

Ensuring Effective Stockpile Management: A Guidance Document

By Tom Milliken and James Compton

Acknowledgement

The stockpile management guidance document was produced with financial support of the European Union in the context of the UNODC-CITES Asia Wildlife Law Enforcement and Demand Management Project. The contents of this document are the sole responsibility of TRAFFIC and do not necessarily reflect the views of the European Union. The authors are grateful to the European Union for this support.

INTRODUCTION

In most range States, wildlife specimens such as elephant ivory, rhinoceros horns or pangolin scales continually come into governments' hands through any number of *in situ* wildlife management or law enforcement actions. These activities include the retrieval of valuable parts when natural mortalities are found, whenever dehorning, culling, cropping, problem animal control or other similar management interventions are undertaken, and as part of anti-poaching or anti-trafficking operations in protected areas, at borders, or in internal illegal markets amongst other places. In an era of unprecedented globalised illegal trade, it is also true that ongoing law enforcement actions continuously deliver a range of products from high-profile endangered species to other government authorities throughout the world, with interdictions frequently occurring at points in the trade chain that lie vast distances away from the countries where targeted species naturally occur.

As a result, the development of effective stockpile management systems—which should never be an optional consideration in range States—have now become equally imperative in many transit and end-use destination countries too. This necessity arises from the fact that so many large-scale seizures of target specimens are repeatedly taking place in any number of countries and the security of these products needs to be responsibly addressed through storage until their judicious disposal or ultimate destruction.

As a global concern, the development and implementation of robust stockpile management programmes is essential for:

- reducing the risk of corruption and contraband leakage back into illegal trade;
- safeguarding the evidentiary basis of wildlife trade crime to support investigations, forensic examination and successful prosecutions;
- fostering a culture of custodial accountability and transparency; and
- efficiently delivering on an increasing list of annual international and national reporting requirements.

Concerning this latter point, the importance of secure stockpile management to prevent leakage has been recognised as a major concern under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). A series of CITES resolutions and decisions have mandated the marking of specimens, recording of inventories, annual reporting obligations for a range of government-held stocks of various species, including elephant ivory, rhinoceros horn and pangolin scales (see Annex 2). For countries implementing National Ivory Action Plans or noted in CITES decisions as 'countries of concern' with respect to illegal rhino horn trade, effective stockpile management is a key issue with growing scrutiny and evaluation under the direction of the CITES

Standing Committee. Failure to demonstrate competent stockpile management systems could prolong inclusion in remedial CITES oversight processes and may possibly lead to additional interventions as well. At CoP17, in Decisions 17.171 and 17.172, the Parties requested the Secretariat to develop and disseminate practical guidance on the management of ivory stockpiles, including disposal.

At the national level, especially in instances where certain wildlife products are legally traded, adept stockpile management programmes can become pivotal tools for ensuring that trade is properly organised, regulated and monitored. Successful management of stockpiles can also serve to produce pertinent information that is useful for wildlife management and law enforcement, including the provision of an accountable platform for forensic examination that maintains the chain of custody, the identification of poaching and trafficking 'hotspots', or the generation of important demographic data on population structure, trophy sizes and other species-specific considerations.

As curbing illegal wildlife trade grows in stature as a mainstream global concern, effective stockpile management programmes are increasingly being regarded as crucial 'best practice' against which the performance of individual countries is being evaluated within CITES oversight processes and beyond. This document is designed to serve as an overarching framework guide on the fundamental attributes of stockpile management and the range of considerations that need to be addressed to ensure effective national programmes. It outlines the components needed in a stockpile management system and is aimed at guiding countries in the development of long-term, secure, holistic stockpile management systems that are rooted in a legal mandate with designated authorities, prescribed roles and responsibilities and standard operating procedures.

There are diverse examples of stockpile management systems in a variety of countries that serve to achieve the basic objectives, thus there is no single prescription or 'blueprint' to advocate. For countries seeking to instigate comprehensive stock management programmes for the first time, or to re-organise existing structures, procedures and practices, a good starting point is to take stock and map the current situation against the issues outlined in this guidance document. In that regard, Annex 1 provides a useful checklist to assist such a process as an important first step in eliciting a list of salient issues that could form the elements of a future stepwise plan for developing and implementing a robust stockpile management system.

WHAT IS STOCKPILE MANAGEMENT?

Effective stockpile management systems are institutionalised processes within government that:

- are legally supported through legislation, regulations and standard operating procedures;
- unambiguously establish accountable management structures and governance regimes at all levels;
- clearly delineate the roles and responsibilities of individuals along the administrative and physical chains of custody under a range of likely circumstances for all stocks;
- provide detailed guidance on all procedures associated with the management of targeted stocks from first acquisition through secure storage to safe disposal or final destruction; and
- result in up-to-date, immediately retrievable, records of all items held in the stockpile, including their unique markings, provenance and other relevant information whenever consolidated summarised data are required.

The best stockpile management programmes unfold as uniform, integrated, holistic systems at the national level regardless of the 'who', 'where', 'when' or 'how' particular stocks come into government custody. Accordingly, a wildlife ranger in the field recovering ivory from an elephant

that died of natural causes, a Customs officer at an airport apprehending a suitcase full of contraband rhino horn, a port official at a seaport interdicting an entire container full of banned wildlife products like pangolin scales, or a police officer at a road block discovering illegal wildlife commodities in the boot of a vehicle all need to know exactly how to take custody of the items in question and proceed to catalogue, mark and otherwise process them as the first link in a stockpile management programme.

These same government personnel also need to know ‘who’ to report the compiled information to, and ‘when’ and ‘where’ to send such items to the next link in the system. This ensures that all stocks, which may originate from a range of diverse authorities in disparate locations, end up becoming registered in a consolidated system that is capable of generating a singular seamless record of the entire stockpile in a country regardless of its particular origin or where it is physically stored.

This allows all acquired stocks to be individually tracked through an unbroken chain of custody that simultaneously may entail different physical, legal or administrative dimensions until final consolidation in a designated secure storage facility under the management of a nominated authority. In the process, each stock specimen has become registered with its discreet identification markings, weight and other information duly captured in a national database holding all stocks. The basic idea is that, regardless of institutional affiliation, all potential actors in the chain of custody of targeted stockpile commodities behave in predictable ways by following a series of prescribed procedures to shape and maintain a comprehensive stockpile management system with accountable integrity and operational efficiency.

There is often confusion surrounding stock inventory events, misrepresenting them as a stockpile management system in its own right. In fact, stock taking, which results in the marking and registration of each individual piece of stock (i.e. an inventory), constitutes one of the most fundamental processes in the system. However, each such undertaking is the result of a certain set of circumstances and only yields an inventory of stocks at a specific place at a particular point in time. As singular static events, the status of stock inventories may quickly change due to the planned movement of stocks to other locations, the addition of further stocks through seizures or other events, or even a reduction of stocks owing to disposal, destruction, theft or other reasons. Effective stockpile management entails continuous systematic processes that consolidate all stock inventories into a single nationwide record capable of tracking the continuum and vagaries of stock accumulation, movement and removals over time.

Failure to develop robust stockpile management systems is sometimes driven by the misconception that there is no real need to maintain and secure stockpiles systematically if prevailing government policy is focused upon stock destruction. In fact, for a variety of reasons, destruction never negates the necessity of providing secure storage and accounting for all stocks through the chain of custody to some final solution. Where specimens derive from wildlife trade crime and serve as critical evidence in criminal prosecutions, associated court cases may take considerable time—even years—to complete but seized stocks must be held for the entire duration of legal proceedings. Indeed, under most circumstances, the destruction of stocks is rarely immediate and generally unfolds as a periodic event after a host of logistical and budgetary issues have been addressed, such as consolidating stocks at a particular location, undertaking an audit and preparing the means of destruction. In the interim, secure accountable storage remains a salient requirement irrespective of what ultimately happens to the stocks in question. Thus, the development of long-term stockpile management systems, including adequate storage facilities, is not an option but rather a permanent and inescapable challenge for any country that accumulates stocks through natural mortalities, management or law enforcement interventions.

THE BASIC COMPONENTS OF A STOCKPILE MANAGEMENT SYSTEM

The establishment of a robust stockpile management system rests on the following considerations.

Legal mandate and legislation—It is important legally to establish the mandate of an institutional authority (or authorities) within government to serve as the custodial agency (or agencies) for the consolidation, maintenance and disposal or destruction of targeted stockpile specimens. In most countries, any number of law enforcement authorities are empowered to make seizures when illegal acts of killing, possession, movement or trade are being committed. Irrespective of the circumstances of initial acquisition, eventually all target specimens in a stockpile management system need to be consolidated and managed by a nominated lead authority (or authorities) so there is no legal doubt concerning ultimate jurisdiction under the law. In most range States, such authority generally rests with the designated wildlife authority to which other law enforcement agencies direct the specimens that come into their possession according to codified procedures. In non-range States, sometimes Customs or the relevant Revenue Authority play the lead role. In some countries, more than one institutional authority may co-exist with a shared mandate for custody of targeted contraband. There is no single solution in terms of establishing the legal mandate for stockpile management but, whatever the prevailing practice, the lead authority (or authorities) need to be legally backstopped with legislation in place so there is no ambiguity in terms of which institutions ultimately take possession of targeted commodities and ensure their management and secure storage until legal disposal to another authority or final destruction.

