

WILDLIFE POACHING

HEARING
BEFORE THE
SUBCOMMITTEE ON AFRICA AND
GLOBAL HEALTH POLICY
OF THE
COMMITTEE ON FOREIGN RELATIONS
UNITED STATES SENATE
ONE HUNDRED FOURTEENTH CONGRESS
FIRST SESSION

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JULY 16, 2015
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WILDLIFE POACHING

THURSDAY, JULY 16, 2015

U.S. SENATE,
SUBCOMMITTEE ON AFRICA AND GLOBAL HEALTH POLICY,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room SD-419, Dirksen Senate Office Building, Hon. Jeff Flake (chairman of the subcommittee) presiding.

Present: Senators Flake, Markey, and Udall.

OPENING STATEMENT OF HON. JEFF FLAKE, U.S. SENATOR FROM ARIZONA

Senator FLAKE. This hearing on the Senate Foreign Relations Subcommittee on Africa and Global Health Policy will come to order.

I appreciate the attendance of certainly the witnesses and all others here. I am glad to have Governor Adato from Kenya here as well. Thank you for coming.

I would apologize from the outset. We are in the middle of votes right now. I voted on the first one and will wait, as long as I can, to go and vote on the second one. Hopefully, we can get as much testimony in as possible. And Ranking Member Markey is in a meeting and voting, and he will be here as soon as he can as well. So given our short timeframe this afternoon, we thought it best to get started. So thank you for your indulgence there and apologize for the lack of members here. They will likely trickle in as we go along and votes end.

But today we are examining the wildlife poaching in sub-Saharan Africa. Illegal wildlife trade is one of the most lucrative illicit practices in the world, generating between \$8 billion and \$10 billion each year. Wildlife trafficking has been especially stark in sub-Saharan Africa where poacher activity is just decimating African elephant and rhino populations, two of the big five animals that provide a significant draw for visitors to southern and east Africa in particular.

The poaching crisis, which is driven by demand from outside of the continent hampers Arizona—I am sorry. Arizona. I slip every once in a while. Africa, my two loves—hampers Africa's economic growth potential, threatening good governance by fueling corruption and undermining security. The social impact of trafficking is also significant at the local level, and we will hear about some of that today, where the practice threatens jobs in game reserves and the communities that surround them.

Poaching has also had ramifications on the security front. Rangers and other law enforcement officials have been killed at the hands of poachers, and the need to address wildlife trafficking draws resources away from other much needed security efforts.

Today's hearing will focus on efforts to address poaching at the source. We are also going to hear our witnesses' thoughts on wildlife trafficking legislation that has been introduced in Congress. Each of our witnesses today brings a unique perspective to the issue at hand. I have no doubt that it will contribute greatly to the debate that we are having here. I thank you for your time and for sharing your expertise. I enjoyed reading the testimony last night and look forward to the testimony here today.

We will go ahead and introduce and then go from there.

Mr. Ian Saunders, cofounder and chief operating officer of the Kenyan conservation NGO, Tsavo Trust. In this role, he oversees the implementation of stabilization through conservation strategy. Previously Mr. Saunders worked with Africa's largest private antipoaching unit at that time in Tanzania. In addition, he previously served as the senior security advisor to the United Nations in Afghanistan.

Mr. Jean Marc Froment currently is conservation director at African Parks, a conservation management organization with parks in eight African countries. Mr. Froment has advanced conservation efforts in the DRC's Garamba National Park and, as an independent expert, has also worked as a manager in national parks and protected areas in Cameroon and the Congo.

George Wittemyer is the chairman of the Scientific Board for Save the Elephants, as well as assistant professor of fish, wildlife, and conservation biology at Colorado State University. As a Fulbright fellow in 1997, Dr. Wittemyer founded a long-term Samburu elephant monitoring project in northern Kenya. Since that, Dr. Wittemyer's more than 40 peer-reviewed articles have received over 2,000 academic citations. I found that what is going on there with the testimony quite interesting.

Ms. Ginette Hemley is a senior vice president for Conservation at the World Wildlife Fund. In this role, she tracks execution of World Wildlife Fund's local to global strategy to conserve ecologically important places and leads conservation advocacy campaigns. She also chairs the WWF network's Global Conservation Committee, which sets strategy and policy for WWF's international conservation program.

Again, thank you all for being here today. Your full testimony will be, without objection, entered into the record. So if you could please keep your remarks to around 5 minutes, that would help us get through the testimony and to questions.

With that, the committee recognizes Mr. Saunders.

**STATEMENT OF IAN SAUNDERS, CHIEF OPERATIONS OFFICER,
THE TSAVO TRUST, WASHINGTON, DC**

Mr. SAUNDERS. Thank you, Chairman Flake, Ranking Member Markey, and distinguished members of the committee. Thank you for inviting me to testify at this important hearing on wildlife poaching. And I appear before you in my capacity as chief oper-

ations officer and cofounder of the Tsavo Trust. I request that my full statement be included in the record.

My family have lived and worked in Kenya and Tanzania for the last three generations, and I have served in various security, governance, wildlife management, and sustainable development positions over the last 30 years, including with the British Army, the United Nations in both security and counterterrorism capacity, and I am a trained ecologist. During the early to mid-1990s, I recruited, trained, and operated what was at the time the largest private antipoaching unit in Africa, working closely with the Tanzania Wildlife Division.

Tsavo Trust's mission in Kenya is to secure strategic areas in the Greater Tsavo Area for the benefit of wildlife and people through innovation, partnership, and stewardship. Tsavo Trust is focused on building the capacity of communities to manage their own land, wildlife, and natural resources and to implement their own enterprises and to develop their own revenue, infrastructure, and community governance frameworks. We call this our Stabilization through Conservation approach.

At 16,000 square miles, or twice the size of the State of Massachusetts, the iconic Tsavo landscape is Kenya's largest and most important intact natural ecosystem. The Greater Tsavo ecosystem is located in the southeast part of Kenya and forms part of Tsavo-Amboseli-Chyulu Hills ecosystem and hosts Kenya's largest elephant population at approximately 12,000 elephants. Its Chyulu Hills catchment area feeds Mombasa, Kenya's second city, with most of its fresh water. Over the past 10 years, populations of elephants have dropped by 50 percent in Africa primarily due to wildlife poaching.

Tsavo occupies a strategically pivotal space between the coastal belt and the interior of Kenya. The Tsavo region is a potential security buffer against destabilizing forces seeking to infiltrate deeper into East Africa through Kenya's coastal entry points and from Somalia. But this critical landscape is now at risk from a complex, interrelated array of threats, including wildlife trafficking, human-wildlife conflict, small arms proliferation, human poverty, biodiversity loss, transboundary organized crime, and even violent extremism.

The poaching of wildlife threat presents a complex law enforcement and social challenge. Much of the illegal activity occurs or is initiated in a remote and expansive rural areas where wildlife and humans coexist, which is outside the Kenya Wildlife Service managed national parks. Most rural people in Tsavo view wildlife as a threat to their lives and livelihoods or competition for resources such as grazing, land, and water. They see few direct or indirect benefits from wildlife and, in the absence of other income opportunities, will resort to poaching on behalf of others as a form of employment.

I believe the term "wildlife management" is a misnomer. Wildlife will prosper and natural resources will bring more equitable, more sustainable benefits if we as the dominant species can provide a conducive environment for both humans and wildlife. So, in essence, it is human management that we are addressing.

In Kenya, as elsewhere across the world, the exposure to widely accessible modern communications and new media has given impoverished rural people a wider perspective and created new and high expectations, in some cases far beyond what is realistically achievable. In some areas, this has resulted in resentment, dissent, despondency, and even anger, which is an ideal environment for exploitation by extremists or organized illegal entities.

So in response to this complex challenge faced by the Tsavo ecosystem, the Tsavo Trust is implementing its Stabilization through Conservation, or StabilCon, approach, which provides a holistic culturally aware and nature-based approach to undermining the spread of organized crime and reducing illegal wildlife trafficking. It helps curb radicalization through strengthening rural communities and protecting biodiversity while populating vulnerable spaces with robust community government systems.

StabilCon utilizes conservation infrastructure not only to protect wildlife but also to help stabilize the human terrain, thereby supporting the national security effort and giving wildlife and the natural environment a much greater value than tourism dollars alone.

In Tsavo, rural communities are the most important actors in countering wildlife crime and other illegal activities at source, but they will only have the ability and resolve to act against these destructive influences if they have the opportunity to prosper themselves and have realistic prospects for the future.

StabilCon can bring stability to vulnerable regions from the inside out rather than the outside in. It does not seek to impose ownership or control over communities. It works alongside Tsavo's rural communities, the Kenya Wildlife Conservancies Association, the Kenya Wildlife Service, national government law enforcement agencies, local and international academic institutions and other partners delivering similar on-the-ground development and conservation projects.

StabilCon is readily exportable not only to other countries in Africa but also to other parts of the world where marginalized rural communities inhabit vulnerable and natural resource-rich environments. Any structured organization that can work in the rural space can implement StabilCon, including commercial businesses, faith-based institutions, local or national governments, community groups, NGO's, or civil-military partnerships.

StabilCon can play a key role in contributing to the existing and ongoing success of community conservancies in Kenya, particularly in currently under-represented areas. Community conservancies are nature reserves owned and managed by local rural communities with support from stewardship organizations when required. The areas are zoned to allow a range of sustainable and complementary land uses, such as cattle ranching. Conservancies have already proved successful in Mongolia, Namibia, and Kenya, based on the original concepts developed right here in the United States.

Mr. Chairman, I thank you for this opportunity to appear before you today to discuss this important issue. I look forward to answering any questions the committee members may have.

[The prepared statement of Mr. Saunders follows:]

PREPARED STATEMENT OF IAN SAUNDERS

Chairman Flake, Ranking Member Markey, and distinguished members of the committee, thank you for inviting me to testify at this important hearing on wildlife poaching. I appear before you in my capacity as Chief Operations Officer and Founder of the Tsavo Trust. My family have lived and worked in Kenya and Tanzania for three generations. I have served in a various security, governance, wildlife management and sustainable development positions, including with the British Army and the United Nations in a security and counterterrorism capacity. During the 1990s I recruited, trained and managed what was at the time the largest private antipoaching unit in Africa, which worked closely with the Tanzania Wildlife Division.

Tsavo Trust's mission in Kenya is to secure strategic areas in the Greater Tsavo Area for the benefit of wildlife and people, through innovation, partnership, and stewardship. Tsavo Trust is focused on building the capacity of communities to manage their own land, wildlife, and natural resources to implement their own enterprises and to develop their own revenue, infrastructure, and community governance frameworks. We call this stabilization through conservation or StabilCon.

At 16,000 square miles or twice the size of the State of Massachusetts, the iconic Tsavo landscape is Kenya's largest and most important intact natural ecosystem.

The Greater Tsavo ecosystem is located in the southeast part of Kenya and forms part of the Tsavo-Amboseli-Chyulu Hills ecosystem. Tsavo hosts Kenya's largest elephant population and its Chyulu Hills catchment area feeds Mombasa, Kenya's second city, with fresh water. It is estimated there are approximately 12,000 elephants in the Greater Tsavo Ecosystem—the largest population in Kenya. Over the past 10 years, populations of elephants have dropped by 50 percent in Africa, primarily due to wildlife poaching.

Tsavo occupies a strategically pivotal space between the important coastal belt and the interior of Kenya. It lies at a crossroads of cultures, religions, and perspectives. Importantly, the Tsavo region is a potential security buffer against destabilizing forces seeking to infiltrate deeper into East Africa through Kenya's coastal entry points and from Somalia. But this critical landscape is now at risk from complex interrelated threats including wildlife trafficking, human-wildlife conflict, small arms proliferation, human poverty, biodiversity loss, transboundary organized crime and violent extremism.

POACHING AND THE CHALLENGES FACED BY COMMUNITIES IN THE TSAVO REGION

Poaching of wildlife has evolved into an illegal, organized commercial business, increasingly controlled by transnational criminal gangs that exploit the poverty and desperation of rural people. These organized criminal networks deal not only in illegal wildlife products like ivory and rhino horn, but also in other contraband such as drugs and illegal weapons.

Poaching in regions like Tsavo not only destroys a valuable economic resource and threaten the safety of people (for example, through the proliferation of illegal firearms and organized crime), it also destabilizes the natural environment. The commercialization of the bushmeat trade (the killing of wild animals for food) and the exotic trade in animal parts such as pangolin scales and lion bones are having a devastating impact on multiple species from small antelope to large predators and other megafauna.

The poaching and wildlife trafficking threat presents a complex law enforcement and social challenge. Much of the illegal activity occurs in remote and expansive rural areas where wildlife and humans coexist and outside the Kenya Wildlife Service managed National Parks. Most rural people in Tsavo view wildlife as a threat to their lives and livelihoods, or as competition for resources (grazing, land, water). They see few direct or even indirect benefits from wildlife, and in the absence of other income opportunities will resort to poaching on behalf of others as a form of employment.

Wildlife conservation for its own sake is a new concept to most of Tsavo's rural inhabitants, in which they currently see little value. Conservation is viewed primarily as a foreign indulgence.

In seeking solutions, I believe the term "wildlife management" is a misnomer. To conserve wildlife and other natural resources, we need to first and foremost manage ourselves, and mitigate the negative impact of our own human activities. Wildlife will prosper and natural resources will bring more equitable, more sustainable benefits, if we—as the dominant species—can provide a conducive environment.

Kenya is developing at a fast rate. With the undeniable benefits of development also come many challenges, some of which, such as internal security, are shared with the United States and other countries. Kenya's human population is increas-

ing, new and essential infrastructure is appearing in remote rural areas, new centers of human settlement are increasing the demands on ecosystem services.

In Kenya as elsewhere across the world, the exposure to widely accessible modern communications and new media has given impoverished rural people a wider perspective and created new expectations, in some cases far beyond what is realistically achievable. In some areas, this has resulted in resentment, dissent, despondency, and anger: an ideal environment for exploitation by extremist or organized illegal entities.

TSAVO TRUST'S APPROACH—STABILIZATION THROUGH CONSERVATION

In response to the complex and multifarious challenges faced by the Tsavo ecosystem, Tsavo Trust is implementing its Stabilization Through Conservation (StabilCon) approach, which is a holistic strategy to securing both human and wildlife populations against the various threats currently facing this strategically and ecologically important region and its people.

StabilCon rests on the premise that sustainable development and the management of natural resources, including wildlife, can only succeed in a stable environment; conversely, prudent management of natural resources can be used as a catalyst for creating that stability.

StabilCon utilizes conservation infrastructure not only to protect wildlife but also to help stabilize the human terrain, thereby supporting the national security effort and giving wildlife and the natural environment a much greater value than tourism dollars alone. It provides a holistic, culturally aware and nature-based approach to undermining the spread of organized crime, reduce illegal wildlife trafficking, it helps curb radicalization through strengthening rural economies and protecting biodiversity while populating vulnerable areas with robust community governance systems.

Today, many of the world's remaining natural environments are subject to physical, economic, environmental or structural insecurity. In Tsavo, rural communities are the most important actors in countering wildlife crime and other illegal activities at source, but they will only have the ability and resolve to act against these destructive influences if they have the opportunity to prosper themselves and have realistic prospects for the future. The StabilCon approach comprises four inter-related goals:

- (1) Reduce physical insecurity for people, wildlife and natural resources to a manageable level as a mandatory first step;
- (2) Use the resulting physical security as the foundation on which to build and diversify nature-based economic opportunities and access the social services enabled by greater prosperity;
- (3) Strengthen environmental security so that the benefits of a healthy environment, which underpins all life, can be shared between this generation and those that follow; and
- (4) Build more robust, equitable and representative community governance systems.

By securing at-risk areas via nonaggressive, low-intensity engagement, respecting traditional livelihoods while delivering essential needs, StabilCon is a strategy, which can bring stability to vulnerable regions from the "inside-out" rather than adopting a more interventionist "outside-in" approach. StabilCon has the potential to 'inhabit the space' currently open to exploitation by destabilizing forces.

StabilCon does not seek to impose ownership or control over communities implementing the strategy; rather it provides a grounded approach which, when adopted by rural people, gives them the "tools" and technical capacity needed to address their own livelihood priorities in a sustainable way.

StabilCon is working alongside Tsavo's rural communities, the Kenya Wildlife Conservancies Association (KWCA), Kenya Wildlife Service (KWS), national government law enforcement agencies, local and international academic institutions and other partners delivering on-the-ground development and conservation projects.

