chargé des Parcs TRIDOM, Agence Nationale des Parcs Nationaux
Conservation Justice offices, Libreville, Gabon	Luc Mathot, Founding Director of Conservation Justice, EAGLE Co-Founder, Eco Activists for Governance and Law Enforcement
Lopé National Park, Gabon	Benoit Nziengui, Conservateur du Parc National de la Lopé, Agence Nationale des Parcs Nationaux
	Constant Avando, Chef de site WCS Lopé, Wildlife Conservation Society
	Gabin Nzamba, Point Focal LEM/Assistant de Recherche WCS Lopé I, Wildlife Conservation Society
	Jean-Cristophe Mboyi Nzengue, Point Focal LEM/Assistant de Recherche WCS Lopé II, Wildlife Conservation Society
ANCE-Togo Office, Lomé, Togo	Mensah Akomedi, Chargé de Projet, Alliance Nationale des Consommateurs et de l'Environnement
	Hèssouwè Bakenou, Coordinateur Project TALFF, Alliance Nationale des Consommateurs et de l'Environnement
	Fabrice Ebeh, Directeur Executif, Alliance Nationale des Consommateurs et de l'Environnement
	Sonia Akpédzé Mitchikpe, Chargé de Projet, Alliance Nationale des Consommateurs et de l'Environnement
Ministere de la Sécurité et de la Protection Civile, Direction Generale de la Police Nationale, Direction Centrale de la Police Judiciaire, Bureau Central National	Minpame Charles Bolenga, Commissaire Principal de Police, Chef BCN Interpol, Bureau Central National INTERPOL Lomé

Location	Stakeholders Consulted
INTERPOL, Lomé, Togo	
Ministere de l'Environnement et des Ressources Forestieres, Lomé, Togo	<p>Matchonnawè Hubert Bakai, Conseiller Juridique Advisory Board ECEC Interpol</p> <p>Okoumassou Kotchikpa, Direction des Ressources Forestières, Ministère de l'Environnement et des Ressources Forestieres</p>
OCTRIB, Lomé, Togo	<p>Lt. Essossimna Awi, Chargé de l' Unité Mixte Control des Containers (UMCC), Office Central de Répression du Trafic Illicite des Drogues et du Blanchissement</p>
Ministere de la Justice, Lomé, Togo	Koffi Jean Balouki, Judge d'Instruction, Tribunal de Lomé
Gonarezhou National Park, Zimbabwe	<p>Hugo van der Westhuizen, Project Leader, Gonarezhou Conservation Project, FZS</p> <p>Elsbe van der Westhuizen, Project Leader, Gonarezhou Conservation Project, FZS</p>
Malilangwe Wildlife Reserve, Zimbabwe	Mike Ball, Malilangwe Trust
South Luangwa National Park, Zambia	<p>Rachel McRobb, CEO, South Luangwa Conservation Society,</p> <p>Benson Kanyembo, Operations Manager – Law Enforcement, South Luangwa Conservation Society,</p>
North Luangwa National Park, Zambia	<p>Ed Sayer, Project Leader, North Luangwa Conservation Project, FZS</p> <p>Claire Lewis, Project Leader, North Luangwa Conservation Project, FZS</p>
Lusaka, Zambia	Kerri Redemayer, Operations Manager, Africa Parks Network

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