Institutional roles and individual responsibilities—Once the lead institutional authority is clearly and appropriately established by law for custodial management of targeted wildlife specimens, another layer of regulatory directives is required to ensure strong internal administrative and security frameworks for the implementation of stockpile management. The obvious division between administrative functions and security responsibilities for the physical stocks is a paramount consideration and usually entails specifying different units within the lead authority in the interest of operational competency. Those units and staff charged with administrative roles are likely to become the primary point of contact whenever target stocks fall into the possession of government authorities, serve as the interface with those undertaking legal proceedings, maintain the centralised database on all stockpiles, handle all information management issues, including site-level, national and international (CITES) reporting requirements, make the logistical arrangements associated with stock consolidation, movements and disposal/destruction, and undertake annual administrative functions such as preparing budgets, maintaining infrastructure and equipment, organising audits and other such issues. Those units and staff charged with security at storage facilities are likely to come from the law enforcement branch of the institutional authority and possibly hold legal rights to bear arms owing to the value of many of the commodities to be stored. Each designated storage unit needs to be fit for purpose and serviced by an appointed storekeeper with articulated responsibilities for monitoring and securing the stocks held in the facility, including the control of all movements of individuals and stocks in and out of the store. Regulations need to ensure that legal accountability for all registered stocks is the core consideration and provide for periodic audits or spot checks as routine undertakings to confirm the status of the stocks in question. Whether administrative or security staff, all personnel need to have their stockpile management responsibilities clearly articulated in the terms of reference of their employment contracts, and faithful execution of such duties needs to be an integral part of annual performance evaluation assessments.

Standard Operating Procedures (SoPs) – To guide the operational roll-out of the stockpile management system at every level, it is important to develop a series of SoPs which are communicated to all government agencies and staff who may, for one reason or another, play supporting roles in the acquisition, movement or management of targeted commodities along the chain of custody. The broad dissemination of SoPs within government at national, provincial and site levels ensures that implementation proceeds in a relatively predictable manner. To the extent possible, each step in a stockpile management system needs to be anticipated and buttressed with prescribed procedures and, where appropriate, standardized formats used for documentation purposes so as to safeguard replicable continuity throughout the system regardless of ‘who’ or ‘where’ a particular task is being addressed. In this regard, routine and repetitive undertakings, such as the marking, weighing, measuring or otherwise registering of specimens, or conducting audits of stockpiles, are reliably and comparably achieved in a seamless fashion over time. Standardization allows for new data to be readily aggregated and integrated with existing data so that comparative assessments are possible, changes over time can be tracked and understood, and summary presentations of the stockpile’s status can be readily composed whenever required.

Given the range of inherent complexities of stockpile management, including highly specialised functions of certain players such as the national database manager or security personnel protecting a stockpile storage facility, a number of inter-related SoPs need to be developed, for example:

- *SoPs to guide inter-agency collaboration* – Irrespective of how government possession for targeted commodities is achieved at the first point of acquisition, the immediate concern is to assert legal custody over the stocks in question and to know which institutional agency will ultimately assume authority over them as they move through a chain of custody to reach a designated storage repository. In this regard, every arm of government that potentially could be part of the chain of custody in some physical or administrative manner needs to be provided with SoPs that outline the stepwise procedures they need to follow. Timely communication and administrative responsiveness between the relevant government agencies is of great importance in facilitating the consolidation of the stocks into the national inventory. Care needs to be taken to ensure that collaboration proceeds in an effective manner between the lead national or federal institution and related provincial, state or local authorities who may operate in distant parts of the country. Government structures in each country need to be assessed so that workable relationships and procedures are maintained to achieve the goals of stockpile management.
- *SoPs to standardize routine functions and tasks* – Whenever targeted wildlife commodities such as elephant ivory, rhinoceros horns or pangolin scales come into government custody, each item needs to be marked, measured, weighed and registered following a prescribed sequence and a species-specific format. There are various ways to do this, including the creation of bespoke systems that are tailored to particular management needs in either digital or manual formats, or both. For example, Stop Ivory, a U.K-based NGO, has developed for the Elephant Protection Initiative (EPI), a fairly sophisticated method for stocktaking called the Stockpile Management System (SMS)¹. The SMS employs an integrated software application that runs on a tablet computer or mobile phone to digitally collect inventory data, including a photograph of each item. The data is stored in a database structure under storage

¹ The Elephant Protection Initiative Foundation, was formed and appointed by EPI Member States as the EPI Secretariat, in place of Stop Ivory. Stop Ivory is now (November 2019) transferring assets, staff and responsibility to the EPI Foundation, a process that includes the SMS. In the near future, the SMS protocol will be identified as a product of the EPI Foundation.

protocols that are unique to each country, ranging from encrypted online servers, central government servers or locally-hosted servers at a secure location. Stockpile management (with a specific focus on ivory but also applicable to other designated commodities) in a number of African countries is presently being implemented using the SMS protocol, whilst many other nations effectively manage stocks using internally developed stock management systems. The point is for government authorities to embrace a suitable option – whether it is an ‘old school’ handwritten manual ledger, a basic digitised Excel spreadsheet, a sophisticated database structure with cloud-based data capture, or some combination of these choices – to comprise a system and ensure its effective implementation. The common thread in any particular management system should be that all procedures, documents, information and reporting needs proceed in a standardized and accountable manner irrespective of time, place or the individuals involved. This can only be achieved if all procedures are adequately mapped out in agreed SoPs which are widely disseminated to all potential actors in stockpile management.

- *SoPs to underpin data management* – A national stockpile database becomes the central component of any stockpile management system as it alone has the capacity to track the entire stockpile at any given point in time. As the backbone of the system, database management deserves special attention with at least one professional staff, a Database Manager, with appropriate skills at the helm to ensure that it is kept up-to-date and fully functional with respect to all stocks held in the country. Where stocks are held in various locations, the Database Manager needs to maintain regular contact with each core or peripheral storage facility to promote a steady flow of information on at least a monthly basis. Whilst this position may not require full-time commitment, it needs to maintain a clear focus as the heart of the stockpile management system. SoPs should clearly specify the monthly and annual reports that the Database Manager needs to produce, including periodic reconciliations of stock status, follow up on any discrepancies or problematic issues, the provision of stock inventories to individual storage facilities, and possibly the management of other related databases such as a national seizures database that tracks law enforcement actions that relate to the acquisition of targeted wildlife commodities.
- *SoPs to ensure security at storage facilities* – One or more core storage facilities, and possibly any number of peripheral holding sites, will be required as physical repositories for maintaining a range of valuable commodities from the point of initial acquisition through immediate to long-term storage. Security considerations require the institutionalization of any number of duties and protocols that are rigidly implemented without exception. For example, each designated storage facility needs to have an appointed storekeeper responsible for monitoring and securing the stocks in the store, handling keys and other security features, tracking all movements of individuals or stocks in or out of the store, maintaining a record of the stock inventory in preferably digital and manual forms, and keeping marked and registered stocks separate from newly acquired unmarked stocks. All of these important issues and related considerations require detailed SoPs which are then rigorously implemented to ensure the uniform security of stocks at all storage facilities throughout the country.

ISSUES WHICH COMPROMISE IVORY STOCKPILE MANAGEMENT

Institutionalizing stockpile management into a system fully capable of keeping pace with continuing ivory accumulation, stock movements and/or stock reductions across the country requires commitment to make it happen. The following factors serve to compromise progress toward the

development of ongoing, fully-fledged systems for managing target wildlife commodities in a country:

Ineffective political will to make the system work—The highest levels of government, especially the leadership of lead institutions, need to embrace the idea that competent stockpile management of valuable commodities from protected species is an integral element in the global fight against wildlife trade crime. In countries where commitment is equivocal and not viewed as a national imperative or an international obligation, the requisite systems will not be designed and implemented in an accountable transparent manner. In such cases, the prospect of mismanagement and corruption giving rise to stockpile leakage back into illegal trade remains a serious threat. Lead institutions legally charged with stockpile management need to demonstrate ‘best practice’ and, if necessary, external resources and expertise should be sought to support desired goals.

Lack of clarity regarding responsibility for stockpiles across the chains of custody—At every point in the chain of custody from first acquisition to long-term storage, there is an obvious need for structural clarity with respect to the security of targeted stocks. The history of illegal wildlife trade repeatedly demonstrates that where government responsibility is confused and imprecise concerning the possession of valuable items at any point in the chain of custody, there is high risk that accountability for such stocks erodes over time and they might disappear altogether. At each point in any chain of custody, without ambiguity or obvious gaps, a designated official of a relevant institution needs to be fully responsible for the custody of stocks until they are successfully delivered to the next point in the government control structure. Any confusion in terms of responsibility will seriously undermine even a well-intentioned stockpile management system over time.