Tsavo Trust's remains committed to creating a unified best practice framework for potential adoption at the national level, both in Kenya and elsewhere.

APPROACH CAN BE APPLIED TO OTHER AREAS AFFECTED BY POACHING

While Tsavo Trust is implementing StabilCon in southern Kenya, this strategy is readily exportable not only to other countries in Africa but also to other parts of the world where marginalized rural communities inhabit vulnerable, natural resource-rich environments. The StabilCon model is being exported to Northeast India where similar dynamics are at play and where poaching of elephants and rhino fuel instability and create conflict with local people. Other areas of Central

Asia and Africa could benefit from the approach such as conflict hotspots and natural resource rich Democratic Republic of the Congo and Southern Sudan or even Afghanistan.

Any structured organization working in the rural space can implement the StabilCon approach, including commercial businesses, faith based institutions, local or national governments, community groups, NGOs or civil-military partnerships.

In particular, Tsavo Trust believes that StabilCon, can play a key role in contributing to the ongoing success of Community Conservancies in Kenya, particularly in currently underrepresented rural areas. Community Conservancies are essentially nature reserves, owned and holistically managed by local rural communities with support from stewardship organizations when required. The areas are zoned to allow a range of sustainable and complementary land uses, such as cattle ranching. Conservancies have already proved successful in Mongolia, Namibia, and Kenya, based on initial concepts developed here in the United States.

The United States Government has provided a significant boost to Kenya's community-led conservation and development projects with the goal of creating a more stable environment, with more productive, more resilient rural communities contributing positively to Kenya's national effort.

Ultimately, StabilCon puts conservation of wildlife and natural resources agendas higher priorities for people and rural communities, and serve as a catalyst for enhanced peace and stability.

Mr. Chairman, I thank you for this opportunity to appear before you today to discuss this important issue. I look forward to answering any questions committee members may have.

Senator FLAKE. Thank you.

Mr. Froment.

STATEMENT OF JEAN MARC FROMENT, CONSERVATION DIRECTOR, AFRICAN PARKS, BRYANSTON, JOHANNESBURG, SOUTH AFRICA

Mr. SAUNDERS. Mr. Chairman, members of the committee, thank you for giving the opportunity to African Parks to testify on the subject.

My name is Jean Marc Froment. I am a biologist and I am working for conservation in Africa since 40 years. I basically work more in Central African countries.

I was born in Eastern DRC and at that time Africa only counted 300 million inhabitants and the continent was quite peaceful.

Very quickly, my passion for elephants and wildlife did become the center of my life. In 1975, my first job in conservation was an elephant translocation in Rwanda to Akagera National Park due to demographic pressures.

Then I have been to Europe to get my master in biology. My main concern was to go back to the wilderness of Africa and I found a job in the 1980s as a U.N. volunteer in the north of the Central African Republic at the boundary of Chad and South Sudan. There I first met Richard Ruggiero and Mike Fay who were also working in the same field. It was a really wild area, completely untouched and inhabited with a lot of wildlife. But at that time though, this region was already facing major threats and security issues. Horsemen and Janjaweed from Darfur linked with the Northern Sudan army had already started slaughtering elephants, and at the same time, authorities and communities had already began killing elephants and responding to the demand of ivory and bushmeat trade.

So to show the dimension of the problem, I asked Iain Douglas Hamilton, who has created "Save the Elephants," to come for a census survey to highlight the dimension of the slaughter to the world

at that time. Our job in that region just consisted in supporting the Ministry of Water and Forests to establish parks and fight the poaching.

All my life, we have tried to support the public services to try to address the problem, but 20 years later, we are still there seeking to aid these administrations. The wildlife and the elephants were constantly decreasing, and in addition to the loss of the pachyderm, we were quickly losing more and more land. Why? Simply because if there were not more than 300,000 inhabitants in Africa, we then have reached 1 billion people. And 50 percent of the people in Africa are living with less than \$2 per day. The essence of the problems is this one: the international demand and the demand linked to the demography.

And today in all countries, the weakness of the public sector and the army are facts with all their consequences.

The demand for land, proteins and wood is increasing, and in 2050, there will be 2.5 billion inhabitants. It is a big dimension. Africa will go through major changes in the next 20 years.

Logically in that context, insecurity problems will increase with the emergence of groups like Akni, Boko Haram, Seleka, LRA, al-Shabaab. It is part of the problem of poverty.

The demand of high value commodities has increased with the impact that we know on elephants and rhinos. Everybody is using the opportunity, including rebel groups and armies. And it is effectively using a network enabling to exchange guns, munitions, money. Anyone: governments, armies, and rebels are stakeholders in this.

In Garamba National Park in Democratic Republic of Congo, where we are working, we must address the poaching of LRAs and Janjaweds, let alone the poaching linked to the Sudanese Army and military helicopters probably coming from Uganda to kill elephants.

It is essential that the international community understands that the demand of high value products must be avoided at all cost and very urgently. It is not the sole action that we must undertake. Other solutions must be applied to solve the problem of the increasing of population and demography.

There is an emergency: simple and pragmatic solutions for the management of natural resources must be implemented as fast as possible to help the states to control their resources.

Given the size and the complexity of the crisis, but also the urgency to intervene, it is important to fix some priorities. It is widely accepted that the establishment of a truly protected area or network of areas is an essential element of the continental conservation strategy. The current protected areas are a good representative of the biological diversity of the continent and have legal statutes to allow their protection. Giving priority to the protected areas is certainly the establishment of the foundation of a pragmatic conservation strategy at the continental level that will snowball and will address more broadly the general problem of the environment.

Natural resources and protected areas are not only the sectors suffering from the deficiencies of the public sector. Other sectors such as education, health, communications, could find solutions by

delegating part of their responsibilities to the civil society, the NGOs, and the private sector.

Yet, in many countries, management of natural resources and protected areas, wildlife remain in the prerogative of the state institutions. If the underlying problem is the failure of the public sector, then we need to find solutions to that. And in other sectors, private-public partnerships through state delegations and share of the responsibilities with the civil society have brought solutions.

African Parks has certainly been a pioneer in that area of management of protected areas.

The central concept of public-private partnership is the separation of the responsibilities between the states and African Parks. The state is the owner of the park and is responsible for legislation, policy, and strategy. African Parks is more responsible for the execution of the management functions and accountable to the states on its performance. This separation of functions is essential for the accountability for both partners, and it is a largely alien concept in the traditional conservation world.

By entering into long-term partnership with governments, we assume the total responsibility for the national parks. We put in place governance structures. We manage the skills and we find funding solutions that are also desperately needed.

When the government gives us the mandate and the power to manage, the results are formidable. In all parks that we are managing, we are making very good progress, and most of the wildlife population trends are increasing except maybe in two parks. In Garamba National Park and in Chinko, we have still a major problem with elephants facing the armed groups, the LRA and the Janjaweed. The main problem of that is because we cannot manage to get arms and ammunitions to train our guards and fully address the problem of security linked to the LRAs and other armed groups. And this is a major issue for us because so many people can get guns easily. Ammunition is also easy to find except for us who are legally bringing the security in the parks.

I would like to add one point. I think it is very important. There is a "black hole" between CAR, northern Sudan, and northern DRC. It represents an area of 60 million hectares with very little resident populations where all rebel groups can find a refuge: Janjaweeds, LRAs, Senekas are present in this big zone and they are not far from Boko Haram. They are with the Janjaweeds. This wild area may become the most difficult question to address in Africa in the next 10–20 years, and we ought to find a solution. Management of natural resources in that particular region is certainly a key element to prevent something that can become a tremendous disaster for Africa.

Thank you very much.

[The prepared statement of Mr. Froment follows:]

PREPARED STATEMENT OF JEAN MARC FROMENT

INTRODUCTION

Mr. Chairman, members of the committee, thank you for giving the opportunity to APN to testify today on this subject. My name is Jean Marc Froment. I am a biologist and I am working for conservation in Africa since 40 years.

My message is relatively simple and touches 2 points.

The first: Africa faces an unprecedented complex conservation crisis. The second: A message of hope, which I believe, can be part of the solution.

Two examples

But before developing these two points, I would start with the examples of two parks that were thought lost: Majete National Park in Malawi and Zakouma National Park in Chad.

- Ten years ago Majete was a forgotten little park, 700 km², under strong demographic pressure. All wildlife had been exterminated in the 1970s and 1980s. The trees were exploited for construction and charcoal, the limits were not respected and there were no more visitors. Today it is a protected area completely repopulated with Black Rhinos, 280 elephants, lions and leopards, and all other species. The park's infrastructure has been rebuilt and a community conservation plan including education, health, and tours in the park, is implemented. Three lodges have been established and welcome 7,000 visitors a year that generate 400,000 US\$/year.
- Zakouma National Park, 3,000 km² in Chad, is located not far from the border with Darfur and northern Central African Republic. It has experienced an unprecedented wave of poaching. Between 2004 and 2010, the elephant population has decreased from 4,500 to about 450 elephants. This genocide was mainly due to the rebellion organized from Darfur and the period of insecurity that ensued in the region. Late 2010, APN has taken over the total management of the park with a very strong support of the Government of Chad. This allowed us to address the first problem—security. In 2 years, after restructuring the guard team, establishing a collaboration with the local armed forces and having set up an intelligence system all around the park, we have not only stopped the poaching but have succeeded to secure a region of about 20,000 km² around the park. For the local communities, securing the area was the first benefit and has opened a new economic and social perspective.

With these two examples, I hope to have shown extreme demographic and security contexts in which a large number of parks in Africa are today. But, that good management is able to address the real problems and can also quickly turn the dramatic situation in success carrying hope and pride.

1. AFRICA FACES A CONSERVATION CRISIS

The conservation crisis is deep. It exposes the life and the specificity of the continent to extremely rapid degradation with all its consequences on biodiversity, the loss of ecological services, the vulnerability of rural communities, economic, global warming, etc.

Two major factors lead the pressures:

- Firstly, the demands related to global markets, and
- Secondly, the demands related to population growth on the continent.

The demands related to global markets

By observing the conservation status of only one emblematic species of the continent one can realize one dimension of the threats.

In 1950, there were probably more than 2 million elephants. In 2000 the population was estimated at about 600,000. Currently, it is considered that Africa loses 35,000 elephants each year (9 percent of the total population). The Central African countries have lost 66 percent of their forest elephants in 10 years. The increase of price and demand is the only reason of these trends.

Who is benefiting from these markets? Certainly not the States, but a huge range of people from the authorities and army people, to communities and local poachers, to local and international traders and, even in some cases, armed groups. They are all linked, part of networks that are providing ivory, rhino horns to the market.

Most certainly, armed groups, rebel and terrorist benefit from these particular markets to dispose of weapons and ammunition. In Central Africa, that I know well, the Janjawees and their connections with North Sudan army played a major role in the extermination of elephants but also in terms of insecurity and the spread of weapons in Chad, Central African Republic, southern Sudan and northern DRC. Ditto for the Lord Resistance Army. But these are not the only ones that must be pointed at.

The armed forces, or more precisely, elements of the armed forces in different countries are involved directly and indirectly in the killing of elephants and trafficking of ivory. Where do the weapons in the hands of these rebels and poachers come from? Where do the military helicopters that slaughter elephants in Garamba National Park last year come from?

Again these are not the only ones. Many authorities supposed to help preserving the wildlife benefit from this trafficking. How many export licenses are issued each year illegally by those authorities? Examples are numerous. So many public sector failures, including concerned armed forces, failure in the control and management of vast and rich territories, failure in law enforcement, failure in controlling trades.

For species affected by high-value amenities that involve regional and international networks for example ivory or rhino horn, the problem must be addressed at three different levels:

- By stopping their slaughter through better management of parks and if needed by addressing the security questions;
- By stopping the local trade by understanding the networks and arresting those involved; and
- By stopping the demand through consumer awareness, but this will take time.

The question is “how to do that”? How to support some states to preserve their resources? How to support some states to identify the networks and to arrest those involved? Is Public-Private Partnership part of the solution?

The demands related to population growth on the continent

However, we cannot dissociate/forget the loss of habitat and fauna related to demographics, from this crisis:

- In 1950, Africa had 250 million inhabitants, in 2000 it reached 1 billion and in 2050 it will be 2.5 billion!!! In addition to that growth is the increased needs related to education, health, etc. Fifty percent of the population lives on less than US\$2/day! The repercussions on land requirements for both small farmers and for large farms and on markets are enormous.
- Sixty percent of deforestation is related to the demographic factor and 20-to-30 percent to commercial holdings (logging and agricultural purposes). The demand for firewood or charcoal is one of the most important causes. Over 80 percent of the African population relies on wood as energy. Its impact is massive.
- The need in protein. In the Congo Basin it is estimated that 5 million tons of bush meat are extracted, traded, and consumed annually. African gigantic areas were completely depopulated from their wildlife. Domestic livestock replaced wildlife with overgrazing.
- The rapid evolution of the Human Foot Print and the poverty question is the essence of this crisis.

It is essential that the international community understands that:

- If the demand for high value products has to be avoided at all costs, this is not the only action to be undertaken. Solutions to other “requests” more related to population growth must also be found.
- There is urgency and simple and pragmatic solutions must be implemented quickly to allow the states to take control of their resources.

The weakness of the capability not only of public administrations but also of the security forces in a number of countries is the main cause of the difficulty that the states meet to mitigate the effects of these two factors—Demography and International Demand.

The consequences of the conservation crisis are obvious:

- The natural areas and wildlife will continue to melt. With this scarcity, their value will increase.
- Although the importance of the network of Protected Areas in Africa, many of the 1,200 of them will be lost if solutions are not found quickly for their protection and management.
- The states that are now investing in a pragmatic solution for the preservation of their protected areas will benefit from the increase in their value.

Given the size and complexity of the crisis but also the urgency to intervene, it is important to fix it some priority. It is widely accepted that the establishment of a truly protected area network is an essential element in the continental conservation strategy. The current protected areas are a good representation of the biological diversity of the continent and have legal statutes that allow their protection. Giving priority to the Protected Areas is certainly the establishment of a foundation for a pragmatic conservation strategy at the continental level that will snowball and will address more broadly the general problem of the environment.

2. HOW TO SUPPORT THE AFRICAN STATES?

Natural resources, Protected Areas, are not the only sectors suffering from the deficiencies of the Public Service. Other sectors such as education, health or commu-

nications could find solutions by delegating part of their responsibilities to other actors—businesses, NGOs, etc.

Yet in many countries, management of natural areas, protected areas and wildlife has remained the prerogative of state institutions. If the underlying problem is the failure of the public sector, it is important to look for solutions elsewhere. As in other sectors, the Public-Private Partnerships through which states can delegate and or share some of their responsibilities to civil society, NGOs, private, may be solutions.

African Parks has certainly been a pioneer in this area for the management of protected areas.

Central to the concept of a public-private partnership is a separation of responsibilities between the state and African Parks. The State is the owner of the park and is responsible for legislation and policy. African Parks is responsible for execution of management functions and is accountable to the state for its performance. This separation of functions is essential for accountability of both partners—a largely alien concept in traditional conservation circles.

African Parks is an African solution to Africa's conservation challenges. By entering into a long-term agreement (25 years) with governments, we assume the total responsibility for one or more of a country's national parks. We put in place the governance structures, the management skills and funding solutions that are all so desperately needed.

- We become responsible for all the Law Enforcement staff that are seconded to APN, make sure they are properly equipped and properly trained to face the challenges of the Protected Area including security of an entire region. We develop relations with army, tribunal, and authorities to bring them on board.
- We reintroduce species and put in place all infrastructures to manage a park.
- We become responsible for implementing community programs to ensure that local people benefit from the existence of a national park and understand its value. They become very supportive of our action and a key element in the intelligence systems that we put in place

When our Government partners give us a mandate to manage—one that empowers us to manage and take responsibility—the results are formidable and all parks that we are managing, are making progress.

I opened with two such examples, Majete and Zakouma, but there are numerous others among which:

- In Liuwa Plain in Zambia the wildebeest migration has grown by 300 percent in 10 years and species such as eland, lion, and buffalo have been reintroduced and are thriving. At the same time, the murder rate in the area has dropped from 52 per annum to just 1.
- In Rwanda, park income, a proxy for economic activity, has grown fourfold in 4 years generating income for the sustainability of the park as well as much-needed income for community initiatives.

The benefits of good management are not just restricted to wildlife—it benefits an entire region and the people living in it. The conditions necessary for elephants to thrive, are the same conditions that are necessary for people to thrive. A conservation solution is, in fact, a governance, safety and security, economic development and poverty alleviation solution.