Poor inter-governmental communication—Good communication and relationship-building is indispensable for making sure that the purpose of the stockpile management system is well understood and functions at an optimal level in all relevant agencies. It can be the case that knowledge of the system remains limited to those based at headquarters, but further afield others who may acquire targeted stocks remain completely uninformed concerning its basic implementation. Such a situation obviously needs to be avoided. It is important the all pertinent government institutions at national, provincial or local levels are adequately forewarned of their potential roles and responsibilities and are fully equipped with the relevant SoPs that outline and guide all procedures they may one day need to execute. A culture of regular outreach and interactive engagement between collaborative government agencies needs to be promoted and sustained. Where the lead institutional authorities fail to engage in timely, comprehensive and clear communication regarding stockpile management, *ad hoc* or improper implementation will act to undermine the institutional integrity of the system as a whole.

Insufficient capacity building and training for stockpile management—Both administrative and security staff will require some degree of training to do their stockpile management jobs adequately. Governments that fail to invest in capacity building may find difficulty in safeguarding the integrity of the system if its implementation proceeds in disparate ways. Specialized training in the programming and operation of the centralised database or other information management considerations may also be required to support innovative performance, including the development of various reports as routine automated outputs or sophisticated filtering or search functions to identify specific stocks quickly. Again, external funding of training events for key staff is something that should be considered if internal resources are not available.

Lack of centralised control over the management of primary data—Experience has demonstrated that where government authorities are not directly responsible for managing their stockpile data, for

example when it is remotely located on a server that is managed by someone else, over time there is no sense of ownership or accountability for its timely upkeep. This state of affairs is to be avoided and all databases used for stockpile management purposes need to be squarely under the control of the lead government authority and in the hands of a designated database manager with a range of responsibilities for keeping it current as the official record of the status of the stockpile.

Failure to standardise the tracking of stockpile movements—Decision-making around the movement of stocks needs to be clearly defined so that the relocation of any stocks proceeds in a fully accountable manner with an archived paper trail. Where procedures are unclear, decision-making can become problematic with stocks moving to places that are unwarranted or under circumstances where the chain of custody is broken or lost altogether. Written documentation that is appropriately signed and officially stamped needs to underpin every movement associated with targeted stocks from the point of first acquisition onwards. Copies of this documentation need to be maintained by relevant authorities along the pathway the stocks have followed, as well as be accessible to the database manager for ensuring the accuracy of both official amalgamated and site-based stockpile records.

OTHER CONSIDERATIONS

Costs of stockpile management

It is self-evident in most countries that targeted wildlife stocks will continue to accumulate from management and law enforcement actions regardless of the overarching policy framework concerning either their long-term storage or their regular destruction. Storage is not an option, but rather a manifest necessity in either policy because specimens in the hands of government will need to be stored from the moment custody occurs. Consequently, governments should expect to bear capital and recurrent costs for the establishment and maintenance of storage facilities, their security features and other equipment, and addressing a host of other stockpile management considerations such as the salaries of storekeepers, security personnel, the database manager and other staff, transport to and from storage sites, or the costs of moving or destroying stocks. Actual costs will depend significantly upon the extent of the stockpile management system as a nationwide undertaking against the prospect of co-opting pre-existing infrastructure, equipment and administrative positions for a range of purposes. For example, many countries already have adequate storage facilities that are used for safeguarding other forms of contraband which would be appropriate for holding valuable wildlife products as well. Or perhaps the database manager position could be integrated as a focus to established information management personnel already engaging in similar data processing and management activities. The point is that recurrent budgeting for stockpile management needs to be carefully considered against the current operational frameworks of the lead institutions. At the same time, it is appreciated that, where capital investment is required to construct appropriate facilities or remodel an existing one to make it fit for purpose, costs may be significant. In fact, some Africa elephant range States have requested and received donor funding for undertaking costly infrastructure development that supports stockpile management systems. Each country needs to properly assess the situation and devise workable budgets and work programmes.

Consolidation of stocks

In countries where a designated institutional authority is legally charged with stockpile management for wildlife commodities, it is often the case that stocks are consolidated into a single storage facility. Thus, stocks from all over the country come together even though they may derive from a variety of

different circumstances and were previously part of any number of discreet stock inventory events (see Annex 3). Generally speaking (but not always), centralised storage facilities are typically found in or near the capital cities of most nations, especially those which have relatively good infrastructure that allows the target commodities to be consolidated effectively. In many respects consolidation serves to simplify stockpile management under a single administrative and security system which offers advantages in a variety of ways, including reporting. However, this is not always possible given the physical geography of many large nations, in cases where seasonal or year-round logistical concerns owing to poor infrastructure are significant issues, when stockpiles are particularly large, or where costs outweigh the benefits of consolidation. Such factors can compel the need for multiple storage facilities in distant parts of a country on either a temporary or long-term basis. In situations where stockpile management becomes a shared responsibility across the country either in terms of physically separate branches of a single institutional authority or amongst two or more separate agencies, the need to standardize procedures, especially as they relate to the marking of specimens and their registration in the system, is all the more acute. For example, annual reporting to CITES will require that the stock information of all custodial facilities be merged into a single declaration on the status of stocks, thus its effective execution must entail a strong measure of internal or intra-agency collaboration against established time frames. Where multiple players need to contribute information, best results may be achieved when a lead institution is selected from a task force comprised of all relevant stockpile management institutions to consolidate the data and handle responsibilities for its submission to CITES. In sum, there is no single 'best practice' solution concerning stockpile storage and Annex 4 further addresses storage facility security and related issues.

Destruction of stocks

Given the often burdensome costs, risks and responsibilities associated with securing stockpiles of such value, some countries choose the option of regular destruction. However, it needs to be appreciated that destruction never actually negates the inevitability of stock inventory control, physical storage and associated costs. There are circumstances under which destruction of stocks should never be considered, especially those specimens that constitute evidence in pending court cases. 'Best practice' destruction should entail an independent audit of the stocks in question so that a collaborating record of what was destroyed is available as an integral part of the stock management process; indeed, there have been cases where 'destroyed' stocks have actually ended up back in illegal trade. CITES guidelines for disposal of stocks of species that remain in Appendix I also need to be closely followed.

Resolution Conf. 17.8 (*Disposal of illegally traded and confiscated specimens of CITES-listed species*) provides guidelines on the disposal of CITES specimens, recommends the following:

a) Parties dispose of confiscated and accumulated dead specimens of Appendix-I species, including parts and derivatives, only for bona fide scientific, educational, enforcement or identification purposes, and save in storage or destroy specimens whose disposal for these purposes is not practicable; and

b) as a general rule, confiscated dead specimens, including parts and derivatives, of Appendix-II and Appendix-III species be disposed of in the best manner possible to achieve the purposes of the Convention, and steps be taken to ensure that the person responsible for the offence does not receive financial or other gain from the disposal and that such disposal does not stimulate further illegal trade.

Generally speaking, the destruction of valuable wildlife product stocks has been done on many occasions without any monetary compensation, particularly where stocks of illegal origin are concerned and where governments wish to publicize their commitment towards curbing illegal trade in wildlife. But it needs to be appreciated that destruction also entails expenditure such as the costs of transport of stocks to destruction sites, fuel (if burning is the means of destruction), payment for the services of all involved personnel in the event as well as any dismantling or clean-up following a destruction event. It also is true that costs escalate with the scale of the event which can involve budgets of up to USD50,000 to undertake. Finally, the means of destruction needs to be carefully considered in order to minimize negative environmental impacts. It goes without saying that large-scale burning events in an age of extremely challenging climate change may be difficult to justify and alternative destruction methods need to be explored.

Implications of continued theft and leakage from government stockpiles

Curbing illegal wildlife trade that is pushing a range of iconic endangered species closer to the brink of extinction remains a growing global concern. For individual countries, pressures to combat illegal trade remain acute, especially under CITES where various oversight processes have been developed to address obvious shortcomings that impinge progress. Failure to secure valuable wildlife stocks through effective stockpile management programmes is one important issue that negatively shapes a country's reputation internationally especially when leakage back into illegal trade becomes documented. Currently, a range of donors are open to supporting the development of robust stock management programmes but, when stockpile thefts point to negligence and corruption, access to donor funding can become compromised.

CONCLUSIONS

From a wildlife conservation perspective preventing government-held stockpiles of valuable wildlife trade commodities from leaking back into illegal trade is the paramount concern. Countries which lack robust stockpile management systems and are unable to demonstrate secure storage of targeted stocks, run a much higher risk of losing them over time to illegal trade. Failure to develop comprehensive stockpile management systems also means that countries are unable to meet their annual international reporting requirements under CITES concerning the status of targeted stocks. For CITES Parties that are identified as countries of concern and part of oversight processes to curb wildlife trade crime, robust stockpile management becomes a pressing concern. Such countries need to make evident competent systems of control that are well implemented or face possible sanctions pursuant to the CITES compliance resolution. Paragraph 30 of the Annex to Resolution Conf. 14.3 (*CITES compliance procedures*) states:

30. In certain cases, the Standing Committee decides to recommend the suspension of commercial or all trade in specimens of one or more CITES-listed species, consistent with the Convention. Such a recommendation may be made in cases where a Party's compliance matter is unresolved and persistent and the Party is showing no intention to achieve compliance or a State not a Party is not issuing the documentation referred to in Article X of the Convention. Such a recommendation is always specifically and explicitly based on the Convention and on any applicable Resolutions and Decisions of the Conference of the Parties.

In the end, stockpile management is a permanent and inescapable reality irrespective of any policy prerogative that promotes the eventual destruction of stocks rather than long-term storage. For all countries, effective stockpile management—like proactive law enforcement at ports of entry and in

the marketplace or the imposition of sufficient penalties that signal serious crime—becomes one of the pillars upon which a country’s commitment to fighting wildlife trade crime will be assessed.

Annex 1: A Checklist to Assess the Status of Stockpile Management at the National Level

The following checklist is designed to help countries evaluate the current status of stockpile management at the national level by assessing a range of issues that are important attributes for ensuring legally-based, efficient administrative systems that offer appropriate security and accountability. In order to understand the scope of stockpile management in a holistic, integrated fashion, the following checklist provides a useful initial step for any country attempting to develop a nationwide system for the first time. Equally, it is also a good starting point for any country wishing to reconsider their present system with a view towards identifying gaps and making it more robust and secure through further actions. This checklist is not exhaustive and may require the inclusion of additional questions depending on national circumstances, but it functions as a diagnostic tool to develop a comprehensive workplan towards achieving best-practice stockpile management.

No.	Stockpile Management Component / Question	Response (Tick one)		Solution to 'No' Response
1.	<i>Establishing a sound legal mandate for stockpile management</i>			
1.1	Is national legislation in place to establish a mandate for one or more lead institutional authority(-ies) to consolidate, maintain, manage and/or dispose of designated wildlife product stocks that come into government custody?	Yes	No	Amend existing or develop new legislation that specifies one or more government authority responsible for stockpile management.
1.2	Does national legislation specify the overarching purpose and basic institutional framework of the stockpile management system?	Yes	No	Amend existing or develop new legislation to outline the general purpose of stockpile management and its basic structure.
1.3	Does national legislation establish accountability and make the security of government stocks a priority concern?	Yes	No	Amend existing or develop new legislation to ensure that security of stocks is primary government objective.
1.4	Do implementing regulations define the scope concerning which wildlife commodities or products need to be part of the stockpile management system?	Yes	No	Develop and implement regulations that specify unambiguously the wildlife commodities and products for stockpile management.
1.5	Do implementing regulations specify marking systems and the information relating to specimens that needs to be recorded for each of the target commodities and their timely execution?	Yes	No	Develop and implement regulations that specify the timeframes and marking procedures for each targeted wildlife commodity slated for stockpile management.

1.6	Do implementing regulations require a national database for tracking all stocks?	Yes	No	Develop and implement regulations that mandate information management of all stockpile information in a national database.
1.7	Do implementing regulations mandate reporting of stocks through government channels, including in fulfilment of international reporting requirements?	Yes	No	Develop and implement regulations that mandate regular reporting requirements on the status of stocks to fulfil national and international obligations.
1.8	Do implementing regulations mandate periodic audits of government stocks?	Yes	No	Develop and implement regulations that mandate periodic audits to take place at least annually.
2.	<i>Defining institutional roles and responsibilities for effective and secure stockpile management</i>			
2.1	Do lead agencies for stockpile management have an authorized structure for the administration of stockpile management?	Yes	No	Integrate a comprehensive stockpile management programme within the institutional structure of the lead agency so that key administrative and security functions are accommodated for within existing or new staff positions.
2.2	Has an operational protocol for stockpile management been developed that describes the system through various chains of custody from first acquisition to placement in a storage facility for safekeeping to disposal or final destruction?	Yes	No	Map out the probable chains of custody of targeted stocks and develop protocols for their passage to designated storage facilities under the control of the lead agency.
2.3	In the operational protocol, at each step along the chain of custody, is the person ultimately responsible for the stocks at hand clearly identified?	Yes	No	Ensure that operational protocols identify government staff who are responsible for the security and accountability of stocks at each point in the chain of custody.
2.4	If more than one lead agency is involved in stockpile management, has a coordination mechanism and structure been established to facilitate regular communication, joint implementation, standardisation, information management and reporting, etc. between the designated institutions?	Yes	No	Develop inter-agency mechanisms that ensure collaboration with other law enforcement and administrative authorities for taking targeted stocks into custody and their subsequent management in accordance with the stockpile management system.
2.5	Beyond the lead agencies, are other institutions which may be responsible for seizing targeted stocks aware of the stockpile	Yes	No	Institutionalize and promote stockpile management communication between the lead agency(-ies) and

	management system and integrated into its operation and implementation?			other authorities that may play roles in the chain of custody for targeted stocks.
2.6	Are internal and external reporting requirements on the status of stocks clearly established with designated personnel responsible for their execution?	Yes	No	Ensure that all reporting obligations are clearly understood by all actors in the chain of custody and that designated personnel understand their precise roles.
2.7	Are penalties for failure to secure stocks adequately or implement the stockpile management system clearly articulated in the regulations of the lead institutions?	Yes	No	Establish penalties for failure to implement the effective stockpile management, especially lapses that jeopardize security and result in missing or unaccountable stocks.
2.8	Are ivory stock management responsibilities clearly described and included in the Terms of Reference (ToRs) of employment contracts of key personnel so that future accountability is evident from the outset?	Yes	No	Ensure that the ToRs of all key personnel (the database manager, the storekeepers of storage facilities, etc.) include specific mention of stockpile management duties and obligations.
2.9	Are stockpile management responsibilities of key staff assessed during annual performance evaluations?	Yes	No	Ensure that annual performance evaluations of key personnel review and evaluate the implementation of stockpile management duties.
3.	<i>Developing Standard Operating Procedures (SOPs) to promote uniform and accountable performance for stockpile management</i>			
3.1	Have potential chains of custody been anticipated and mapped out so that most avenues of first acquisition of targeted stocks have been addressed and are supported with relevant SOPs concerning what to do next?	Yes	No	Undertake a comprehensive exercise with relevant stakeholders to map out potential chains of custody concerning the acquisition of targeted stocks and develop SoPs for each of the anticipated scenarios.
3.2	For each particular function in the chain of custody (i.e. taking custody of stocks, marking and registration, recording and reporting of information, forensic examination, use as evidence in court cases, transfer to temporary or long-term storage facilities, audit procedures, etc.), are SoPs in place and available to relevant staff so that implementation at a national level always proceeds in a standardised manner?	Yes	No	With key stakeholders and reference to the overarching legislation and regulations, develop a series of function-specific SoPs that collectively address all of the various steps that comprise the stockpile management system.

3.2.1	... do law enforcement staff operating at ports of entry/exit, in protected areas, policing markets, or investigating wildlife trade crime have access to SOPs if they find, detect, seize or otherwise take custody of targeted stocks?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel who will be operating in a variety of locations under different circumstances that deliver targeted stocks into government custody.
3.2.2	... do law enforcement staff who engage in criminal investigations or judicial proceedings relating to targeted stocks, etc. have access to SOPs on securing, managing and finally disposing of targeted stocks that were used for forensic examination, as evidence court cases or other related activities?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel that implement procedures for stocks that are part of criminal investigations, forensic examination, evidence in court cases or other related law enforcement processes.
3.2.3	... do administrative and security staff at core or peripheral storage facilities for targeted stocks have access to SOPs on securing, marking and registration, moving, or disposing of targeted stocks in their possession?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel that implement procedures for cataloguing all individual specimens so that they are marked, registered and appropriately inventoried and the information becomes part of the national stockpile.
3.2.4	... do administrative and security staff at core or peripheral storage facilities for targeted stocks have access to SOPs on moving or disposing of targeted stocks in their possession?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel that implement procedures for transporting stocks to new locations or engaged in their disposal or final destruction.
3.2.5	... do administrative staff at the local, regional or national levels all have access to SoPs that support overall implementation, coordination, tracking, national and international reporting, etc. of the stockpile management system?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel that will supervise procedures for implementing, coordinating, tracking and reporting on actions taken with stockpile management on a regular basis.
3.2.6	... are site-specific security staff fully apprised of the risks associated with stockpile management and have access to SOPs that detail security considerations?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel that implement procedures with respect to the importance of security for all targeted stocks in the stockpile management system.