As African Parks, we manage eight such areas totaling nearly 6 m hectares. By 2020 we will manage 20, covering 10 m hectares.

Managing a single park will typically cost between \$1m and \$3m per annum depending on scale and complexity.

By doing so, it is possible to not only bring about peace and stability in otherwise often forgotten areas, a prerequisite for any form of economic and social development, but it preserves the wildlife and the ecosystem services on which we as mankind are dependent.

Senator FLAKE. Thank you so much.
Dr. Wittemyer.

STATEMENT OF DR. GEORGE WITTEMYER, CHAIRMAN, SCIENTIFIC BOARD FOR SAVE THE ELEPHANTS, FORT COLLINS, CO

Dr. WITTEMYER. Thanks, Chairman Flake, Ranking Member, members of the committee. I want to thank you for the opportunity to submit testimony for the record of this hearing.

My name is George Wittemyer. I am a professor at Colorado State University, and I am the chairman of the Scientific Board for the Kenya-based organization, Save the Elephants. I have been studying the population of elephants in northern Kenya for 18 years, witnessing ivory poaching hit elephants I know individually.

I would like to begin by summarizing our current scientific knowledge on elephant poaching. Last September, I led with colleagues a peer-reviewed paper that used surveys of elephant carcasses across Africa to estimate the poaching of 100,000 elephants in the 3 years between 2010 and 2012. I updated this analysis for this hearing finding poaching rates in 2013 and 2014 continued to exceed natural growth rates for elephants, indicating the species has been in a poaching-driven decline for the last 5 years.

Paul Allen's great elephant census of savanna populations uncovered massive losses in Tanzania, Mozambique, and Zimbabwe. Tanzania alone has lost over 50,000 elephants since 2009. That is a 60-percent decline in that country's elephants.

The Wildlife Conservation Society documented a 62-percent decline in forest elephants between 2002 and 2011, and the decline in forest elephants continues.

The Elephant Trade Information System documented the highest volumes of seized ivory ever recorded in 2013. Much of this ivory is trafficked out of two ports, Mombassa, Kenya, and Dar es Salaam, Tanzania. Scientific outputs have identified the problem sites. We now need serious action to address them.

While these numbers are grim, it is important to recognize that the slaughter of elephants is not happening everywhere. We are seeing successes on the ground. I want to highlight our experience in northern Kenya where a community conservation model called the Northern Rangeland Trust supported by USAID and in collaboration with the Lewa Wildlife Conservancy and Save the Elephants has helped stop the poaching surge. Information from the communities and partner organizations have been critical in catalyzing effective policing actions by the Kenya Wildlife Service. The success is occurring in a remote, poorly policed region, awash in illegal small arms with few governmentally protected areas, an area with significant conservation challenges.

Four fundamental tenets for successful community conservation can be drawn from this project.

The first is good governance models, which are built through community-led decisionmaking with external oversight.

The second is effective incentive models that get to the fundamental needs of the community. In our case, this is enhancing security to bring peace between different ethnic groups rather than a purely economic model.

The third is land use planning to ensure long-term conservation viability.

And the fourth is effective policing, which in our case has been enhanced through novel lines of intelligence provided by the community, but ultimately the policing was conducted by official enforcement agents making targeted and effective interdictions.

Conditions that facilitate poaching and wildlife trafficking vary by country and sites within countries across Africa. There is not a

single prescription that can solve the issue of wildlife poaching in Africa.

Senator FLAKE. Doctor, can you hold that thought?

Dr. WITTEMYER. Yes.

Senator FLAKE. They pulled a fast one and moved this from a 15-minute vote to a 10-minute vote. So I just have a couple of minutes to go over and vote. So we will recess for just a few minutes and get right back to your testimony. I apologize for this, but hopefully Senator Markey will be here as well when we return.

Dr. WITTEMYER. Great.

Senator FLAKE. So we are in recess.

[Recess.]

Senator FLAKE. The hearing will come back to order. Thank you for your indulgence.

We have been joined by Senator Udall from New Mexico.

Dr. Wittemyer, if you will go ahead and finish.

Dr. WITTEMYER. All right. Thank you. Welcome, Senator Udall.

So I had reached the point where I described the core tenets of the successful community conservation programs that we are working closely with in Kenya. I stopped at the point where I was talking about how conditions that facilitate poaching and wildlife trafficking vary by country and sites across Africa and that there is not a single prescription that can solve the issue of wildlife poaching in Africa.

Funding targeted projects with implementing partners that are deeply knowledgeable and experienced in threatened areas is the model of Save the Elephants Elephant Crisis Fund, a tactical program seeing successes on the ground in a diversity of contexts. I have attached our annual summary to my testimony as an exemplar for the diversity of approaches and target areas to tackle wildlife poaching, and to provide some detail on the diverse portfolio of programs with which we are engaged.

This is also the model that U.S. Fish and Wildlife Service Species Conservation Fund, a program widely seen as offering one of the greatest returns on investment for U.S. funding in Africa. Increasing funding to the U.S. Fish and Wildlife Service Elephant Conservation Fund is a mechanism for immediate impact on the elephant crisis.

The U.S. Government plays a critical role in addressing elephant poaching and U.S. funding, particularly by USAID and the U.S. Fish and Wildlife Service, is the foundation of many successful projects. But there are other agencies that can contribute substantively as well. The DEA has a blueprint for successfully combating criminal networks in Africa. The Department of Defense Counter-Threats Office and the Treasury Department are experienced in disrupting criminal networks, expertise that could be highly effective in disrupting wildlife trafficking syndicates. The White House Executive order on wildlife trafficking has been critical to bring concerted action by the U.S. Government, but direct appropriations can ensure application of relevant expertise and experience to illegal wildlife trade.

Ultimately, it is critical to enhance U.S. support of projects focused on population protection, judicial oversight and reform in source nations, and specialized criminal investigative units.

Finally, the most obvious game-changer to end ivory poaching would be a ban on domestic ivory trade by China. Chinese rhetoric suggests that a domestic ivory trade ban by the United States may be the most likely action to catalyze this. We have reached the point where collectively we know how to effectively combat wildlife crime. This is a winnable battle. It is time to take action to dismantle the illegal trade networks and build the wildlife sector in Africa as a foundation for rural development.

Thank you, Chairman Flake, and distinguished members of the committee. I look forward to answering any questions you may have.

[The prepared statement of Dr. Wittemyer follows:]

PREPARED STATEMENT OF DR. GEORGE WITTEMYER

Mr. Chairman, Mr. Ranking Member, and members of the committee, I want to thank you for the opportunity to submit testimony for the record of this hearing. I am honored to appear before your committee. My name is George Wittemyer—I am a professor in the Department of Fish, Wildlife and Conservation Biology at Colorado State University and the Chairman of the Scientific Board of the Kenya-based organization Save the Elephants. I have worked on elephant conservation issues in Africa for the past 19 years and have been a member of the IUCN African Elephant Specialist Group for the past 8 years. In addition, I serve as a technical advisor on elephants to the Kenya Wildlife Service.

Three years ago my colleague and mentor, Dr. Iain Douglas-Hamilton, founder of Save the Elephants, testified before this committee to draw attention to the resurgence of the ivory trade and the resulting impacts to elephants and the human communities with which they coexist.¹ At that time, he highlighted the evidence for the surge in ivory trafficking and summarized the history of ivory trade, making the point that, collectively, we successfully mobilized to stop the mass slaughter of elephants for ivory in the 1980s and can do so again. This will require working together to secure elephants in the field, disrupt trafficking, and reduce demand. We currently have a strong scientific capacity to assess what is happening across the African Continent that, with continued support, puts us in a position of strength to identify problem locations and assess the efficacy of interventions. Today, for this panel, I would like to (1) summarize the peer-reviewed scientific data, quantifying the scale of this problem; (2) highlight those populations currently being decimated and flag those under threat; (3) discuss a community conservation initiative in our research site in northern Kenya that provides an example of successful engagement on poaching; and (4) highlight lessons we have learned over the past 3 years to curb elephant poaching and ivory trafficking.

CURRENT STATE OF ELEPHANT POACHING FOR IVORY

The scientific community has provided devastating confirmation of the scale of illegal killing. Leveraging data from a unified carcass monitoring system instituted by the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) called the Monitoring of the Illegal Killing of Elephant (MIKE) program, last September I published with my colleagues from Save the Elephants, the CITES MIKE program and Colorado State University a peer-reviewed paper in the Proceedings of the National Academy of Sciences, that contributed to the quantitative assessment of the continental scale of illegal killing. We estimated that 100,000 elephants had been killed in the 3 years between 2010–2012, driving a probable decline in the world's elephant population across its range.² This paper helped to unite sentiment regarding the severity and scope of the elephant poaching problem.

For this hearing, I conducted a followup analysis of the CITES MIKE data collected since the publication of that paper that suggests levels of poaching continued to be unsustainable in 2013 and 2014, with poaching levels persisting at just under 7 percent per year for the continent (similar to that experienced in 2010, but below rates experienced in 2011–2012). This suggests tens of thousands of elephants continue to be poached every year on the African Continent, a level not matched by

the natural growth rate, signifying that the species has experienced declines each year for the past 5 years (on the order of 2–4 percent per annum).

We are now comparing these outputs with other data sources and finding consistent evidence regarding the fate of African elephants. Critical information from population surveys has been particularly enlightening. In 2013, a peer-reviewed paper lead by Wildlife Conservation Society scientists, with which I was involved, analyzed forest survey data collected during the previous decade, quantifying a 62 percent decline in forest elephants between 2002–2011.³ The latest evidence suggest this decline continues. The picture is no better for African savanna elephants. The Great Elephant Census, a Paul G. Allen Project peer reviewed by African Elephant Specialist Group, is providing critical aerial survey data for savanna elephant populations. Most notable is the loss of over 50,000 elephants in Tanzania alone since 2009 (greater than 60 percent decline), with the loss of over 7,500 additional elephants (~50 percent decline) in the adjoining Niassa population of Mozambique.⁴ Illegal killing and subsequent trafficking at this scale requires serious logistical organization, and implies government agencies in these regions are extremely ineffective at best and actively colluding at worst. The poaching problem in the Selous-Niassa region of southern Tanzania and northern Mozambique was recognized as early as 2009. Since then, the Tanzanian Government’s response to the problem has not met the challenge despite rhetoric on international stages to the contrary. In order to stem this “blood bath” (the Tanzanian Minister of Natural Resources’ recent label for the current situation in Southern Tanzania), serious action—law enforcement, arrests, and prosecutions—is required.

While Tanzania has been the primary location of industrial scale poaching on the continent over the last 5 years, censuses have now documented severe losses of over 10,000 elephants within Zimbabwe and Gabon.^{3,4} These losses are in addition to the killing of hundreds to thousands of elephants within many countries, including Kenya, Zambia, Cameroon, Republic of Congo and DRC.³ With some of the more accessible populations having now been depleted, we are seeing signs of increased pressures in adjoining areas. This puts countries such as Zimbabwe, which holds large populations near the killing fields of Tanzania and Mozambique, and Zambia under threat. Similarly, population in Cameroon and Republic of Congo are experiencing increasing pressure. We need to mobilize resources to protect these susceptible areas as well as ensure the security of Botswana’s and Gabon’s elephant populations, where respectively the majority of savanna and forest elephants reside.

Long-term ivory seizure records collated and analyzed by the CITES Elephant Trade Information System (ETIS) by TRAFFIC, a joint program of WWF and the International Union for the Conservation of Nature (IUCN), provides the best metric of global illicit ivory trafficking. Data from ETIS have shown a massive increase in ivory seizures starting in 2010, with 2013 showing the highest seized volume ever recorded. Large volume seizures are increasingly driving these trends, a clear indicator of organized criminal syndicates involvement in ivory trafficking.⁵ The vast majority of ivory seized since the surge in 2010 was trafficked out of the ports of Mombasa, Kenya, and Dar Es Salam, Tanzania destined for China.⁵ Ivory from these seizures is being genotyped to identify their source populations. A study published last month in *Science* out of the University of Washington showed recent seizures were overwhelmingly comprised of ivory from elephant poached in Tanzania and Mozambique.⁶ These data also provide important insights about trafficking routes within Africa, showing that most of this seized ivory originating in Tanzania was trafficked out of Kenya’s port in Mombasa, potentially to hide trade routes. It is critical to end the ability of the kingpins of illegal smuggling networks to operate with impunity, but we have seen far too few successful prosecutions and therefore little disruption of this illegal trade to date.

While horrifying, these numbers do not actually capture the total impact on elephants, a deeply social species that maintain close, lifelong family bonds—a social system similar to humans in many ways.⁷ It is well documented that poaching for ivory tends to select older, and therefore larger tusked, individuals in a population, namely the primary breeding males and the matriarchs and mothers in families.⁸ Poaching, thereby, leaves behind orphaned juveniles without the support of their families. The repercussions of poaching on these orphaned survivors is not fully understood, though we know they have lower survivorship relative to nonorphaned juveniles.^{9,10} As such, poaching likely leads to indirect demographic effects.¹¹ In addition, we know elephants fulfill critical ecological roles as browsers and seed dispersers,^{12,13} a force against bush encroachment, and in maintaining habitat components on which other species are dependent.¹⁴ The negative and varied impacts of the loss of such species that fill such important ecological roles, termed ecological engineers, is well documented,¹⁵ and a serious concern for rangeland and forest

health in Africa. The loss of elephants will drive a transformation of Africa's ecology as we know it.

I want to emphasize the role of science in identifying the scale, timing, and location of this slaughter of elephants, information critical to mobilize global action to stem the problem. The analyses and data highlighted here have identified the hotspots of killing and trafficking hubs. These are the key nodes to be tackled in a complex illegal trade chain. More generally, these data have revealed the scale of this issue and catalyzed collaborative action by wildlife management agencies, NGOs and global policy bodies, providing the political will and funding to make an impact. Sustaining independent, scientifically rigorous data collection efforts, often carried out by international NGOs and supported in many cases by U.S. funding, is fundamental for assessing the effectiveness of investments in frontline protection as well as antitrafficking. The success of science in identifying and monitoring elephant poaching and ivory trafficking has been a rare bright spot in efforts to combat wildlife crime. The International Consortium on Combating Wildlife Crime with other global policy bodies have recognized the successes in elephant monitoring, and are interested to replicate this model on other species to gain greater understanding of illicit wildlife trade generally.

IMPLICATIONS FOR SECURITY

The scale of the illegal wildlife trade relative to other criminal activities has been well documented, valued at billions of dollars annually with proceeds ultimately strengthening criminal networks and, in some cases, insurgent groups. Wildlife resources, like ivory, take much less infrastructure to reap than guns, minerals, drugs, or oil and are relatively easy to traffic. In addition, wildlife resources are concentrated in remote areas with limited government capacity to police or areas riddled with corruption (where poaching of elephants and illegal trade in ivory is most acute, poor governance is a serious contributing factor).¹⁶ This confluence of factors has driven the illegal wildlife trade into the top five illegally trafficked goods globally.

Illegal wildlife trade has a number of costs to local communities. The increased militarization of poaching operations is leading to destabilization of areas and this loss of law and order has cascading effects on human populations. Illegal wildlife trade can enhance local and national corruption by altering power bases, leading to less effective judicial and governmental function. In addition, increased insecurity and resource losses undermine both consumptive and nonconsumptive tourism, which is often the most important direct source of revenue from wildlife to local communities and can be a substantial contributor to local economies. In addition, militias involved in illegal killing of wildlife are often involved with other criminal activities, some of which directly prey on local communities (e.g., banditry and livestock rustling). Links to insurgent groups have been documented in multiple areas in Africa, as others on this panel will speak to. Such groups extract a serious toll on the communities and nations where they are operational.

EXAMPLE OF SUCCESS

While the numbers presented and conditions on the ground in many countries are grim, it is important to recognize that the slaughter of African elephants is not happening everywhere and that we are beginning to see successes in populations that faced severe threats just last year. The situation where we have been able to turn the tables successfully that I know best is for the elephant population of Northern Kenya, where Save the Elephants operates a field station and works in close collaboration with neighboring private organizations such as Lewa Wildlife Conservancy and the Northern Rangeland Trust, as well as the Kenya Wildlife Service. I want to summarize what we know demographically and economically about poaching in this population and then summarize the conservation model implemented in this area that has proved successful.

We have been monitoring the Samburu elephant population of northern Kenya intensively over the past 18 years, from which we have collected detailed demographic data on individual elephants that allow us to pull out highly accurate poaching rates and demographic trends. This is the finest resolution data on poaching impacts available for the species, and provides the most direct metric of intervention success. We began to experience increasing rates of illegal killing for ivory in 2009, which rapidly grew to its peak of over 8 percent of the population during 2011. The rapid increase closely tracked a surge in black market ivory price in Isiolo, the local trade hub, where ivory prices were below \$30/kg in 2007, but rapidly increased to \$150–\$180/kg in 2011.² Poaching rates, at ~4 percent in 2012 and 2013, decreased after this peak year but were still unsustainable. Black market ivory

prices remained high at over \$100/kg during this time (though lower than the peak of 2011). However, in 2014, poaching rate declined precipitously to around 1 percent. This is a sustainable rate of offtake, and the population increased in 2014 for the first time since 2008. While only half way through the year, we continue to experience markedly lower levels of illegal killing in 2015 with multiple signs of sustained success.

This sustained decline in poaching was driven by effective antipoaching operations carried by the Kenya Wildlife Service in partnership with NGOs coupled with a successful community conservation model. In this ecosystem, we have been working closely as part of a public-private partnership between a consortium of pastoralist community conservancies collectively called the Northern Rangelands Trust (NRT), Lewa Conservancy, and the Kenya Wildlife Service. NRT is a program supported by The Nature Conservancy and USAID to great effect, where a good governance model of community led decisionmaking with comanagement by partners has led to effective engagement and support for conservation among nomadic pastoralist communities. In order to be a member and access resources made available through NRT, communities must elect officials to their governing board, which serves as the primary decisionmakers on budget and natural resource management matters. This transparent and grassroots governance model is fundamental to NRT's success.

The primary incentive to join NRT and subscribe to its conservation model is the provision of security. Due to northern Kenya being awash with illegal small weapons, security is a fundamental concern for the region's ethnic groups. The primary success of NRT, with USAID, support has been to bring peace between different ethnic groups in the region. Economic development is part of this model, but is directed toward bringing new economic activity through enhancing access to cattle markets (activities supported directly by USAID) and livestock husbandry efficiency, as well as tourism where tourism development has high potential (which is not in all conservancies). As a result, markets are more accessible and jobs are created.

The training and equipping of community scouts, closely vetted and overseen by community boards and comanaged through the NRT umbrella, has helped ameliorate tribal tensions. These efforts have also brought an effective informant network covering a broad and remote region. In close partnership with the Kenya Wildlife Service, these communities that were once antagonistic to the wildlife service now pass information in support of government antipoaching activities. This collaboration has been critical in turning the tide on poaching in northern Kenya.

The importance of political will and support of the government is vital to success. From 2012, the Kenya Wildlife Service (KWS) conducted an antipoaching surge, assisted by the private sector. KWS was effective in targeting the well-armed poaching groups, neutralizing major field operators. More importantly, KWS with other Kenya governmental policing groups neutralized known local traffickers. Intelligence based interdiction of middlemen in Isiolo, the hub of wildlife trafficking in our area, has had a perceptible effect of driving down poaching rates. Most notably, the price of black market ivory which had remained stubbornly high over the past 4 years has finally started to decline. It is speculated that this is because general fear of KWS intelligence on illegal wildlife trade networks has moved many individuals out of the poaching arena. In addition, recent Kenyan legislative advances that substantially increase penalties for wildlife crime likely also contribute to this fear.

Telling is an event that I experienced last month in Samburu. A tribal conflict over grazing lands and water access flared up south of the protected areas where our research is based. As a result, the area between the two ethnic groups was devoid of people, providing a void in policing of the area. Three elephants were shot in the area, our first poaching incident in direct vicinity of our research site in over a year. We responded with KWS, visiting the carcasses to identify the individual elephants killed as part of our monitoring program. To our and KWS's great surprise, the ivory was not taken from these elephants, though body parts had been removed presumably for black magic. The individuals that poached the elephants decided not to take the ivory in fear of retaliation by the KWS antipoaching unit. None of us had seen an illegally killed elephant with its ivory in the last 7 years. I believe this event speaks to the scale of the changes that have occurred in Northern Kenya over the past 2 years.

The example of collaboration between the private sector, communities, and government forces in Northern Kenya demonstrates the success of a model where force against poachers is conducted with the enhancement of community programs. The genuine interest in people's welfare on the part of the conservation community has helped engender a conservation oriented management scheme by the local government and people, where poachers are viewed as destructive to the communities' welfare and, therefore, ostracized. U.S. support through USAID in northern Kenya has

played a significant role in catalyzing a whole chain of events from peace to reducing the wildlife trade, with new economic incentives to sustain the gains.

KEY SOLUTION COMPONENTS

It is critical to recognize that the conditions that facilitate poaching and wildlife trade vary by country and even within national sites across Africa. As such, there is not a single prescription that can solve the issue of illegal wildlife trade in Africa. However, we have a number of approaches that are being applied with effect, which need to be supported, amplified, and augmented where appropriate. Across Africa, we see evidence of the importance of healthy collaboration between the private sector, conservationists, and the national wildlife management authorities. The success of such public-private conservation models requires sustained funding and monitoring of project objectives. In addition to funding and monitoring, I wanted to highlight four fundamental tenets for success that are often overlooked:

(1) *Good governance*: Examples of successful community engagement uniformly invest in good governance fundamentals, being (i) community engagement/leadership in decisionmaking; (ii) comanagement models with external oversights to increase transparency and reduce options for corruption; and (iii) functional legal frameworks/institutions that provide license to operate (or facilitation of legal processes where functionality is lacking as exemplified by the activities of the Last Great Ape Foundation—LAGA).

(2) *Land Use Planning*: Africa is experiencing rapid agricultural and infrastructural development, and we have evidence of communities facilitating wildlife trafficking where it is perceived wildlife are strictly a cost to livelihoods, as can occur where conflict with wildlife is high (often in relation to crop raiding). To ensure success, conservation projects need to address underlying problems between local livelihoods and wildlife and be located in areas with long-term prospects for wildlife. With enormous development aid and investment in sub-Saharan agricultural expansion, it is critical that wildlife-sensitive land use planning is a core part of development implementations. A danger is where conflicting development projects implemented in the same community undermine the goals of one another.

(3) *Incentives*: Development of the appropriate incentive model for a site is key for success. Incentives must address underlying needs of the communities, which are highly varied across locations. In Northern Kenya, enhancing security and promoting peace across the ecosystem has been the primary attractant. In Namibia, we see economic benefits from hunting being core to successful community conservation projects (the wildlife sector is a primary contributor to GDP in multiple elephant range nations). Another part of this is ameliorating the costs of wildlife to communities where they exist.

(4) *Security and Policing*: It is critical to have effective security and policing activities in place to protect wildlife and disincentivize criminal activity. Where policing activities also provide security to local people, as in northern Kenya, greater community support for efforts to reduce poaching emerge. In addition, community buy-in to policing efforts provides critical lines of communication for procuring intelligence. Accurately targeted intelligence-based interventions are fundamental to disrupting illegal wildlife trade and maintaining community support. However, the risk exists that trained and armed local scouts can facilitate or conduct illegal wildlife trade and concerns over the increased militarization of antipoaching forces have been raised. Effective antipoaching only works if oversight is in place.

It is increasingly important to build out these tenets for success in areas that are at greatest risk from illegal wildlife trade. We are seeing increased evidence that poaching moves to points of least resistance quite fluidly. Elephant poaching was targeting areas outside protected areas in Central Africa, with core protected areas providing the few safe havens in this region. But increasing evidence suggests these core areas are now under threat. It is critical to provide immediate investment in these core areas that are serving as the final strongholds of elephants in this region, in particular Odzala and Nouabale-Ndoki in Republic of Congo, Lobeke, Boumba Bek and Nki National Parks in Cameroon, and Minkébé National Park in Gabon. In savanna systems, evidence suggests increasing pressures on Zimbabwe and Zambia as well as continued poaching across Tanzania and Mozambique.

In recognition of the need for rapid targeted responses to the fluid pressures of the illicit ivory trade, Save the Elephants with the Wildlife Conservation Network created the Elephant Crisis Fund (see Appendix 1). This is a zero overhead model to support targeted and catalytic projects on the ground in Africa. The model relies on implementing partners that are deeply knowledgeable and experienced in the areas under threat, building on decades of individual relationships within wildlife conservation circles across Africa, as well as global cross-sectoral networking. In just

over 2 years, the ECF has deployed \$4.2 million to support 25 different partners implementing projects ranging from Africa to Asia addressing poaching, trafficking, and demand reduction. It has seen marked successes in difficult to work regions, highlighting that investing directly in experienced on the ground partners is the most effective way to address the wildlife crime problem. Programs like USFWS Multinational Species Conservation Funds apply this same theory to great effect.

Save the Elephants has also been at the forefront of using GPS animal tracking technology to enhance conservation effectiveness. Our novel technological approach leverages real time GPS data on the location of elephants to deploy antipoaching assets in the field, identify when elephants enter danger zones to ready interventions, and monitor individuals (great tuskers) that are at high risk. A real-time analytical system sends alerts to wildlife managers and partners via text messages and emails when individuals approach or enter high risk areas. We also disseminate alerts when elephant behaviors suggest problems, such as prolonged immobility which can mean poaching. These tracking data also are put to task for land-use planning, including the identification of important, unprotected areas and corridors connecting hotspots across the ecosystem. We are working closely with Paul G. Allen's Vulcan to further develop this system and make it publicly available to all conservation organizations.

Higher up the trade chain, the impunity of kingpins in trafficking networks remains a serious problem in addressing this issue. We have seen models of success from other agencies that can be replicated to impact wildlife trafficking networks. One example is a collaboration between the U.S. DEA with Kenya's Anti Narcotics Unit, and others, whereby a drug trafficking ring out of East Africa run by the Akasha family was dismantled. A specialized, 16-man investigative unit was formed, in which all personnel were highly screened using lie detectors and drug tests. Some of the biggest drug busts of the year have been directly attributed to this small focused unit. Means to attack the underlying financial basis of these trafficking networks is another important aspect to be mobilized. U.S. Departments like the Department of Defense Counter Threats Office and the Treasury Department are already engaged in this work for other types of criminal networks. Their expertise could be highly effective in disrupting wildlife trafficking networks.

At a macro scale, the African elephant range State led African Elephant Action Plan, agreed upon by all 38 range states, prioritized objectives and actions to address the threats facing African elephants, with particular reference to poaching, ivory trafficking and habitat loss. This is an initiative needing funding and technical assistance support from the global community. The Elephant Protection Initiative (EPI) seeks to raise the support needed for implementation of the African Elephant Action Plan from global partners, including the inventory and securing of ivory stockpiles and submission of stockpile data to CITES. In addition, the EPI calls for a closure of domestic ivory trade, which has been linked to international smuggling of ivory. A number of range states have signed onto the EPI, with many now conducting ivory stockpile inventories mandated by CITES. This includes Kenya which is conducting a national level inventory starting this week. Diplomatic support of this effort would greatly enhance its effectiveness.

The International Consortium on Combating Wildlife Crime (ICWC), a collaborative partnership of the CITES Secretariat, INTERPOL, UNODC, the World Bank and the World Customs Organization was established to enable a more coordinated response to wildlife crime, including a mechanism to collect robust data on illegal trade. This effort seeks to enhance monitoring of ivory trade, but also build on what we have learned from the monitoring efforts of ETIS and MIKE to implement more effective monitoring of illegal wildlife trade in general. Such science based initiatives are critical as discussed previously.

U.S. ROLE

The U.S. has played a profound role in conserving African elephants and continues to be a global leader in conservation efforts. I would like to thank Congress for providing the funding for U.S. agencies that are working to conserve elephants in the wild. Many of my colleagues highlight the U.S. Fish and Wildlife Service Elephant Conservation Fund as having the greatest return on investment of any government program on the ground in Africa. In addition, USAID has done tremendous work helping to conserve the large landscapes elephants and other species across Africa require. The rapid agricultural expansion across Africa is possibly the next greatest threat to elephants after ivory trafficking and the work of USAID in facilitating proper land use planning will be critical to the well being of the species in the long term.

The White House Executive order on Wildlife Trafficking with the activities of the U.S. State Department have played a central role in bolstering wildlife trade enforcement efforts around the world and bringing high-level diplomatic attention to this issue. Convening the collective abilities of U.S. Government departments via this action increasingly appears to be the key to disrupt wildlife trafficking networks. It is vital this support continues and is increased to deal with the current crisis. Funding is needed to enhance core area protection in the areas under threat, catalyze judicial oversight and reform, and activate specialized criminal investigative units to attack criminal networks.

U.S. leadership on wildlife trafficking has been critical in galvanizing the broader global community. Repeated diplomatic engagement with China on wildlife trafficking has significantly increased the attention and discussion paid to this issue. It is critical for the U.S. to continue on this constructive course. China, the destination of the vast majority of illegal ivory, has directly expressed that the steps they are making on handling their domestic ivory trade problems need to be matched by the U.S. The critical game changer in turning the tide on ivory poaching would be a ban on domestic ivory trade by China. Institution of a domestic trade ban by the U.S., being the second-largest consumer globally, appears to be the most likely action to catalyze this.

U.S. diplomacy in Africa has also been critical to stimulate action by range states. President Obama's upcoming trip to Kenya offers a great opportunity to publicly recognize the political will that has been expressed and demonstrated through support of antipoaching efforts from President Kenyatta and judicial reforms regarding wildlife crimes. At the same time, the continued role of Mombasa in wildlife trafficking needs to be raised at the highest levels. Increasing diplomatic pressure on those countries demonstrating catastrophic failures to address this issue need enhancing. In particular, the criminal activities operating in Tanzania and Mozambique with impunity need to be "called out" at high levels with threats of further actions. Where diplomacy is not bearing fruit, it is time to back it up with tangible penalties such as withholding USAID dollars and discussing sanctions. It appears that the realistic threat of such actions is necessary to elicit movement by these governments and save elephants.

End Notes

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Senator FLAKE. Thank you.

Ms. Hemley.

**STATEMENT OF GINETTE HEMLEY, SENIOR VICE PRESIDENT,
WILDLIFE CONSERVATION, WORLD WILDLIFE FUND, WASH-
INGTON, DC**

Ms. HEMLEY. Thank you very much, Chairman Flake and Senator Udall and all the members of your subcommittee for the opportunity to testify today and for all of your attention on this issue. We greatly appreciate your efforts. World Wildlife Fund is the largest private conservation organization working internationally to protect wildlife and wildlife habitats, and we currently sponsor programs in more than 100 countries.

I will not repeat points made by some of the previous witnesses, particularly with respect to elephants. But what I would like to do is touch briefly on the situation related to African rhinos and focus on the needs and potential solutions as related to community-based conservation, antitrafficking measures, and reducing demand. I will talk about a couple of examples from southern Africa.

Let me first reference your comment, Mr. Chairman, earlier about the seriousness of this issue that we are dealing with. We are talking about transnational organized crime as applied to wildlife. And to that end, WWF strongly encourages support for the legislation currently pending in both Houses: S. 27, introduced by Senators Feinstein and Graham; and H.R. 2494, introduced by Representatives Royce and Engel. These bills would make large-scale wildlife trafficking a predicate offense to other major crimes such as money laundering, racketeering, and smuggling and provide critical tools for enforcement that are available now for other big crimes that we also need to apply to wildlife. So we are very encouraged to see this legislation being considered.

Regarding rhino poaching, over the 50 years or so that WWF has been involved in rhino conservation, we have seen great strides in both the recovery of rhinos, both black and white rhinos, in Africa as well as periods of severe poaching. Today four countries hold the key to the black rhino's future in many respects: Namibia, Kenya, South Africa, and Zimbabwe. And for the white rhino, it is South Africa. However, the continued recovery of these populations and the survival of rhinos in other parts of Africa is now in doubt in many respects because of the recent resurgence in trade and demand.

These days, all eyes are on South Africa where we have seen a massive increase in poaching over the last 7 years. The statistics are well known: 13 rhinos poached in 2007 to over 1,200 in 2014. And according to information we received earlier this week, 2015 is on track to be the worst year yet for rhinos. Current research in South Africa supported by WWF is finding strong evidence that rhino horn trafficking is controlled by sophisticated organized crime groups that are involved in smuggling both people and narcotics, with operations firmly embedded within South Africa.

In the last 3 years or so, tens of millions of dollars, including from generous supporters in the United States, including the U.S. Government, have contributed to the South African Government and other key stakeholders in the country and yet the poaching and trafficking problem is getting worse.