3.2.7	... are SOPs readily available for the appointed storekeeper at each designated core or peripheral storage facility for a range of responsibilities and circumstances that are likely to unfold.	Yes	No	Review and ensure that SoPs are available to inter-agency personnel charged with overseeing and implementing procedures and security features at each designated core and peripheral storage facility, including the handling of keys, maintenance of all security devices, overseeing access of people and stocks into and out of the facilities, the registration of all stocks and the tracking of their movements, the maintenance of manual or digital systems that detail and ensure that stock inventories are up-to-date, the timely reporting of any breaches of security or other problematic issues, etc.
3.2.8	... are data management functions underpinned by SOPs so that staff at local, regional or national levels understand the requirements and are equipped to undertake them effectively?	Yes	No	Review and ensure that SoPs are available to inter-agency personnel with responsibilities for data management at all levels in the chain of custody for individual specimens so that the current status of the stockpiles is kept up-to-date and readily available whenever required.
4.	<i>Building capacity for stockpile management</i>			
4.1	Are security staff associated with core or peripheral storage facilities adequately trained and equipped to ensure that targeted stocks remain secure from theft and leakage?	Yes	No	Ensure that training courses address stockpile management concerns such as the protection of stocks at storage facilities, the security features and other associated issues, including risk assessment.
4.2	Does training for those holding supervisory positions specifically address stockpile management responsibilities and functions?	Yes	No	Ensure that a module on stockpile management is part of the periodic training for those with responsibilities for its implementation.
4.3	Does the Database Manager within the stockpile management system benefit from specialised training so that information management functions keep abreast of contemporary innovations?	Yes	No	Provide for periodic training so that all database systems reflect current IT realities to the extent possible.

5.	<i>Financing the stockpile management programme so that it realises its full potential</i>			
5.1	Is stockpile management specifically built into the budget of the lead institution(-s) charged with the long-term holding, disposal and/or destruction of targeted stocks?	Yes	No	Develop specific budget lines in the budget of the lead institution that address the costs of stockpile management.
5.2	Is recurrent expenditure for stockpile management adequately accounted for within current budgetary processes?	Yes	No	Although full-time stockpile management staff positions are very limited (and possibly there are none at all), it is still very important to cost out a budget for all staff engaged in stockpile management so that it is recognized as a recurrent budgetary consideration by government.
5.3	Is capital investment required and available in existing budgets to construct or remodel storage facilities or other infrastructure for holding stocks to ensure adequate space and security or the purchase of essential equipment such as computers for information management?	Yes	No	Prepare budgets for capital investment projects even if they are aspirational future plans as the prospect of current government funding is not immediately at hand.
5.4	Are annual stockpile management workplans developed to support the continuous operation and development of the full programme over time?	Yes	No	Ensure that annual stockpile management workplans are developed and assessed each year.
5.5	Are current resources available to government adequate to support a robust stockpile management system?	Yes	No	Determine the shortfall between available resources and actual costs of stockpile management and discuss if there are ways to harness additional support.
5.6	Have external donors ever been engaged to support stockpile management programmes in your country?	Yes	No	Develop funding proposals for external donors as appropriate to support aspects of stockpile management.

Annex 2: CITES Reporting Requirements on Stocks of Selected Species

CITES is increasingly asking for accountability in terms of stockpile management for a range of species. Currently the status of government stockpiles for three family groups, African and Asian elephants, African and Asian rhinoceros and pangolins, are subject to annual reporting to the CITES Secretariat by the 28th of February each year (Table 1). Various other resolutions and decisions call for effective stockpile management for other species as well such as tigers and other big Asian cats, Saiga and Tibetan antelope and pythons, although reporting to the Secretariat has not been mandated.

Table 1: CITES stockpile reporting requirements

CITES Resolution	Species / Products	Requirement	Type of Information to Report	When
Resolution Conf. 10.10 (Rev. CoP17)	African and Asian Elephants Elephant ivory	Maintain and report ivory inventories to CITES Secretariat annually	Number of pieces and their weight by type of ivory (raw or worked), their markings in accordance with CITES provisions for marking ivory; the source of the ivory; and the reasons for any significant changes in the stockpile compared to the preceding year.	By 28 February each year
Resolution Conf. 9.14 (Rev. CoP17)	African and Asia Rhinoceros Rhino horns	Maintain and report rhino horn inventories to CITES Secretariat annually	Identification number of each piece (if allocated), date received, country of origin, type of specimen (e.g. whole horn or piece), acquisition (e.g. seized, confiscated or found), and weight (kg).	By 28 February each year
Decision at SC69* *If this decision is not incorporated into Resolution Conf. 17.10 at CoP18, it is likely to fall away.	Pangolins Pangolin scales and other specimens	Maintain and report pangolin inventories to CITES Secretariat annually	The level of stock, including where possible, privately held pangolin scales; the date of acquisition; the source of the stockpile; and the reasons for any significant changes in the stockpile.	By 28 February each year

The text of the relevant resolutions and decisions that urge maintaining and reporting on stockpiles by the Parties are as follows:

African and Asian Elephants:

Resolution Conf. 10.10 (Rev. CoP17) (*Trade in elephant specimens*), in paragraph 6, e, states the following with respect to reporting ivory stocks:

6. FURTHER URGES those Parties in whose jurisdiction there is an ivory carving industry, a legal domestic trade in ivory, an unregulated market for or illegal trade in ivory, or where ivory stockpiles exist, and Parties designated as ivory importing countries, to ensure that they have put in place comprehensive internal legislative, regulatory, enforcement and other measures to:

... e) maintain an inventory of government-held stockpiles of ivory and, where possible, of significant privately held stockpiles of ivory within their territory, and inform the Secretariat of the level of this stock each year before 28 February, inter alia to be made available to the programme Monitoring the Illegal Killing of Elephants (MIKE) and the Elephant Trade Information System (ETIS) for their analyses, indicating the number of pieces and their weight per type of ivory (raw or worked); for relevant pieces, and if marked, their markings in accordance with the provisions of this Resolution; the source of the ivory; and the reasons for any significant changes in the stockpile compared to the preceding year.

In terms of the information of each item in the ivory stockpile that could be reported to the CITES Secretariat, Notification to the Parties No. 2019/012 of 5 February 2019 presents a model table for such use that contained the following fields:

MODEL INVENTORY FOR THE DECLARATION OF AN IVORY STOCK

(Notification No. 2019/012)

Government or Privately-Held Stocks of Elephant Ivory

<u>For Raw Ivory</u>	<u>For Worked Ivory</u>
Identification number (tusk number)	Description
Date received (dd.mm.yyyy)	Date received (dd.mm.yyyy)
Country of origin (country name or 'unknown')	Country of origin (country name or 'unknown')
Type of specimen (e.g. whole tusk or broken piece)	Source (e.g. seized or confiscated)
Acquisition (e.g. seized, confiscated, found or PAC)	Weight (kg)
Weight (kg)	Length (cm) (straight line from base to tip)
Length (cm) (straight line from base to tip)	
Circumference at widest part (cm)	

African and Asian Rhinoceros:

Resolution Conf. 9.14 (Rev. CoP17) (*Conservation of and trade in African and Asia rhinoceros*), in paragraph 2, q, states the following with respect to reporting rhinoceros horn stocks:

2. URGES

a) all Parties that have stocks of rhinoceros horn to identify, mark, register and secure such stocks, and declare these to the Secretariat each year before 28 February, in a format to be defined by the Secretariat;

b) the Secretariat and other appropriate bodies, where possible, to assist those Parties with inadequate legislation, enforcement, or control of stocks, by providing them technical advice and relevant information.

In terms of the information of each item in the rhino horn stockpile that could be reported to the CITES Secretariat, Notification to the Parties No. 2019/011 of 5 February 2019 presents a model table for such use that contained the following fields:

MODEL INVENTORY FOR THE DECLARATION OF RHINOCEROS HORN

(Notification No. 2019/011)

Identification number (if allocated)
Date received (dd.mm.yyyy)
Country of origin (country name or 'unknown')
Type of specimen (e.g. whole horn or piece)
Acquisition (e.g. seized, confiscated or found)
Weight (kg)

Unlike the guidance on reporting of elephant ivory stocks provided by the Secretariat, that for rhino horn does not specify anything in terms of worked rhino horn even though trade in beads, bangles, pendants, small cups and a range of small products have increasingly comprised the trade.

Pangolins:

A resolution on the conservation of and trade in pangolins and their parts and derivatives was only adopted by the CITES Parties at CoP17 in September/October 2016. Resolution Conf. 17.10, in paragraph 3:

ENCOURAGES Parties on whose territories stocks of parts and derivatives of pangolins exist, to ensure that adequate control measures are in place to secure these stocks, and to ensure strict application of these measures;

however, it does not mandate the annual reporting of such stocks to the CITES Secretariat. In this regard, a decision was subsequently agreed at the 69th meeting of the CITES Standing

Committee (SC69) in November/December 2017 as recorded in SC69 Sum 10 (Rev. 1), paragraph 57, a, i, which states the following:

a) The Standing Committee encourages all Parties to:

i) maintain an inventory of government-held stockpiles of pangolin scales and other specimens, including seized and confiscated specimens and, where possible, of significant privately held stockpiles of pangolin scales within their territory, and inform the Secretariat of the level of this stock and date of acquisition; the source of the stockpile; and the reasons for any significant changes in the stockpile before 28 February.

Pursuant to this decision, it remains unclear whether any Parties have actually reported any pangolin stocks to the Secretariat. Further, unless the SC69 decision is incorporated into Resolution Conf. 17.10 at CITES CoP18, it remains unclear whether this requirement for reporting of pangolin specimens will remain operative in the future. Further, the format and content for reporting pangolin stocks to the Secretariat have not yet been specified under CITES.

Annex 3: How to Conduct a Stock Inventory

Purpose:

As a reoccurring first step in stock management, the purpose of a stock inventory in the context of a broader stock management programme is to identify, mark and register all stocks within a country in order to produce and maintain a consolidated record of every item in the stockpile at any particular point in time. As such, a completed stock inventory should be recognized as an official government document cataloguing a valuable state asset and have certifiable status as a legal record in a court of law. Stock inventories should serve to:

- **promote compliance with national and international legal requirements**, including reporting to the CITES Secretariat on the status of specified stockpiles (i.e. elephant ivory, rhinoceros horn and pangolin scales) by 28 February in each calendar year;
- **support effective law enforcement against wildlife trade crime**, including safeguarding evidence in the prosecution of criminal cases, conducting forensic examination, and preventing corruption and stock leakage back into illegal markets;
- **reinforce wildlife management through the generation of valuable information** on species and their origin, metamorphic data on the specimens that is useful in population modelling and other research, and other issues that could benefit decision making for conservation and management purposes.

Accordingly, those with official responsibilities for stockpile management should be legally accountable for ensuring that all stocks remain secure, with the execution of periodic audits with reference to contemporary data. The most recent consolidated species-specific stock inventory should serve as the official and complete record of a country's stockpile's status for reporting or other purposes whenever required.

Conducting a stock inventory:

Basic considerations—An ongoing process of periodic stock inventories is the essential basis of a country's stock management programme. The first time a comprehensive stock inventory for the species in question is undertaken establishes the baseline account of a country's stockpile. Thereafter, subsequent inventories should either add newly acquired stocks as appropriate, or subtract any stocks which have subsequently been destroyed, removed, stolen or otherwise lost as items in the stockpile. In this regard, stock inventories proceed on an iterative basis that ideally unfold according to a standardised process in terms of the information collected, the marking of specimens and the capture of each stock record in electronic or manual formats.

Alignment with CITES requirements—Stock inventories need to be conducted in such a manner that they serve to implement CITES requirements on a range of fronts as outlined in Resolution Conf. 10.10 (Rev. CoP17) (*Trade in elephant specimens*) (see Annex 2). For example, for elephants, the section entitled *Regarding marking*, the Resolution:

2. RECOMMENDS that whole tusks of any size, and cut pieces of ivory that are both 20 cm or more in length and one kilogram or more in weight, be marked by means of punch-dies, indelible ink, or other form of permanent marking, using the following formula: country-of-origin two-letter ISO code, the last two digits of the year / the serial number for the year / and the weight in kilograms (e.g. KE 00/127/14). It is recognized that different Parties have

different systems for marking and may apply different practices for specifying the serial number and the year (which may be the year of registration or recovery, for example), but that all systems must result in a unique number for each piece of marked ivory. This number should be placed at the 'lip mark', in the case of whole tusks, and highlighted with a flash of colour;

Further, in the section 'Regarding trade in elephant specimens', the Resolution addresses the need for ivory stock management and regular reporting to the CITES Secretariat by calling upon governments to:

c) introduce recording and inspection procedures to enable the Management Authority and other appropriate government agencies to monitor the movement of ivory within the State, particularly by means of:

i) compulsory trade controls over raw ivory; and

ii) comprehensive and demonstrably effective stock inventory, reporting, and enforcement systems for worked ivory;

and

e) maintain an inventory of government-held stockpiles of ivory and, where possible, of significant privately held stockpiles of ivory within their territory, and inform the Secretariat of the level of this stock each year before 28 February, inter alia to be made available to the programme Monitoring the Illegal Killing of Elephants (MIKE) and the Elephant Trade Information System (ETIS) for their analyses, indicating the number of pieces and their weight per type of ivory (raw or worked); for relevant pieces, and if marked, their markings in accordance with the provisions of this Resolution; the source of the ivory; and the reasons for any significant changes in the stockpile compared to the preceding year;

Concerning forensics, in the section entitled 'Regarding the traceability of elephant specimens in trade', the Resolution:

22. URGES Parties to collect samples from large-scale ivory seizures (i.e. a seizure of 500 kg or more) that take place in their territories, preferably within 90 days of the seizure or as soon as allowed under judicial processes, and provide these to forensic and other research institutions capable of reliably determining the origin or age of the ivory samples in support of investigations and prosecutions;

An iterative process of regular ivory stock inventories should buttress a country's ability to satisfy all CITES requirements noted above so that a contemporary updated record is available at least on an annual basis.

Initial planning—Depending on the location and status of stocks, a stock inventory may be achieved in a one-off exercise at a single site, or it could involve a repetition of multiple exercises in many disparate places which all hold stocks. Before commencement, a detailed planning exercise is necessary to identify all authorities or institutions which presently hold unregistered stocks and should participate in the stock inventory exercise. In countries where the authority for stock management has been legally assigned in national legislation, the designated agency should be sufficiently empowered to conduct inventories and take possession of all relevant stocks for storage purposes as a straightforward administrative imperative rooted in law. Where authority for stock management is unclear or is a shared responsibility between a number of different government

agencies, some kind of inclusive process involving all stakeholders needs to occur so that stock management at the national level can proceed in an integrated manner capable of delivering an inventory that encompasses all stock holdings found throughout the entire country.

Development of a stock inventory workplan and budget—Stock inventories should proceed on the basis of an agreed workplan and budget. For budgetary, logistical and administrative purposes, the planning process needs to determine which government agencies hold relevant stocks of the species in question, the estimated number of pieces in these stockpiles, where the stocks are located and, if relevant, where the stocks will be moved for future consolidation. For a first-time inventory exercise, the procedure needs to encompass a country's entire stockpile and serve to establish the baseline data that defines the stockpile. For all stock inventory events, it is necessary to plan a schedule that allows all targeted sites to be visited with sufficient time for the stocks to be measured and marked and the data recorded in a prescribed manner. Following the registration, the stocks need to be restored to the local facility holding the stocks or, alternatively, prepared to be moved to a prescribed facility in another location.

The planning should also ensure that all the necessary equipment will be procured and available at site where stocks will be registered into the system. In this regard, it is recommended to have sufficient medium-tip black indelible ink markers for marking all tusks or pieces in the inventory, accurate scales for weighing the products (if hanging scales, cloth, rope or cords for making a sling to hold the tusks will be necessary), and tape measures for measuring the dimensions of products (if such information is to be collected). If the stock management protocol necessitates photographs of each piece, digital cameras or some other appropriate device and a neutral background cloth should also be on site. Although for elephant ivory CITES exempts specimens less than 20 cm in size or 1 kg in weight, it is recommended that all such items be included as part of the inventory; in this regard, small pieces can be grouped together and sealed as appropriate in plastic bags that carry the identification number pursuant to the CITES marking as an aggregated item in the inventory. The same is true for small rhino horn pieces or powder. Pangolin scales are also commodities for which affixing individual marking is difficult so aggregating scales into sealable bags that record the number of pieces and weight is probably the most useful way to proceed in terms of stock inventories. For this purpose, transparent plastic bags should be procured for this purpose and be available at the site. For information capture, laptop computers or tablets need to be present so that all information can be captured in a systematic manner in an electronic format (basic practice would be served by a standardised Excel spreadsheet). As a cross-check, best practice also dictates the simultaneous manual collection of data using printed data collection forms (usually in a standardised Excel spreadsheet format so that each line constitutes a single entry and each page allows multiple entries) should be present. Manual data collection is best supported by the use of clipboards to form a stable writing surface. Finally, sufficient manpower needs to be deployed to execute a stock inventory, including individuals charged with moving the stocks into the registration area and then back into the storage facility, and other staff for the specialised tasks of weighing, marking and recording data in electronic and manual formats. Dual data collection is recommended as a safeguard to ensure accuracy.

Agreement on the data collection format—Stock inventories need to be designed to accommodate a minimum set of informational needs that minimally satisfy compliance with CITES requirements but could include additional information of interest to national authorities or others. Using elephant ivory as an example, the data collection format must include the following:

- numerical order of data entry (i.e. 1, 2, 3, 4, etc.) for tracking purposes of the number of items in the stockpile;

- country identification using two-letter ISO code (i.e. KE for Kenya; KH for Cambodia; VN for Viet Nam; etc.);
- year of acquisition in the stockpile (i.e. 2018, 2019, or if rendering as two digits, 18, 19, etc.);
- a discreet serial or registration number (i.e. 001, 002, 003 ...101, 102, 103, etc.); and
- weight in kg, if possible to the first decimal point (i.e. 0.2, 1.1, 8.9, etc.).