We are highly concerned about the persistent allegations of serious levels of corruption there that occur hand in hand with these organized crime activities. It is our view that until the South African Government addresses these issues on a sufficient scale, that nothing is going to change. So we see this as a high priority and we encourage this committee to use its influence to press the South African Government to do more to help where we can as a country.

Turning next door to South Africa, Namibia; Namibia is currently the continent's stronghold for black rhino, and the country is, in many ways, a great example of how wildlife resources, if properly conserved, can form the basis for both economic growth in impoverished regions and effective conservation. The community-run conservancies in Namibia are an effective model, thanks in part to generous support over many years from USAID and more recently the Millennium Challenge Corporation working with WWF and other local partners. In these conservancies, much as you have heard from other witnesses and other countries, local communities own, manage, and profit from their own wildlife resources, which has contributed to a rebounding wildlife population as well as increased economic benefits for local people.

Until recently Namibia's rhino and elephant populations have been largely immune to poaching, but unfortunately, the wave of poaching that is sweeping Africa is finally hitting Namibia. About 70 rhinos have been poached this year, nearly all in the western part of the Etosha National Park. In just the last 3 weeks, though, we are encouraged that over 30 arrests have been made, mainly of low-level government officials. So Namibia has got its own internal problem, but they seem to be taking action through a no tolerance for poaching approach that the country has taken on.

The next key step for Namibia is to ensure that the judiciary prosecutes these crimes in a serious manner, and we are working to help them ensure that they have a dedicated wildlife prosecution specialist established.

So when it comes down to it, one of the reasons Namibia has been successful, reflecting some of the comments made by other witnesses in other countries, many of the arrests have been achieved through information provided from community intelligence and former networks which are then passed on to enforcement officials.

I will just mention briefly an example in Asia where we have also seen actually success in keeping poaching under control. The country of Nepal similarly strongly focused on community-based conservation with strong support for enforcement from the highest levels of government, has resulted in 3 of the last 5 years zero poaching of rhinos, elephants, and tigers in Nepal. And so it is just another example of what can be effective.

Let me just briefly mention that we are not going to address this issue successfully unless we really disrupt these transnational organized crime syndicates, and to that end, it is critical to see enhanced intelligence and information systems not only within these countries but across countries, across borders. We do not yet have sort of proactive intelligence collection systems that are integrated across borders that will allow us to direct more strategically enforcement efforts, and so that is an area that we see as a weakness

that could be remedied by training, support from the United States for training, provision of intelligence analysis software and additional resources that would allow enforcement staff to allocate more strategic focus on the areas that are the biggest problems.

I know this is a priority for the State Department and the Fish and Wildlife Service. We urge continued support for these activities and we feel they are strongly needed.

The last point I will make very briefly. A previous witness touched on this well. Stopping demand is obviously critical. Of the three areas that are critical for action in this whole issue, antipoaching, antitrafficking, and demand reduction, demand reduction has received by far the least investment over the years. So we see a real need to emphasize that more. We are encouraged by recent news from China as the big driver—encouraged by the news that they are committed to limiting their ivory market, but we have not seen that action yet and it will be influenced by what the United States does as well for its ivory market.

So I will stop there, Mr. Chairman, and look forward to any questions.

[The prepared statement of Mr. Hemley follows:]

PREPARED STATEMENT OF GINETTE HEMLEY

Chairman Flake, Ranking Member Markey, and members of the subcommittee, thank you for the opportunity to testify on the global wildlife trafficking and poaching crisis and its implications for conservation, economic growth and development, and U.S. security interests. WWF is the largest private conservation organization working internationally to protect wildlife and wildlife habitats. We currently sponsor conservation programs in more than 100 countries with the support of over 1.2 million members in the United States and more than 5 million members worldwide.

INTRODUCTION

Illegal wildlife trafficking and poaching to supply the illegal trade in wild fauna and flora is one of the greatest current threats to many of our planet's most charismatic, valuable, and ecologically important species. Wildlife poaching and trafficking also poses significant threats not only to wildlife conservation and our shared natural heritage but also to security, good governance, and economic development objectives around the globe. In fact, wildlife trafficking has become a transnational criminal enterprise worth billions of dollars annually that is strongly connected to other transnational organized crimes, such as drug and arms trafficking, and is helping to finance agents of instability and corruption in many developing countries.¹ According to the best estimates, the illegal wildlife trade has a value of \$7.8–\$10 billion per year, a figure which puts it the top five largest illicit transnational activities worldwide, along with counterfeiting and the illegal trades in drugs, people, and oil.² If the illegal trades in timber and fish are included in the total, then the estimated value of illegal wildlife trafficking rises to \$19–\$20 billion annually. In terms of its size, wildlife trade outranks the small arms trade. It also has strong connections to other illegal activities—guns, drugs, and ivory may be smuggled by the same criminal networks and using the same techniques and smuggling routes.

Much of the testimony offered today, including my own, will appropriately focus on two iconic African species: rhinos and elephants. But wildlife trafficking impacts a wide range of species across the globe. Tigers continue to be subjected to intense poaching pressures throughout their range in Asia—the parts of almost 1,600 tigers were seized in tiger range countries over the past 15 years, an average of 2 per week—and numerous other species are being rapidly depleted to feed a voracious global trade, including marine turtles, sharks, pangolins, totoaba, corals, tortoises and terrapins, tokay geckos, song birds, and endangered plant species, such as orchids and tropical hardwoods. Every year, an estimated 73 million sharks are killed, primarily for their fins.³ Over the past decade, 20,500 tons of abalone have been poached and illegally traded from South Africa.⁴ Between 2000 and 2012, 218,155 pangolins were reported in seizures—a significant underrepresentation of the total estimated volume of trade.⁵ In Thailand alone, 19,000 tortoises and fresh-

water turtles were seized between 2008 and 2013.⁶ Illegal gillnet fishing and the resulting bycatch in Mexico's Gulf of California to supply consumers in Asia with the dried swim bladders of the totoaba fish is driving the world's most endangered marine mammal—the vaquita—to extinction.⁷

At the root of this wildlife trafficking and poaching crisis is the growing demand—primarily in Asia—for high-end products made from wildlife parts, such as elephant ivory, rhino horn, and tiger skins and bones. Products made from these and other increasingly rare species command high prices on Asian black markets as purported medicinal cures (e.g., rhino horn powder and tiger bone wine), culinary delicacies (e.g., shark fins), or demonstrations of wealth and status (e.g., ivory carvings). Growing wealth in Asia, particularly in countries such as China and Vietnam, is a primary driver and has resulted in a steep increase in Asian consumers with the means to purchase such products—and in the prices being paid for them. However, the criminal networks feeding Asia's growing demand are global in nature, reaching across oceans and continents and operating in many countries, including the U.S. Middleman traders often direct poaching activities and engage in targeted efforts to corrupt law enforcement, border inspection, and wildlife protection efforts in affected countries. In some cases, organized Asian criminal syndicates, which are now increasingly active in Africa, work with local economic and political elites to subvert control systems and operate with relative impunity.

Overall, illegal wildlife trade produces a broad corrupting influence on governments, which is a central challenge. The combination of rapidly rising prices and inadequate enforcement regimes in many countries makes poaching and illegal wildlife trafficking a high profit, low-risk criminal enterprise and has led to a dramatic upsurge in not just the amount of poaching and illegal wildlife trafficking, but also its severity. Poachers supplying products such as elephant ivory and rhino horn are less often local criminals armed with spears or shotguns and more frequently resemble highly organized and heavily armed gangs, at times including militia or military personnel. They violate international borders, carry AK-47s and rocket-propelled grenades, and possess strong connections to transnational criminal networks. In some regions of Africa, trafficking in wildlife and other natural resources has been strongly connected to the financing of destabilizing forces, including armed insurgencies, groups responsible for human rights abuses, and organizations with ties to terrorism.⁸ In many parts of Africa and Asia, poachers and wildlife traffickers can operate largely with impunity due to weak laws or law enforcement, poor capacity, governance shortfalls, and an overall failure of governments to recognize wildlife crime as a serious crime.

It is on the ground, primarily in developing countries and rural regions, where large-scale illegal trade in wildlife and wildlife products is having its most devastating effects, negatively impacting local communities by undermining regional security and economic growth while exacerbating corruption and instability. Many developing countries are witnessing the rapid decimation of their wildlife—a potentially valuable resource on which to build sustainable growth and eventually bring greater stability to impoverished and often conflict-torn regions. At the same time that wildlife crime is taking a profound toll on many ecological systems, it is also robbing some of the poorest communities on earth of their natural wealth, breeding corruption and insecurity, and disenfranchising them of sustainable pathways to prosperity.

Over the past 3 years, the U.S. Government has taken strong and significant steps to recognize that wildlife crime is a serious crime with serious consequences, including President Obama's Executive Order 13648 and the administration's release in February 2014 of the National Strategy for Combating Wildlife Trafficking and in February 2015 of its subsequent implementation plan for the Strategy. Congress has also taken action, providing increased resources to U.S. agencies working to implement the National Strategy, proposing new legislation to strengthen U.S. laws and programs designed to combat wildlife trafficking and build antipoaching capacity in developing countries, and holding hearings such as this one, which have done much to bring attention to the current poaching crisis and educate decisionmakers about potential policy responses. In my testimony, I hope to present not just the current state of the problem but also some examples of both immediate and long-term solutions, as well as recommendations on further actions Congress and the administration can take to implement and enhance the National Strategy.

AFRICAN RHINOS

The poaching crisis facing Africa's rhinos today is exemplary of the degree to which the current situation differs from the poaching challenges we have faced in

the past. Highly organized, transnational criminal networks are taking advantage of emerging markets and skyrocketing prices for a black market luxury product—rhino horn—and have suddenly created a grave situation for a set of species that had, until recently, been regarded as one of Africa’s great conservation success stories. WWF has been involved in rhino conservation and management in Africa for nearly 50 years. During that time, we have seen great strides in the recovery of both black and white rhinos on the continent. Southern white rhinos, once thought to be extinct, have recovered to number roughly 20,000 individuals in South Africa alone. Black rhinos have doubled in number over the past two decades from their low point of 2,480 individuals, though their total numbers are still a fraction of the estimated 100,000 that existed in the early part of the 20th century. Namibia is now the primary stronghold for the black rhino, South Africa for the white rhino. However, the continued recovery of these populations and the very survival of rhinos in parts of sub-Saharan Africa is now in doubt as these animals are mercilessly killed for their horns. Though trafficked in smaller amounts, rhino horn is worth far more than ivory and priced higher than gold pound for pound. Illicit traders can make more profit smuggling a kilo of rhino horn than from smuggling any illicit drug, and the risks are minimal in comparison.

South Africa

South Africa is home to over 80 percent of the world’s remaining rhinos and, through public and private efforts, has been largely responsible for the return of the southern white rhino. However, in just the past 7 years, it has seen the number of its rhinos killed illegally rise by 10,000 percent. In the early 2000s, roughly a dozen rhinos were poached in South Africa in any given year, but since 2007, the number has risen exponentially: from 13 rhinos poached in 2007 to over 1,215 in 2014.⁹ We anticipate that the South African Government will soon announce that nearly 700 rhinos were poached in that country in just the first 6 months of 2015—a figure that, if confirmed by the government, would put 2015 on track to be the worst year yet for rhino poaching in South Africa. Kruger National Park, which holds the majority of South Africa’s roughly 20,000 rhinos, remains the epicenter of illegal activity: the Park lost 827 rhinos throughout 2014, representing nearly two-thirds of all the animals killed that year. The situation is all the more shocking given that South Africa is recognized to have the most well developed park system in Africa, with the highest capacity and best enforcement.

Rhino horn poaching and trading operations in South Africa are closely associated with organized crime networks, some with access to high-powered weapons, helicopters, and night vision goggles. These paramilitary-type operations can easily outgun wildlife rangers, and South Africa has even resorted to military support and interventions in Kruger National Park—the primary site of the poaching surge—in order to combat rhino poachers. However, with potential profits so high, even some of those charged with protecting rhinos are becoming corrupted and helping to facilitate poaching. Current WWF-supported research in South Africa has found strong evidence confirming that rhino horn trafficking in the country is controlled by serious organized crime groups that are also involved in smuggling people and narcotics. The operations of these groups are firmly embedded within South Africa, and in spite of tens of millions of dollars in additional funding to the South African Government and other stakeholders from various sources in recent years, the poaching and trafficking is getting worse.

WWF is particularly concerned about the persistent allegations of serious levels of corruption occurring hand in hand with serious organized crime activities, which are facilitating rhino poaching and trafficking within the government and private sector. For example: in September 2014, Lawrence Baloyi, a South African National Parks (SANParks) employee who was the section ranger for the Lower Sabie region of Kruger Park, was caught poaching rhinos. He was arrested and is awaiting trial. South Africa also faces the challenge of its long, porous border with Mozambique, a 220-mile stretch of which comprises the eastern border of Kruger National Park. Mozambique has come under increasing scrutiny as a major driver of both rhino horn and ivory trafficking, due to its role as a major transshipment point for illegal wildlife products out of Africa and a major base for poaching operations into Kruger National Park. It is estimated that 80 percent of the rhino poaching occurring in the park is being carried out by poaching gangs from Mozambique. The Convention on International Trade in Endangered Species (CITES) has placed increased scrutiny on Mozambique’s failure to curtail illegal trade of rhino horn and elephant ivory, and some have called for stronger diplomatic action against the country, including possible certification by the U.S. under the Pelly amendment to the Fisherman’s Protective Act.

Many African nations have watched South Africa's rhino poaching rates with alarm, fearing that their rhinos would be targeted next—particularly if South Africa somehow manages to prevent further slaughter and the poachers seek out easier targets. Unfortunately, over the past 2 years we have seen the situation not only worsen in South Africa but also spread elsewhere. Kenya has seen an increase in rhino poaching losses, which, as a percentage of their total rhino population, are worse than those in South Africa, and Namibia, which has remained largely immune to rhino poaching until recently, has seen a sudden surge of its own over the past 12 months.

Namibia

Namibia is home to the largest free-roaming population of black rhinos on the planet and is an inspiring example of how conservation can benefit both people and wildlife when embraced by both the national government and local communities. Having written conservation into its constitution when it achieved independence in 1990, the Namibian Government proceeded to devolve ownership over wildlife resources to the local level, empowering local people in rural areas to establish community-run "conservancies," in which communities own and manage their own wildlife resources and derive profits from ecotourism opportunities and sustainable use of wildlife. The conservancy movement, which has been strongly supported by WWF on the ground, has grown over the past two decades to the point where over 20 percent of Namibia's land area is now under conservancy management. This has resulted in new local attitudes toward wildlife, rebounding populations of such charismatic species as rhinos and lions, and an exponential increase in the economic benefits that communities receive from their wildlife resources, including income and employment. Due to joint-venture lodges and related eco-tourism opportunities, community conservancies now generate upward of 6 million USD annually for rural Namibians—up from an insignificant amount in the mid-1990s. These successful programs receive critical support from USAID and, more recently, the Millennium Challenge Corporation, as well as WWF and others. By demonstrating the value of wildlife to local communities, these programs have made essential partners out of local people in the long-term conservation of wildlife and defense against poaching, helping to build successful informer networks and wildlife stewardship among communities, which have helped keep wildlife poaching low to nonexistent in communities where these programs have become established.

Unfortunately, while Namibia's conservancies have overall seen low levels of elephant and rhino poaching, over the past year the country has seen a sudden uptick in rhino poaching centered on Etosha National Park. Around 70 rhinos have been poached in Namibia this year, nearly all in the more remote western area of the park. WWF has been concerned that it was only a matter of time before rhino poaching came to Namibia, and from our perspective, the biggest problem has been the lack of antipoaching capacity and, in the case of Etosha, the involvement of corrupt governmental officials. However, given the recent spike in poaching incidents, the situation now seems to be receiving high attention from very senior-level government officials, including with the federal Cabinet, who have worked with the Ministry of Environment and Tourism to appoint external investigators from the police, military and Protected Resource Unit, which is responsible for investigating crime related to diamonds, drugs, and rhino/ivory. It appears that the government has responded by adopting a "no tolerance" policy toward rhino and elephant poaching in Namibia, and the past month has seen 22 arrests related to the rhino poaching in Etosha National Park, as well as 9 additional arrests related to rhino poaching in northwestern Namibia around Palmwag nature reserve and nearby conservancies.