The above list satisfies the CITES requirements marking for ivory tusks and pieces and should conform with what needs to be written on each tusk or piece.

In addition, for national management, law enforcement or other administrative purposes, it may be prudent to record additional information. In this regard, in a digital age where so many readily available devices have the ability to take quality photographs of each marked piece of a stockpiled commodity, ‘best practice’ is rapidly moving towards a photographic component as an integral part of record in a stockpile inventory. Continuing with ivory as an example, this could include morphological data, including:

- the diameter in cm of each piece at its middle point;
- the length of the inside curve in cm (i.e. measured along the curvature of the tusk);
- the length of the outside curve in cm (i.e. measured along the curvature of the tusk);
- whether the specimen is a whole tusk (i.e. T), piece of ivory (i.e. P) or a worked ivory product (i.e. W);
- the recording any markings or unusual features about the tusk;
- the reason the specimen came into possession of the government (i.e. seizure, natural mortality, management-related mortality, etc.);
- the date and place the specimen originally came into the possession of the government in some cases linked to a seizures database or field patrol records;
- the case or exhibit number in a law enforcement case;
- the authority and place in possession of the tusk at the time it is registered in the inventory; and
- a comment field for any additional information.

Other fields of information may be required and can be added as appropriate. Each government authority that will manage stocks for a particular species needs to seriously consider and agree all of the information that will be necessary for capture every time a stock inventory procedure is conducted. All of this information needs to become part of the database system describing the stockpile.

Future movement of stocks to consolidate at designated storage facilities—If stocks need to be moved for future storage purposes following their initial registration, the workplan should anticipate and accommodate such contingencies, including budgetary provisions covering the costs of movement and consolidation. Anytime stocks are officially moved, it needs to be done under formal documentation that clearly notes the designated specimens involved, prescribes the route and means of travel between the two locations, and effectively shows stocks being checked out of one location and then delivered to another to become integrated into another stockpile some place else. Secure and accountable transport should be a stated objective, with copies of all necessary permits accompanying the movement and signed copies filed at both the original and repository facilities. The procedure also needs to entail amending the registration records for all specimens moved showing the change in location. Standard operating procedures should be developed that outline all

steps in the prescribed protocol so that stock movement always proceeds in a transparent and accountable manner.

Information management for a national stockpile database—The information generated on each individual specimen registered during any stock management procedure at every location needs to be collectively integrated into the database record that details all stocks held in a country. At the simplest level, the national database could be a basic Excel spreadsheet that aligns with all informational fields that characterise the data collection format described above, or it could be a more sophisticated bespoke database system. The government authority or authorities responsible for stock management need to authorise specific personnel who are responsible for managing and maintaining the database as an integral part of their terms of employment. The national stock database should be regarded as the ‘master copy’ cataloguing all registered stocks in the country and will become the basis for meeting a country’s annual reporting requirement to the CITES Secretariat. In addition, site-specific components of the national stock database, need to be present at all locations where stocks are securely stored so that there is an immediately available record detailing all specimens held in a particular place. Operating the national stock database to keep it updated and current is not necessarily envisaged as a full-time job, but it will entail a regular, and at times, considerable investment of time in countries where stocks are regularly coming into the possession of government authorities.

Periodic audits—Audits are important mechanisms for independently verifying the status of stocks which have been previously marked and stored in a secure manner in accordance with an agreed stock management protocol. An audit provides an opportunity to examine a random sampling of the stocks in question and verify that they have been recorded in the system accurately and essentially remain in an unaltered state. In the interest of transparency and accountability, ‘best practice’ dictates that audits should be conducted periodically – at least annually – as an important check of the system. Audits should also be conducted at moments when significant volumes of stock will be moved, sold, destroyed or otherwise altered from their normal state of storage. Finally, those who conduct the audit should be independent of those who manage and implement the stock management system so there is no conflict of interest when discrepancies or other issues are noted.

Annex 4: Stockpile Security and Storage

The distribution and number of storage facilities

In many countries, wildlife stocks are simultaneously stored in numerous locations, including protected areas, various ports of entry and exit, major towns and even in remote places, often under the management of various disparate authorities. Many such facilities can be totally unfit for purpose and even at the most prominent facilities security may be inadequate. It needs to be appreciated that secure storage of high-value commodities such as ivory and rhino horn will always be needed even if destruction instead of long-term storage is the recognized government policy. Careful consideration of various factors needs to be taken into account when deciding on the distribution, number and security features of designated storage facilities for targeted commodities so that they achieve the objective of long-term security against what can be a very challenging environment.

Depending on a range of circumstances, including physical geography, infrastructure logistics, illegal trade patterns and a range of administrative and security considerations, the needs of each country will be different and there is no single 'best practice' solution for stockpile storage. An important first step in deciding the best approach is to undertake a comparative analysis with a range of relevant stakeholders on the feasibility of consolidating target commodities in either one or more major storage facilities in a country. Issues that need to be thoughtfully considered include assessing the time and costs of arranging the logistics for found or seized items to be moved in an economical and secure manner. Where movement is not readily possible, temporary storage in a secure manner needs to be considered. Further, many seized items will have to remain in proximity to the place of discovery pending the completion of associated legal proceedings which in some cases can prove to be very lengthy. Such an assessment should produce a first cut 'blueprint' concerning the number and distribution of storage facilities in each country. Over time, as a country's stockpile management system unfolds, additional modifications to the original plan may become necessary, particularly patterns of illegal trade change and the quantity of targeted commodities substantially increases.

Types of storage facility needed

With the objective of maximising security of the national stockpile in a cost-efficient manner, the establishment of a limited number of "core" storage facilities with greater investment in more sophisticated security features is a prudent option. One or more core storage facilities should serve as an ultimate catchment for the stocks emanating from any number of lesser "peripheral" storage facilities that expediently function as interim stockpile storage purposes before future movement and consolidation. Final decisions concerning the number of core and peripheral storage facilities needs to be made on an individual country basis.

Physical security considerations

Stockpile storage facilities can be as basic as the deployment of a 20 or 40-foot shipping container² to a purposefully-built 'bricks-and-mortar' building with a host of 'state of the art' security features. In fact, a range of options can be effectively employed to do the required job of secure, long-term storage if properly considered and managed effectively. It is, however, strongly recommended that the use of rooms or cupboards that were not specifically built with security in mind should be avoided whenever possible. Where a number of storage facilities are required, containers will certainly

² Standard ISO shipping containers are 8ft (2.43m) wide, 8.5ft (2.59m) high and come in two lengths; 20ft (6.06m) and 40ft (12.2m).

outcompete the construction of buildings in terms of timely availability, cost and flexibility. Container-based facilities also offer the advantage of being easily relocated if necessary, and of being readily enlarged by placing additional containers alongside or on top of each other.

This container in Pemba, Mozambique contained a large consignment of ivory seized prior to export in 2011. It was moved into the courtyard of a government compound and situated with its only entry point locked and placed flush against the trunk of a very large tree for the purpose of secure storage. This compound is guarded at night as a matter of course. Interestingly, this ivory storage facility remained unmolested for at least eight years when other stockpiles in the same city disappeared under circumstances that are not clearly understood. Sometimes simple, low-cost solutions produce very effective results.



The starting point is to clearly understand what commodities are likely to be stored as ivory tusks, rhino horns or pangolin scales will have different requirements. For example, if facilities are meant to be multi-purpose and accommodate a range of wildlife commodities, a sectional approach might be useful with, for example, ivory tusks and sacks of pangolin scales stacked in a series of shelves and bays, whilst less bulky but far more valuable rhino horns could be kept in a compartmentalised series of sealed lockers. It also may be expedient to separate stocks that were acquired from different seizure events, especially where court cases are still pending, from stocks derived from other purposes. Access to stocks and movement within the storage facility needs to be carefully considered so that an adequate working environment is maintained for adding in new stocks or retrieving existing stocks for various reasons such as collecting evidence for presentation in the courts, or specific specimens for forensic examination or, from time to time, for the purpose of disposal and/or destruction. There is a need to ensure sufficient space for conducting stocktaking exercises or audits which are likely to transpire on occasion.

Institutional responsibilities

In practical terms, the physical security of stocks in a storage facility and their administration in terms of, for example, data and database management, future movement for various reasons, or assessment in terms of audits, will unfold as very separate functions over time. Whilst a single government agency should be designated by law to be responsible for the security of storage facilities holding ivory, rhino horn and other valuable wildlife products, the duality of stock administration needs to be simultaneously accommodated. Thus, within the government agency responsible for the storage facility, security considerations need to be implemented by a law enforcement unit which may have access to arms, whilst management functions associated with the stocks should remain the responsibility of separate personnel from an administrative unit of the same government authority. Such an arrangement avoids the unrealistic and inappropriate result of making administrative personnel responsible for security functions where stockpiles are concerned, or vice versa. Each storage facility needs an appointed storekeeper responsible for monitoring the stocks in their store.