These strong enforcement actions by the Namibian Government are promising signs and, demonstrate it is taking the new wave of rhino poaching seriously. However, WWF remains concerned with respect to the judiciary: we have seen magistrates release elephant poachers on bail and then the same poachers go back to poaching more elephants. The appointment this month of a new dedicated and experienced wildlife prosecution specialist to work exclusively on prosecution of rhino and elephant poaching cases is encouraging, but support for prosecutors is critical. Successful prosecutions under organized crime legislation—not just poaching legislation—will serve as the real disincentives to additional poaching. This will take time and require greater investigative and forensic support, and it applies everywhere, not just in Namibia.

In addition to evidence of the Namibian Government's high-level commitment to stop the poaching early and root out corruption, the continued strength of Namibia's model is the strong ownership over wildlife that communities possess through the conservancies. Many arrests for poaching have been achieved via community intel-

ligence and community informer networks established through conservancies, which have passed intelligence on to law enforcement officials. In several instances when poaching incidents have occurred, the poachers have been apprehended within 24 hours because of information provided by local informers. WWF has seen similar successes through programs we support in Nepal, where an approach combining Community-Based Anti-Poaching Units, strong engagement by the government in park protection, and enhanced intelligence sharing have led to 12 months free of poaching of rhinos, tigers or elephants in that country on three separate occasions—in 2011, 2013 and 2014.

Namibia's conservancy members increasingly resent both the increased poaching and low arrest and prosecution rates of those responsible—further evidence that conservancy members consider their wildlife a point of pride and that the conservancy movement has built wildlife conservation allies at the local level. In addition, it has helped to create local governance structures and local democracy, greater rural economic prosperity, and a respect for the rule of law in the country's post-apartheid era. It is clear that antipoaching efforts are not yet making a major difference to rhino poaching in South Africa—in part because the land area is so large and borders porous. The situation may be different in Namibia, however, where the poaching is evolving rapidly and there are few resources to combat it. The relationship between protected areas and neighboring communities is key to combating poaching activities, and we must work to disrupt the transnational organized crime syndicates that are funding poachers and smugglers and corrupting officials. A balanced approach including law enforcement efforts, successful prosecutions targeting organized crime and building the enabling environment for effective law enforcement, including core support from the local community, is the key to success in Namibia.

Rhino Horn Trafficking and Demand

It is estimated that 3,000 kg of illicit rhino horn reaches Asian markets each year. Evidence indicates that horn smuggled from South Africa will go directly to consumer markets in Asia, but primarily to the middlemen market in Bangkok. From there it is sold onward to buyers from Vietnam, Laos and China and smuggled into those countries. Increased law enforcement at Bangkok Airport also means that some horns are now being smuggled to Malaysia and driven overland to Bangkok in order to reduce the risk of detection. The spike in rhino poaching has surged due largely to rising demand for rhino horn in Vietnam, where some believe it to be a last resort cure for fever and even cancer and others employ it as a party drug/hang-over cure that doubles as a status symbol due to its exorbitant cost. Wealthy buyers have driven up prices and demand for rhino horn to a level where it is now being sourced not just from live rhinos in Africa and Asia, but also from trophies, antiques, and museum specimens in the U.S. and Europe. While trade in rhino horn is illegal in Vietnam, possession is not. Rhino horns are officially permitted in Vietnam only as personal effects, not for commercial purposes (under CITES rules) and are not to be traded or used post-import. Under the terms of the export permit from South Africa, horns are not to be used for commercial purposes. However, Vietnamese are not known for trophy hunting, and it is illegal for any private individual to own a gun in the country, suggesting that the large majority of legally imported horns are actually intended for illegal purposes. Until recently, Vietnam had shown little willingness to clamp down on illegal trade in rhino horn, but engagement by the U.S. Government and recent CITES decisions regarding rhino horn have helped move Vietnam to be more cooperative in addressing the problem. Much more will need to be done to dry up the illegal trade in rhino horn and educate the Vietnamese public, however, if current trends are to be reversed and demand for the product is to be curtailed and eliminated.

ELEPHANT IVORY

WWF has over 40 years of experience in elephant conservation, and through our African Elephant Program, we aim to conserve forest and savanna elephant populations through both conservation projects and policy development with elephant range state governments, local people and nongovernmental partners. TRAFFIC, a strategic alliance of WWF and IUCN—The World Conservation Union and the world's leading wildlife trade monitoring organization, tracks illegal trade in elephant ivory using records of ivory seizures that have occurred anywhere in the world since 1989. The Elephant Trade Information System (ETIS) managed by TRAFFIC, one of the two monitoring systems for elephants under CITES, comprises over 18,000 elephant product seizure records from some 90 countries, the largest such collection of data in the world.

African elephants once numbered in the millions across Africa, but by the mid-1980s their populations had been devastated by poaching. An international ban on the sale of ivory, put in place in 1989, helped to slow the rate of decline significantly for the past two decades in many parts of Africa. The status of the species now varies greatly across the continent. Some populations have remained in danger due to poaching for meat and ivory, habitat loss and conflict with humans. In Central Africa, where enforcement capacity is weakest, estimates indicate that populations of forest elephants in the region declined by 62 percent between 2002 and 2011 and lost 30 percent of their geographical range,¹⁰ primarily due to poaching. Elephants in Central Africa are also heavily impacted by the existence of large, unregulated domestic ivory markets, especially those still functioning in Kinshasa, Democratic Republic of Congo (DRC), and Luanda, Angola.

In other parts of Africa, populations have remained stable or grown until recently, but evidence now shows that African Elephants are facing the most serious crisis since the 1989 ban, and gains made over the past 25 years are in the process of being reversed. Tens of thousands of African elephants are being killed every year to supply the illegal ivory market, with an average of 18 tons seized per year over the past 20 years and annual highs of over 32 tons seized. The Convention on International Trade in Endangered Species of Fauna and Flora (CITES) reported that roughly 25,000 elephants were illegally killed on the African Continent in 2011 and that another 22,000 fell victim to poaching in 2012. Many independent experts see these estimates as conservative and believe the number to be significantly higher, with some estimates ranging from 30,000 to as high as 50,000. The consensus is that in the 3 years from the start of 2012 through the end of 2014, approximately 100,000 elephants were illegally killed across the African continent—a brutal loss for the species.

Data show an increasing pattern of illegal killing of elephants throughout Africa and demonstrate an escalating pattern of illegal trade—one that has reached new heights over the past 5 years. Those working on the ground throughout Africa have seen an alarming rise in the number of elephants being illegally killed, even in areas that were until recently relatively secure and free from large-scale poaching, such as southern Tanzania and northern Mozambique.¹¹ Reports out in recent months from those two countries indicate that elephant populations have declined by 60 percent in the former and 50 percent in the latter in just 5 years time—shocking declines. Witnesses have also seen a disturbing change in the sophistication and lethality of the methods being used by the poachers, who are frequently well armed with automatic weapons, professional marksmen and even helicopters. In most cases, poachers are better equipped than park guards and supervisors. In some instances, they are better equipped even than local military forces. Illegal trade in ivory has been steadily increasing since 2004 with the real surge beginning in 2009. Each of the subsequent years has hit historic highs for large-scale ivory seizures. Successive years of high-volume, illegal trade in ivory is not a pattern that has been previously observed in ETIS data. This represents a highly worrying development and is jeopardizing two decades of conservation gains for the African Elephant, one of Africa's iconic flagship species and an animal that the U.S. public feels adamant about protecting.

Requiring greater finance, levels of organization and an ability to corrupt and subvert effective law enforcement, large-scale movements of ivory are a clear indication that organized criminal syndicates are becoming increasingly more entrenched in the illicit trade in ivory between Africa and Asia. Virtually all large-scale ivory seizures involve container shipping, a factor that imposes considerable challenges to resource-poor nations in Africa. Large-scale movements of ivory exert tremendous impact upon illegal ivory trade trends. Unfortunately, very few large-scale ivory seizures actually result in successful investigations, arrests, convictions and the imposition of penalties that serve as deterrents. International collaboration and information-sharing between African and Asian countries in the trade chain remains weak, and forensic evidence is rarely collected as a matter of routine governmental procedure. Finally, the status of such large volumes of ivory in the hands of Customs authorities in various countries, which generally do not have robust ivory stock management systems, remains a problematic issue and leakage back into illegal trade has been documented.

Elephant Ivory Trafficking and Demand

In terms of ivory trade flows from Africa to Asia, East African Indian Ocean seaports remain the paramount exit point for illegal consignments of ivory today, with Kenya and the United Republic of Tanzania as the two most prominent countries of export in the trade. This development stands in sharp contrast to ivory trade patterns previously seen whereby large consignments of ivory were also moving out of

West and Central Africa seaports. Whether the shift in shipping ivory from West and Central African Atlantic Ocean seaports reflects a decline in elephant populations in the western part of the Congo Basin remains to be determined, but the depletion of local populations is steadily being documented throughout this region, according to the IUCN's Species Survival Commission's African Elephant Database. Data on elephant poaching from the Monitoring Illegal Killing of Elephants (MIKE) program, the other site-based monitoring system under CITES, also show that illegal elephant killing has consistently been higher in Central African than anywhere else on the African Continent. Now, however, poaching is seriously affecting all parts of Africa where elephants are found.

China and Thailand are the two paramount destinations for illegal ivory consignments from Africa. While repeated seizures of large consignments of ivory have occurred in Malaysia, the Philippines and Vietnam since 2009, these countries essentially play the role of transit countries to China or Thailand. Directing large shipments of ivory to other Asian countries for onward shipment is an adaptation by the criminal syndicates to the improved surveillance and law enforcement action in China and Thailand where targeting of cargo from Africa has increased. Importation into other Asian countries allows the shipping documents to be changed, concealing the African origin of the containers in question. In the case of Vietnam, which shares a long terrestrial border with China, ivory is being smuggled overland into China. CITES data also suggest that Cambodia, Laos, and most recently Sri Lanka have been emerging as new trade routes into China and Thailand, reflecting further adaptations by criminal trading networks.

Without any doubt, ivory consumption in China is the primary driver of illegal trade in ivory today, and China remains the key for stopping the growing poaching crisis facing Africa's elephants. The Chinese Government recognizes ivory trafficking as the country's greatest wildlife trade problem, and law enforcement officials are making almost two ivory seizures every single day, more than any other country in the world. Regardless, strict implementation of China's domestic ivory trade control system seriously faltered in the wake of the CITES-approved one-off ivory sale held in four southern African countries in late 2008. Various observers to China, including TRAFFIC monitors, have found government-accredited ivory trading retail outlets persistently selling ivory products without the benefit of product identification certificates, which previously were an integral discriminating feature in the Chinese control system. The ability of retail vendors to sell ivory products without these certificates means that they do not become part of China's database system, which is designed to track ivory products at the retail level back to the legal stocks of raw ivory at approved manufacturing outlets. This circumvention creates the opportunity to substitute products from illicit sources of ivory into the legal control system. Within the country, stricter internal market monitoring and regulation are needed, as well as scaled up and dedicated investigative efforts directed at fighting the criminal syndicates behind the ivory trade. Chinese nationals based throughout Africa have become the principle middleman traders behind the large illegal movements of ivory to Asia, and the advent of Asian criminal syndicates in Africa's wildlife trade stands as the most serious contemporary challenge. China needs to collaborate with African counterparts to address the growing Chinese dimension in Africa's illegal trade in ivory and other wildlife products.

Thailand also has one of the largest unregulated domestic ivory markets in the world. But unlike China, until recently Thailand has consistently failed to meet CITES requirements for internal trade in ivory. Interdictions of several large shipments of ivory have occurred at Thailand's ports of entry in recent years, and this past spring the two largest-ever seizures were recorded in Thailand, yielding seven tons of illegal ivory in a month. After intense pressure from CITES, including the threat of sanctions, the Thai Government recently passed long overdue new laws and regulations as part of a National Ivory Action Plan. Reforms have been desperately needed for a system that has, until now, allowed hundreds of retail ivory vendors to exploit legal loopholes and offer tens of thousands of worked ivory products to tourists and local buyers. CITES data underscore the global reach of Thailand's ivory markets as more than 200 ivory seizure cases have been reported by other countries regarding illegal ivory products seized from individuals coming from Thailand over the last 3 years. As a result of the new laws, Thai citizens have brought forward a massive 200 tons of ivory to be registered with officials. Questions remain about how Thai officials will deal with this situation, given the number of pieces this represents and the likelihood that much of the ivory is from illegally poached African elephants. Given the presence of U.S. Fish and Wildlife Service Law Enforcement and State Department Bureau of International Narcotics and Law Enforcement on the ground in Bangkok working on wildlife trafficking, we hope that U.S. agencies are actively engaging with their Thai counterparts to address the cur-

rent situation, and we commend the chairman and ranking member for their leadership of a recent letter to Presidential Task Force cochairs to this effect.

We also encourage the U.S. Government to continue to be a strong voice at CITES ensuring that the Thai Government delivers on its commitments and responsibilities to that treaty. Last year, WWF ran a campaign to generate public pressure on the Thai Government to take serious action on illegal ivory trade in a way that would not violate military restrictions on political organizing and in a culturally appropriate manner. The campaign, called “Chor Chang,” condemned the killing of elephants for ivory by asking supporters to symbolically remove the letter representing elephant, “Chor Chang,” from their names and sharing this on social media. The campaign tapped into Thailand’s ancient affinity with the elephant and creatively utilized this deep cultural attachment to illustrate what an enormous loss it would be if elephants disappeared. Nearly 1.3 million people and over 50 influential celebrities, politicians and bloggers participated, taking the campaign viral.

Next to China, Thailand’s domestic ivory market is perhaps the second greatest driver of illegal trade in ivory at the present time. After years of inaction, there are promising signs that Thailand may be taking an active role in addressing this problem. Culturally tailored approaches to demand reduction along with continued international and bilateral engagement, particularly through CITES, will be needed to ensure Thailand follows through on effective implementation and enforcement of the long-overdue legal reforms to its ivory markets.

THREATS TO SECURITY, STABILITY & RULE OF LAW

Poaching, by definition, entails armed individuals, often gangs, operating illegally in wildlife habitats which, in many cases, are protected areas that attract tourists and contribute to the economic development of many African countries. Where poaching is particularly entrenched and pernicious, armed militias from one country temporarily occupy territory in another country, destroying its wildlife assets and posing serious national security threats on many levels. Every year, throughout Africa, dozens of game scouts are killed by poachers while protecting wildlife. Poachers who profit from killing elephants and harvesting illegal ivory may also have ties to criminal gangs and militias based in countries such as Sudan (in the case of Central Africa) and Somalia (in the case of East Africa). Long-standing historical ties between slave trading, elephant poaching and the tribes that form Sudan’s Janjaweed militia (responsible for many of the worst atrocities in Darfur), mean that illegal ivory may well be being used as powerful currency to fund some of the most destabilizing forces in Central Africa. In parts of West and Central Africa, the situation has been dire for some time, and severe poaching is already resulting in the local extinction of elephant populations. In the past few years, the situation has grown even worse as we have seen a disturbing change in the sophistication and lethality of the methods being used by the poachers, who are frequently well armed with automatic weapons, professional marksmen and even helicopters. In most cases, poachers are better equipped than the park supervisors and guards. In some instances, they are better equipped even than local military forces.

Leadership in the region clearly understands the links between wildlife crime, peace and security and economic development, as demonstrated during the high-level round table on the links between wildlife crime and peace and security in Africa organized by the French Government on December 5, 2013 (one day before the Elysee Summit on Peace and Security in Africa). Central African governments also agreed to the language of the final Declaration¹² of the London Conference on Illegal Wildlife Trade, convened by the U.K. Government from February 12–13, 2014, at Lancaster House, London to inject a new level of political momentum into efforts to combat the growing global threat posed by illegal wildlife trade.

ECONOMIC GROWTH AND DEVELOPMENT

Wildlife resources, if properly protected, can form the basis for future economic growth in impoverished, rural regions of the continent. In several African and Asian countries, this is already happening. As described above, Namibia’s community-run “conservancies” allow local communities to manage their own wildlife resources and derive profits from ecotourism opportunities and sustainable use of wildlife. In Central Africa, a wildlife-based economic success story can also be told about Virunga National Park—Africa’s oldest national park and one of its most important in terms of biodiversity. It is also the continent’s best known park, because it is home to the last remaining mountain gorillas. Gorilla-based tourism is a huge economic engine: the annual revenue earned directly from gorilla tourism in the Virungas is now estimated at 3 million USD. When combined with the additional income received by related business, such as hotels and restaurants, the total figure may exceed 20 mil-

lion USD shared between Rwanda, Uganda, and DRC. In Rwanda alone, the number of tourists visiting the country from 2010 to 2011 increased 32 percent and tourism revenues rose an amazing 12.6 percent, from \$200 million to \$252 million in 2011—much of it due to mountain gorillas and other eco-tourism opportunities.

Through USAID, the U.S. is currently helping to support additional community-based wildlife conservation efforts in other priority landscapes for wildlife, including southern Africa's Kavango-Zambezi Transfrontier Conservation Area (KAZA)—the largest transboundary conservation area in the world, encompassing 109 million acres, crossing five southern Africa countries (Angola, Botswana, Namibia, Zambia, and Zimbabwe), and home to nearly half of Africa's remaining elephant population. Given its rich wildlife resources, the KAZA partnership in particular has the potential to improve the livelihoods of the 2.5 million people who live in the Okavango and Zambezi river basin regions through Community-Based Natural Resource Management (CBNRM) approaches that ensure that local communities benefit economically from wildlife on their land, through conservation of animals and their habitats and the creation of a world-class tourism experience while also bringing southern African countries together to more effectively combat international wildlife trade and poaching through information-sharing, joint patrols and surveillance, as well as harmonized law enforcement policies.

The Namibian model of CBNRM offers lessons that may be applied throughout the region, and the interest of multilateral donor agencies like the GEF in supporting wildlife conservation linked to economic development in KAZA is lending additional momentum. Even as we seek to stop the bleeding of elephant populations in Central and Eastern Africa, it is important that we consolidate our gains in southern Africa and take strong steps to ensure that this last great stronghold of Africa's elephants does not become its next battlefield and to contain the rhino poaching that has begun to spread beyond its main locus in South Africa. As always, continued U.S. Government support is critical for programs such as KAZA, which help to create clear economic benefits for people to conserve wildlife, thereby incentivizing locally driven conservation efforts and building immunity to poaching and wildlife trafficking. They are an essential part of the long-term solution to the current crisis.

THE U.S. GOVERNMENT ROLE

The U.S. Government has demonstrated historic leadership on the issue of wildlife trafficking, at all levels. Long an international leader on the issue, the U.S. has, since 2012, helped to elevate attention on wildlife crime both at home and abroad to a new apex. The President's issuance of Executive Order 13648 and the creation of the National Strategy for Combating Wildlife Trafficking by a Presidential Task Force led by the Departments of State, Interior and Justice are a profound recognition by the administration of the importance of this issue and the will to address it. This U.S. leadership has also set the stage internationally, putting the issue firmly on the agendas for our international partners, including in fora such as APEC, ASEAN, UNODC, the U.N. Security Council and—with renewed energy and impressive success—at the most recent CITES CoP. And the leadership of many in Congress, from both sides of the aisle, has already helped to raise the profile of the issue and strengthen U.S. law to address it, and is providing resources and oversight to ensure that the U.S. strategy is implemented efficiently, effectively, and with the concerted energies of all relevant U.S. agencies in a whole-of-government approach. This whole-of-government approach should continue, guided by the strategy, and can serve as a model that other countries will emulate to ensure that they are bringing to bear not just their conservation resources and expertise to solve this problem, but also the full range of law enforcement, security, intelligence and diplomatic resources guided by high-level leadership and political will.

Diplomatic Recommendations

The U.S. Government should continue to raise the issue of wildlife trafficking at the highest levels with key countries and in international forums and should strive to insert wildlife crime into the agendas of relevant bilateral and multilateral agreements where it is not yet addressed and where the work of those agreements could benefit the fight against wildlife trafficking (as was done in 2013 with the U.N. Commission on Crime Prevention and Criminal Justice and at APEC in 2012). The U.S. Government should also continue to use its considerable diplomatic influence and technical capacity to work with the primary consumer countries to shut down the illegal trade and should ensure that countries are held accountable at this January's CITES Standing Committee meeting for applicable decisions made at the last CITES Conference of the Parties. Recent steps by China are encouraging and need to be institutionalized and sustained through the U.S.-China Strategic Economic

Dialogue. Thailand must effectively implement the major legislative and enforcement reforms it has recently put in place to control its internal ivory market. And Vietnam must take action at all levels to enforce CITES rhino trade restrictions and launch public initiatives to reduce demand. These countries must be held accountable to CITES and the global community if they fail to live up to their international commitments. To drive needed action, the U.S. should consider application of the Pelly amendment and the sanctions process that law offers in cases where CITES continues to be seriously undermined. The Pelly amendment has been used sparingly but successfully in the past to achieve swift reforms in countries where endangered species trafficking was completely out of control, specifically for the illegal trade in tiger and rhino parts in Taiwan, China, South Korea, and Yemen. Each of those countries made major positive wildlife trade control improvements as a result of action under the Pelly amendment and parallel action through CITES. The ivory and rhino trade today is as serious as any wildlife trade issue in the past and warrants equally serious measures. The U.S. should also continue to support efforts to elevate the issue within the U.N. system, including the imminent passage of a UNGA resolution on wildlife crime, as well as robust implementation and accountability of that resolution once passed.

Anti-Poaching Recommendations

The men and women on the front lines who put their lives on hold, and often their lives on the line, in order to prevent wildlife crime are the thin green line between the poachers and the animals they wish to kill. In order to effectively reduce poaching, we need to ensure that they are up to the task when they are confronted with today's poaching threats, which are more dangerous than they have ever been and require more skills than have often been expected in the past. There are two ways to look at antipoaching; the short-term emergency response and the long-term solution. In terms of the emergence response, effective on-the-ground protection requires: suitable operational support, including trained rangers; knowledge of patrol tactics; access to equipment and transportation; and adaptive management systems, such as that provided by the SMART¹³ conservation tools. In order for on-the-ground operations to be efficient and proactive they need to be supported by intelligence, and this can be gained through community relationships, informant networks, on-patrol interviews and through the use of surveillance technology. Interdiction also needs to lead to prosecution so that the cost of breaking the law outweighs the benefits, requiring a whole-of-government approach even at the local level. Crucially, the best antipoaching operations are focused on crime prevention and not violator interdiction. This means working with communities through a community policing framework where there is a strong partnership between rangers and communities. These approaches are enhanced where communities see direct benefits between conservation and economic development. It is an integrated approach such as this one, which WWF has helped to foster through its program in Nepal, which has seen Nepal achieve zero rhino and elephant poaching in 3 of the last 4 years.

We know what works and how to establish these systems at the local level. But we have also been here before: in the 1980s, conservationists worked to abate the last poaching crisis affecting elephant, rhino and tiger populations. We successfully abated that crisis, and with a concerted effort, we can abate the current one as well, but what we have not been able to do is get ahead of the curve to prevent the next crisis from happening in the first place. To do this takes a more strategic, long-term approach; one of sector reform to make being a ranger a profession one aspires too. In order to do this we need to:

- Establish accredited higher education training centers that produce professionally trained rangers—in a similar fashion to police academies, no ranger should be hired without receiving a professional, accredited qualification;
- Provide rewards and promotions based on performance and set competencies—this means transforming the human resource systems in many ranger departments;
- Empower rangers with the legal authority to detain and arrest suspects, to process a crime scene and present admissible evidence in court, and to legally defend themselves in life threatening situations;
- Ensure rangers are reasonably protected by the law when they are doing their duty; provide adequate insurances to rangers and their families;
- Ensure outposts provide shelter, basic amenities, communications equipment and medical supplies.

The long-term solution to the poaching crisis is to reform the ranger force just like the international community supports reform in other sectors such as police, education, and health. Professionalizing the ranger force will support rule of law,

provide an additional layer of good governance and provide protection for environmental services including biodiversity, timber, fisheries, watersheds, and carbon stocks. The U.S. Government should consider how it can support the promotion of global standards and training and accreditation systems to achieve the transformation outlined above, whether through existing U.S. institutions, such as the State Department-run International Law Enforcement Academies, or through partnerships with national or regional training institutions that can help foster “ranger academies” and the long-term professionalization of the wildlife law enforcement sector in partner countries. Where suitable, the U.S. Government should also explore possible collaboration and/or assistance by the Department of Defense/AFRICOM with those local forces tasked with wildlife and/or park protection as a mission in countries facing militarized poaching threats, whether through training opportunities, logistical support, or provision of equipment.

Anti-Trafficking Recommendations

In implementing the U.S. strategy, the U.S. should focus significant efforts on disrupting and dismantling the illicit trafficking networks and crime syndicates that are driving the poaching and illegal trade, including advanced investigative and intelligence gathering techniques and bringing to bear the same sorts of tools used to combat other forms of trafficking, such as narcotics. As the narrowest point in the trade chain, traffickers offer the best opportunity to disrupt the flow of illicit goods, represent the highest-value targets for arrest and prosecution, and their arrest, prosecution and incarceration can serve as a strong disincentive to others involved in or hoping to involve themselves in the illegal wildlife trade. There is legislation currently pending in both the Senate—S. 27 introduced by Senators Feinstein and Graham—and the House—H.R. 2494 introduced by Representatives Royce and Engel—that would make large-scale wildlife trafficking a predicate offence to money laundering, racketeering, and smuggling offenses under title 18 and provide U.S. law enforcement with the same tools they have available to go after other forms of trafficking, including narcotics. WWF strongly supports both of these bills and encourages committee members to consider cosponsoring S. 27 if they have not already done so.

The U.S. should continue to support transregional programs, similar to Wildlife TRAPS and Operation Cobra/Cobra II/Cobra III, which coordinate joint law enforcement actions between demand, range, and transit states and focus on multiple points in the illegal trade chain. We would also encourage a focus on enhancing port and border security at key transit points (e.g., seaports in Southeast Asia and East and West Africa), including border detection efforts and investigative techniques. The expertise of U.S. Customs and Border Protection and others at the Department of Homeland Security could be of value in these efforts, and their active involvement should be encouraged. The U.S. should dedicate serious efforts to enhancing the prosecutorial and judicial law enforcement capacity in priority countries in order to ensure successful convictions and incarcerations of serious wildlife traffickers, including anticorruption measures. The U.S. should support development and dissemination of new technologies and tools, including DNA testing of specimens, computer tracking of shipments, SMART or similar patrolling software, the International Consortium to Combat Wildlife Crime’s (ICWC) Forest and Wildlife Crime toolkit, and new or repurposed technologies that can be developing in partnership with innovations labs at the Department of the Defense.

The U.S. Government should also continue to improve wildlife crime intelligence-sharing and cooperation in evidence-gathering between law enforcement, security and intelligence agencies of the U.S. Government, including the Department of Defense (on security linkages) and the Department of the Treasury (on illicit financial flows). In many countries in Africa and Asia there are not proactive intelligence collection and analysis to direct enforcement efforts to tackle organized crime poaching and trafficking in wildlife like rhinos. This is a major flaw that could be remedied by training, provision on intelligence analysis software and resources to allow enforcement staff to spend time on collection, input and analysis of intelligence. NGOs like TRAFFIC are gathering and analyzing information to provide law enforcement agencies to assist their priority setting and for operational use, but governments should be doing this themselves.

CONCLUSION

We are once more at a crisis moment for elephants and rhinos and numerous other species targeted by the illegal wildlife trade. U.S. policymakers at the highest level have provided outspoken leadership and strong statements of commitment and action, and these have played a large part in galvanizing global action around this issue in an unprecedented way. We must continue to implement strategies and

plans to combat wildlife trafficking with concerted efforts on the ground, energetic diplomatic engagement, and the full range of law enforcement tools. The United States Government at all levels has demonstrated its willingness to lead on this issue and to provide expertise and resources to back up its commitments. Such global leadership by the U.S. will continue to be pivotal to solving this crisis and protecting our planet's wildlife heritage over the long-term. WWF is redoubling its efforts to combat this threat. We are heartened and grateful to see the U.S. Government doing the same. Working in partnership with other governments, civil society, the private sector, and communities on the front lines, we can help turn the tide and bring an end to the global poaching crisis.

On behalf of WWF, we thank you for the opportunity to provide testimony to the subcommittee. We thank you for highlighting this issue, and we look forward to continuing to work with Congress and the administration to address this crisis.

End Notes

¹ www.dni.gov/files/documents/Wildlife_Poaching_White_Paper_2013.pdf.

² <http://transcrime.gfintegrity.org/>.

³ TRAFFIC and the Pew Environment Group analysis produced for the 2011 meeting of the UN FAO's Committee on Fisheries (COFI).

⁴ South Africa's illicit abalone trade: An updated overview and knowledge gap analysis, 2014, TRAFFIC.

⁵ Background report on illegal trade in elephant, rhino, big cats and pangolins, 2013, TRAFFIC.

⁶ Seizures of Tortoises and Freshwater Turtles in Thailand 2008–2013, 2014, TRAFFIC.

⁷ <http://www.iucn-csg.org/index.php/vaquita/>.

⁸ www.dni.gov/files/documents/Wildlife_Poaching_White_Paper_2013.pdf.

⁹ <http://wwf.panda.org/?uNewsID=203098>.

¹⁰ Maisels F, Strindberg S, Blake S, Wittemyer G, Hart J, et al. (2013) Devastating Decline of Forest Elephants in Central Africa. PLoS ONE 8(3):e59469. doi: 10.1371/journal.pone.0059469.

¹¹ <http://namnewsnetwork.org/v3/read.php?id=180566>; <http://www.sanwild.org/NOTICEBOARD/2011a/Elephant%20poachers%20use%20helicopter%20in%20Mozambique%20National%20Park.HTM>; <http://www.savetheelephants.org/news-reader/items/selous-the-killing-fields-40tanzania41.html>.

¹² https://www.google.cm/?gws_rd=cr&ei=Gb90U4z_Eo7S4QSDpYGICA#qDeclaration+of+the+London+Conference.

¹³ Spatial Monitoring and Reporting Tool: a GPS-based law enforcement monitoring system that improves the effectiveness and transparency of patrols, www.smartconservationsoftware.org.

Senator FLAKE. Thank you and thank you all and thank you for enduring the interruption.

Mr. Saunders, we spoke before in my office, and we talked about the model that you have there. And it is interesting. Some of the community-based models elsewhere, the community derives significant revenue from tourism or other means. That is not the case necessarily with what you are talking about. That will come hopefully later and is a part of the reason it is being done. But what these communities get is security.

Tell us how wildlife trafficking diminishes security in these communities and why this model works?

Mr. SAUNDERS. Yes, thank you.

The area that we operate in, in the Tsavo ecosystem, is a very remote and harsh area. There is very little government police presence and a lot of lawlessness, and that is an issue that any country has a great deal of difficulty in addressing.

What we are doing is we are working with the community and galvanizing them together. They are a seminomadic community of pastoralists. And of course, when you have got a seminomadic community, it is very easy to put pressure on them from outside agencies because there is no cohesion. What the conservancy has done is brought the community together and given it cohesion and given it strength, and in this way we have assisted through that cohesion, gaining a much more security environment. And the communities themselves are now a very robust community when it comes

to being the challengers of radicalization and other external forces, including corruption.

I mean, yesterday we had a conference at CSS and everybody was pretty sound on the idea that one of our biggest enemies is corruption, and by galvanizing the—and I keep saying this—rather than the community, let us say the electorate because communities are impoverished people. The electorate is a powerful individual. And so the galvanizing of the electorate has now given communities, the ones at risk, now a much enhanced sense of security.

Senator FLAKE. Mr. Froment, you had mentioned that the model that you have, this public-private partnership where you manage the parks, is better than government management of the parks. Why is that? Why does this model work. You mentioned that it leads to greater accountability. How is that so?

Mr. FROMENT. The main reason it works is because firstly, we get the mandate from the government and we are accountable for this. So we have to react to any problem arising. And the when we face the issue of the security of the communities, we need to react to that.

The second very important point is that you cannot be in an area for a very long period of time without developing your relationships with all of these communities, and when the community has a problem, you need to address it.

Take for example Garamba, where the problem was security. We addressed the security issues, but in other areas where there were also other problems. In doing so we can address these others and slowly bring the community inside the model.

The second element is that we have the capacity to develop the team we are working with so we are not depending solely on the people that are positioned by the government. We can also train and build our skills and start having professional teams who can address the different problems themselves.

And the third element is that because we have the responsibility in the long term toward the government, we are to find some funding solution. One of these solutions is the resource you have inside the park itself, and we need to develop that with all the effects in terms of economic and social development possible around and based on the resources of the park.

In one of the parks African Parks is managing, for example, in 4 years' time, we have generated the revenue that can sustain the park. So you build the resource and you put a value on it, and you can use that for the park and the community.

Senator FLAKE. Thank you.

Dr. Wittemyer, you mentioned the main transit points you found from the most recent poaching is Mombasa and Dar es Salaam. Has that changed over time? Does that shift depending on where things are coming from, or is that the main transit points where it is easiest to get to Asia, the markets there? Or what explains that phenomenon?