How the security and administrative personnel work together must be clearly specified in Standard Operating Procedures to leave no room for misinterpretation. The SoPs will necessarily deal with a host of considerations, including:

Handling of keys—Best-practice principles indicate that duplicate sets of keys for accessing the storage facilities need to be kept to a minimum, preferably just two sets, one for active use and one kept remotely under code in secure storage as a backup so that, if stolen, the purpose of the keys would never be apparent to the thief. The active set of keys should never be in the possession of a single individual but rather needs to be split between two, possibly more, individuals who will sign for one or more keys and keep them on their person at all times. In this way, all individuals with keys must be present whenever the storage facility is opened and they should remain at the location until it is re-locked. Each time the facility is opened, it needs to be logged by the storekeeper as an immutable record. Pre-planned procedures for the handing over of keys to another deputized individual when a responsible key holder is to be absent also need to be established.

Marking and registration of stocks—The indelible marking of all individual specimens in the stockpile with a discreet code is fundamental for their future tracking and security. If stocks remain unmarked, detection of their subsequent illegal removal is inherently difficult making them highly vulnerable to leakage. Whenever possible, the SOPs should provide for the initial custodial agency to mark, weigh and measure the seized specimens immediately according to the specified format and sequence. When that is not possible, such stocks must be marked and registered when delivered to the storage facility, each of which should be equipped with scales, tape measures and indelible markers. If the storage facility has a designated computer available, the record of the stocktaking can be electronically captured. If that is not possible, then a manual system needs to be in place so that all of the necessary information can be duly captured. The SOPs should specify that the maintenance of a hard and soft copy record at every site is required. Every time new items are registered, the relevant documentation must be forwarded to the lead stockpile management agency as soon as possible so that it can be integrated into the national stockpile database.

Control of movements—Regardless of the reason, no item registered in the national stockpile database should ever be moved into or out of a storage facility without due authorisation and control. Recognising that stocks become vulnerable to theft or robbery whenever they are moved, the timings and routes of such movements should be planned and authorised under documentation, and then executed in a confidential manner on a 'need-to-know' basis to ensure their security. Standardised movement or transfer forms must be used that list all specimens to be moved and other pertinent information, including the identification of the driver and all individuals that will accompany the stocks during the move and the time and route to be taken. These forms need to be signed sequentially, first by the storekeeper releasing the items, then the officer transferring them, and finally the storekeeper receiving the stock. Further, the forms should be done in (at least) triplicate, so that one signed copy remains at the source location, another remains at the repository location, and the third goes to the lead stockpile management agency. These and other movement issues need to be clearly outline in the SoPs so that all procedures are understood.

Annex 5: How to Conduct a Stock Audit

Background:

Audits are important mechanisms for independently verifying the status of stocks which have been previously marked and stored in a secure manner as part of a stock management system. An audit provides an opportunity to examine a random sampling of registered specimens and verify that they have been recorded in the system accurately and essentially remain in an unaltered state of storage. In the interest of transparency and accountability, best practice dictates that audits should be conducted periodically, for example, annually as an important check of the system. Audits should also be conducted at moments when significant volumes of a stored wildlife commodity will be moved, sold, destroyed or otherwise altered from the normal state of storage in a designated facility under government custody. The procedures for conducting an audit need to be carefully outlined in SoPs and these should be used to guide the process. The following is a summarised account of how audits typically take place.

Marking on stocks:

All specimens of stocks which are part of a stockpile management system should be marked individually so that each individual piece has a unique identity that is recorded when it becomes part of the inventory record for the particular wildlife commodity in question. See Annex 2 for a description of the marking systems that have been agreed under CITES. For example, with respect to ivory stocks, a tusk marked **VN/17/285/13** would indicate a piece of ivory that was the 285th item registered in the Viet Nam national stockpile database in 2017 with a weight of 13 kg. Likewise, an ivory tusk that was marked **KH/17/285/13** would indicate the same thing except that Cambodia would be the country holding the particular tusk.

It is also possible that specimens will have other markings in addition to what is required in terms of the CITES marking system. For example, specimens that were seized in a law enforcement action and were part of a court case might have the criminal case number written on them so they could be readily identified as evidence. In range States, field stations where specimens have collected at *in situ* locations may have codes that note the place of recovery. It is assumed that all specimens subjected to an audit have been marked and registered as described above.

How to conduct an audit:

Stock audits can be conducted in various ways but generally always require scales for weighing selected specimens. Preparations call for arranging appropriate scales and tape measures in advance if they cannot be guaranteed to always be on site at the storage facility where the audit will take place. When conducting an audit, it is important to ensure that government staff who can handle the specimens being audited are available to assist with retrieving and replacing stocks as appropriate. Such operations are often quite dirty so appropriate work clothes are necessary. It is important to agree all components of the audit in advance with the team present who will provide assistance.

Stock audits usually comprise the following steps:

Working from the stock inventory list:

1. Using the stock inventory list of all specimens in the stockpile, generate a random selection of items. If the stock inventory list is available in an electronic format, it may be possible to

generate a random list using a computer programme. If not, use some other means, but produce a list of a pre-determined number of pieces that will all need to be physically located and then examined. Obviously, the volume of work will be dependent upon how many specimens are in the overall stockpile. Aim for an examination that covers between 5% (large stockpiles) to 15% (small stockpiles).

2. With the random list in hand, find each piece in the stockpile, remove it from storage for examination and weighing to confirm that all details align with the information in the stock inventory list. If particular items cannot be found, or there are other discrepancies, note them down. Remember that finding very small pieces can sometimes be difficult, particularly if the stockpile is large. Further, it is worth noting that weights may not always be in sync for a variety of reasons, but mostly because different scales produce different weights. Some wildlife products such as ivory also have a tendency to lose weight over time if stored in conditions of low humidity. In any event, small discrepancies in terms of weight are likely to be the norm and not indicative of any problematic issue.
3. Once everything has been audited, be sure to have the storekeeper of the storage facility co-sign each page of the audit record stemming from the physical inspection. This is critical so that there is no future dispute concerning the result of the audit.

Working from the stockpile:

1. In a reverse exercise, using the stockpile itself, remove a pre-determined number of specimens for checking with the stock inventory list. Try to choose a selection of different sized items. Again, the volume of work will be dependent upon how many pieces are in the overall stockpile. Aim for an examination that covers between 5% (large stockpiles) to 15% (small stockpiles).
2. As before, the numbers and weights of the individual pieces should be located and verified on the stock inventory list. If items cannot be found on the stock inventory list or there are other discrepancies, note them down.
3. Again, once everything is done, be sure to have the storekeeper counterpart sign off on all of the sheets that record the information stemming from the physical inspection.

Finding unmarked stocks:

Generally speaking, all stocks in storage facility will be marked and recorded in the inventory list of facility's holdings. The only exceptions may be very recent acquisitions that have just been delivered to the store without having been previously marked and registered. If that is the case, the storekeeper should be in a position to apprise the audit team of this development in advance of arrival at the storage facility so there are no surprises in this regard. It does sometime happen that a major seizure event delivers a large haul of wildlife contraband just prior to a planned audit and it has not been possible to process the stock before the audit. SoPs should clearly outline how unmarked new stocks should be treated and part of the audit should assess that the prescribed guidelines are being followed.

Although unexpected in the context of sound stockpile management, it is nonetheless possible that the auditor will find unmarked stocks in the course of an audit. All such items need to be noted. If the quantity of unmarked stocks involves a single specimen or a relatively small number of pieces, it

may be possible to undertake a collaborative marking exercise with the storekeeper and his staff on the spot, so that each specimen is marked following the appropriate CITES or national protocol and the details of each specimen are recorded to produce a new inventory listing. Such an exercise could be regarded as an important and practical training initiative that will lead into the introduction of a future stock management system.

On the other hand, if a considerable quantity of unmarked specimens is unexpectedly found and it is beyond the scope of the audit to actually assess and mark it on the spot, a description of what was observed and any explanations concerning why it is there and was not brought to the attention of the audit team in advance of their visit needs to be captured in detail. If possible to simply count the number of specimens involved, then do so, but if precise counting is impossible, then some other form of estimation is warranted to capture the scope of what was found. Such an occurrence should be considered to be an atypical situation which needs to be carefully investigated. SoPs should require that all specimens be marked and registered within a certain period of time so any deviance from prescribed procedures needs be noted.

Prepare an audit report:

A report on what was observed during the audit should be prepared. Be sure to describe the methodology in terms of how the audit was conducted and be sure to ensure that the full stock inventory sheet, the list of specimens that were physically examined, and the names and contact details of all participants or individual present at the audit, are attached to the report as annexes. The main body of the report should describe what was observed, noting any particular problems or issues. If satisfied that most things were in order, make sure that this is indicated. On the other hand, if there were problematic issues, especially evidence of stocks having been removed or otherwise tampered with, be sure to draw attention to such issues. The audit report should formally go to designated government authorities as outline in the SoPs.