Dr. WITTEMYER. Yes, they have shifted to some extent. It appears this is related to the locations of source populations that are harvested. The greatest volumes of ivory are leaving from the closest port to these sources. We have also seen several West African ports

and South African ports be the source of significant trafficking or exit points for ivory from Africa.

But it is difficult to pinpoint why we are seeing specific trafficking routes. It is really an information gap for us as to what about these two locations is allowing huge, really massive volumes of ivory to flow off the continent from those ports. My assumption would be that there has been very little effective policing, and, therefore, it is seemingly a low-risk, easy pathway for this ivory to leave. So putting barriers up on these identified points of exit are really critical actions to tackle the ivory trafficking chain.

Senator FLAKE. Well, thank you.

Ms. Hemley, I found your testimony really interesting, going country by country or issue by issue there. And with regard to Namibia, I happened to be there in 1989–1990 when the constitution was drafted where they did have a strong conservation element to it, a commitment there, and it has paid off. This community-based approach has worked there.

What about Botswana? What are we seeing there? We have to see some of the trends that we see in South Africa and Namibia, or what makes Botswana different? They have had pretty stable populations there.

Ms. HEMLEY. Well, Botswana has long been a stronghold for a lot of wildlife species, as you no doubt know. And a stable government and generally good governance has certainly contributed to that end, a relatively strong economy.

Making it a high priority, high-end tourism certainly has led to generally well managed parks with revenues going into the parks, has made that, I think, effective.

I understand there have been some recent changes in Botswana related to community-based conservation that we are looking into that may be placing less emphasis on the importance of communities, which would be a bit of a concern in our view, given the model in Namibia. Thus far, Botswana has not had the poaching that we have seen in South Africa, with the emphasis being on rhinos in South Africa. But with the huge herds of elephants in the north of Botswana, certainly that is an area that is like Namibia we are starting to see a bit of poaching around the borders in northern Botswana that we need to help ensure do not get succumbed to the major poaching that we are seeing in East Africa.

Senator FLAKE. Well, thank you.

Ranking Member Markey has generously deferred to Senator Udall for questions first.

Senator UDALL. Thank you, Senator Markey, and thank you, Chairman Flake. This is a very important hearing, and I appreciate both of you working together on this and bringing these issues forward.

I remember I was visiting with Ginette a little bit. Senator Kerry, when he chaired this committee, I think 3 years ago had Ian Hamilton from Save the Elephants here, and it was a very emotional hearing. And all of us feel strongly. You look at these charismatic animals and you just say how is this happening to Africa across all of these countries.

Looking back at that hearing and what has happened over the 3 years, are we making a dent? Is there progress? Is there success? I mean, what is it you think we should be doing to further this?

I am, later in the month of August, going to go to Tanzania. I hope to get out into the bush and get a chance to visit with some of the officials out there, and I hope to exchange ideas with you when I get back in terms of where we are headed.

But I guess the big overall question is from that last hearing—some of you may, or may not, have been aware of it, but just think back 3 years ago. I mean, where are we? And what is succeeding? I do not want this to just be a downer here. You have talked about the models. Jeff has brought out the models and maybe you can elaborate a little more on that. The question is to all the panelists here.

Dr. WITTEMYER. Yes. I might just follow up. One thing that has happened since that time is we have had really definitive data on poaching hotspots and trafficking hotspots that are helping to triangulate and focus our attention on the problem areas.

I also think when that hearing occurred, we were on the upsurge of poaching, and depending on what records you are looking at now, it looks like we may be plateauing. In our ecosystem at that time—we were having 8 to 10 percent of the population shot out a year. We are now down to levels we have not seen since 2008. The elephant population increased for the first time in 6 years in 2014. And so we are seeing definitive successes in different areas.

We are also seeing massive problems, and Tanzania has been the real disaster has been recording. Any engagement you can do with the Tanzanian Government would be critical—I just want to reiterate the scale of killing there—50,000 elephants—that is from aerial census data—have been killed in that country in 5 years. That is industrial scale poaching. That is massive volumes of ivory that are being funneled out of that country, and there are very few arrests. There is very little action in relation to this well recognized problem. There is constant rhetoric by the Tanzanian Government that they are going to address this problem. But we have seen little action on the ground. And I think diplomatic pressure by the U.S. Government can be beneficial in this context. What is going on there is a disaster, and any attention, any help you can bring to that—there must be knowledge within the government body of what is happening and why. And anything you can do to elicit action would be greatly appreciated.

Mr. SAUNDERS. Can I just add to that actually? I often get asked why in Kenya we do not have any wildlife champions in our Parliament. And it is a continual question we get asked. I think quite simply is that in Africa, as far as the Members of Parliament, our Parliament, are concerned, is we will not get any wildlife champions unless wildlife becomes an issue that can win votes. And that is not going to happen until there is a value for wildlife amongst the electorate. And so the community approach by creating a higher value to the electorate is the way and the pathway that we can start to gain more political champions. All of the community-based organizations in Africa that are doing that, they are the galvanizing communities that are giving, again, the electorate the power and an understanding that if they support wildlife, they get

security. They get a chance to build a rural economic bit of base for themselves. Then we will start to get that traction in our Parliaments.

But until we get to that phase, where we are going to be pushed to try and get political traction—we might get political rhetoric, which is positive, but when it comes to voting, if it is not going to keep people in power, they are not going to put their time and energy into it. They would rather put it on other areas such as food and water, although it is still linked. So talking from that community perspective and empowering the electorate, I believe that is one of the many areas I think we need to concentrate on.

Senator UDALL. So, Ian, what you are talking about is you are talking about where the community really sees it in their interest to be preserving the entire ecosystem, the animals, and that there is an economic benefit that is essential here. And really, it is driving home the fact that if you have a sustainable ecosystem, it is going to provide sustenance for the community. But you need to drive all of those things home, and then I think people working in and around the parks and seeing the benefit of tourism, all of that, I think that is what your partnership does—does it not—is to try to bring that home.

Mr. SAUNDERS. Yes. I mean, in our area, we—and Governor Adato, who is sitting behind me here who is the county governor of where the conservancy is, is proof that we have got support at every single level. So from herdsman to local government all the way up to the governor himself.

And we do not have a tourism option in that part of Tana River because of the destabilized element. So the most important element is livestock. So we are looking at livestock to provide a firm economic base into the future. When that happens, tourism will come as a cherry on the cake. But culturally livestock is at the center of their life, and if we can enhance that, it provides stability because people start to gain a firmer economic base. And then it becomes a political issue. Then people want to be aligned to it, and that is when we start to get results I think.

Ms. HEMLEY. Could I just add a bit to the conversation here? You asked what has happened in the last 3 years that is good, where we are seeing some progress. And George mentioned possibly the plateauing of poaching. We will see.

Three important things internationally have happened that we believe are helping but we need to sustain.

Congressional appropriations that have increased. There is more resources going to the field to address this issue. That is absolutely key.

President Obama launched his national strategy to combat wildlife trafficking. That has had a huge impact globally in terms of visibility, getting attention at the highest levels of government around the world.

And we are beginning to also see on the demand side the attention being paid in key consumer markets in China you heard about, in Thailand as well, in Vietnam for rhino horn, where as a couple of years ago some of those governments were in denial that there was a problem. They are acknowledging it now. They are beginning

to make commitments to cracking down and hopefully eliminating markets such as for ivory in China.

Through CITES, the Convention on International Trade and Endangered Species, there has been a process of targeting the problem countries. There were 8 or 10 countries identified that were problematic that were required to put together full plans for addressing these issues. That alone I think has triggered great attention both in Africa, as well as in Asia, on demands. So we have seen a lot of momentum that I think has been critical to the progress that we are beginning to see.

Senator UDALL. Great. Thank you.

And thank you, Senator Markey. Thank you very much.

Senator FLAKE. Let me just say what a pleasure it has been to work with Senator Markey on this. This is an issue that we both felt needed to be addressed. Do you want to make any opening remarks as well?

**OPENING STATEMENT OF HON. ED MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. If I may. Thank you, Mr. Chairman, for holding this hearing. You are right. This is an issue which is near and dear to both of our hearts, and I think it is a timely and very important hearing. And it is critical that we keep a spotlight on this.

And I will just say briefly as an opening that poachers with ties to global organized crime syndicates and violent groups continue to cross international borders to kill elephants and rhinos for their tusks and are better equipped than the park rangers who are charged to protect them. Park rangers have been ambushed, attacked, lost their lives in the line of duty after encountering poachers armed with weapons or military grade weaponry and technology.

Last month, the U.S. Fish and Wildlife Service launched a campaign on social media when the agency crushed 1 ton of illegal ivory in New York City's Time Square to send a message to wildlife traffickers and raise awareness about the importance of these issues. Hashtag "ivory crush" was trending all over Twitter and Facebook, and I think it just is a reflection of how important people in our country and the world see this issue.

Wildlife poaching and trafficking is a global problem but one that has local solutions. This is not just a problem for African nations. It is also an American problem. We are the second-largest market for illegal wildlife products like ivory and other precious goods.

China recently announced it will crack down on illegal ivory trade, but has stated they will not act alone. They are looking to the United States and other nations to partner on the issue of illegal wildlife trafficking.

This is a bipartisan issue that Congress can and should work together to put solutions in place. And that is my pledge to Senator Flake, to work with him in that fashion.

The implementation plan released by the President's Task Force on Combating Wildlife Trafficking is an important step forward to developing solutions. And I am particularly encouraged by efforts to use innovative technology in solving this problem. I look forward

to working on legislation that would complement the administration's actions and supporting our African policies.

So let me begin with you, if I may, Ms. Hemley. In 2012, Google donated \$5 million to your organization to provide technology toward conservation and antipoaching efforts through the Global Impact Awards. This technology assists in monitoring the habitats and trafficking routes of wildlife and additionally provides high-tech gear for rangers to ward off poachers.

Has the technology been successful in reducing poaching capabilities?

Ms. HEMLEY. Yes, Google did provide a generous grant for us to test and pilot some new technologies.

You know, it is too soon to tell if we have found solutions that can be scaled fully, but we are in some interesting tests in both Namibia and Nepal with drones to help in aerial monitoring of poaching, but that has often got a lot of attention, that aspect of the funding. There are a lot of other technologies that are as important to help out, and we need to look at all of them, using infrared cameras in new ways, using new kinds of software for collecting, analyzing data. It has to all be integrated into the systems. And so we have got a variety of efforts underway to do that. We hope to know in the next 1 to 2 years what can be scaled and taken out to the field in a practical way. One of the challenges we have seen in these remote areas is when you are using IT, getting cell phone coverage can often be a limitation. So we are talking to some of the cell phone companies here in the United States to figure out ways you can get connectivity in the national parks that is critical—

Senator MARKEY. You should talk to Google about that as well.

I think if you set the example you can show how technology can work, then maybe we can find other companies to partner with you.

Ms. HEMLEY. Absolutely.

Senator MARKEY. The next step comes when you go back again after proving the success of the use of technology and trying to get more wireless technology.

Dr. Wittemyer, technology is important but science is important as well. So could you talk a little bit about the role which science plays in helping to create an antipoaching environment?

Dr. WITTEMYER. Yes. I summarized the scientific data that we have available on this problem today. Science has been the foundation with which we have been able to actually measure the scale of this problem, key in on the critical points, the critical populations under threat, some of the aspects of trade, although there are a lot of black boxes in regards to trade routes. And science is fundamental to continued monitoring and understanding, identifying where solutions are working and where they are failing. Without proper monitoring, we are not able to identify what we are having successes with.

One technological solution I wanted to speak to that we are doing is through radio tracking data of animals. And right now, actually on my computer we can visualize elephants moving around in different parts of Africa, and we are using this to help deploy antipoaching assets to identify when elephants enter danger zones. Flagging entrance into an area of interest is called geofencing.

When an elephant enters a farm and starts crop raiding, we can actually get a GSM message on my cell phone that says this elephant entered this parcel and is likely crop raiding.

These type of technologies enable rapid responses to problems, help us to be much more effective in our deployment of assets, especially when we are all asset-limited. And so technology has a big place, and we actually have leveraged private money to help develop these areas. So I agree technology is a key.

Senator MARKEY. Science is the key, your science and technology.

Dr. WITTEMYER. Right.

Senator MARKEY. So I want to come back on the elephants, come back over to you, Ms. Hemley. We have the Convention on International Trade in Endangered Species. It gives us an opportunity to think about diplomacy, how we are going to work together. But yet, that convention was not successful in stopping the sale of 24 elephants from Zimbabwe to China. So talk about that and what needs to be done in order to ensure that there is an enforcement capacity here to protect these very precious resources that are diminishing by the day.

Ms. HEMLEY. We were just talking about that issue actually in the taxi over here. That issue has us deeply concerned. The permit to export those 24 live, young elephants was granted. On the face of it, it is supposedly in compliance with the CITES requirements. But in our view, other issues need to be considered. And we know that Zimbabwe has had very serious issues with elephant population numbers being reduced by poor management and poaching in the conservancies there. And so we share your concern and we would like to see more done.

Senator MARKEY. So give us a recommendation in terms of the enforcement tools that you would like to see put in place or the enforcement tools that are already in place and how you would like to see them enforced. How can you give us the instructions we need in order to act in a way that puts some real teeth—

Ms. HEMLEY. Well, the Fish and Wildlife Service now has a ban in place for the import of sport trophies from Zimbabwe, which is a good thing because of that management. So they have taken the action because of the concerns there.

Diplomatic pressure to Zimbabwe—we know it is a complicated equation diplomatically with that country now. But they cut a deal with China basically. And international pressure and publicity over this issue is certainly something we can do and help with.

But the CITES requirement in this case we do not believe goes far enough into looking at the ultimate potential impact of the removal of those animals from the populations.

Senator MARKEY. Thank you.

Dr. Wittemyer, Mr. Saunders, both of your organizations do tremendous work. Are there enough U.S. resources put into this effort? Does USAID have enough resources to help you to successfully advance the cause? Could each one of you talk about the resource issue here and what is needed in order to really make this into a successful program?

Mr. Saunders.

Mr. SAUNDERS. Yes. I mean, speaking from the Tsavo Trust perspective and probably on behalf of a lot of the other of our partners

who work in a similar vein within what we call the human terrain really, working with the communities, the investment that the U.S. Government has made so far has been the major driver for developing new attitudes and a consensus on wildlife and its value within the communities.

I think that one of the issues we deal with on a daily basis is that wildlife conservation is seen as sort of a foreign luxury, and to overcome that, we have got to give solid reasons and work with our neighbors in our communities to show that it actually is of benefit. INL money has helped us dramatically in doing that, and U.S. Fish and Wildlife money has helped us do that with our engagement areas. In the area that we work in, Malkalako area, there has not been an elephant poached in that area for 11 months to date. That area was the scene of the largest single poaching incident of elephants at its time of 13 elephants shot at one go, and that was the last major one. And that has all been all down to the ability to move assets into the area and change perspectives.

But I think that the more that we can invest into that approach, the better it will be. And I am very pleased to see that the USAID has a fund for Amboseli and Tsavo.

Senator MARKEY. Dr. Wittemyer, what would you recommend so that we can encourage U.S. agencies to do more in this area?

Dr. WITTEMYER. In full disclosure actually, we are not receiving U.S. funding in our activities.

Senator MARKEY. Would you like to?

Dr. WITTEMYER. We would. Certainly we would, yes.

Senator MARKEY. You do not think there is enough funding.

Dr. WITTEMYER. I do not think there is enough funding.

And particularly, I think we need resources that are allocated to weak points in the conservation portfolio. USAID and U.S. Fish and Wildlife Service have done excellent work with U.S. funding on the ground in Africa. We are seeing evidence of other methods that can be implemented to great effect. I mentioned an example from the DEA that was successful in breaking up a criminal network in Kenya. The Presidential Executive order on wildlife trafficking helps to bring all that expertise together, but we have not seen appropriations directed to the most effective agents that could be game-changers.

And so one of the concerns I am hearing and that we are seeing is that some of those individuals with relevant expertise in the U.S. Government are very busy with other activities. The Department of Defense has a lot of responsibilities and putting wildlife trafficking on their docket in a way that they are actually engaged with this problem is difficult. Directed funding can help bring some of the expertise, give them the operational capacity to put their resources and expertise into wildlife trafficking where if you just add it to their docket of objectives, it will not be prioritized. You know, it is number 57 on the list. They cannot get to it. So I think some of these appropriations, particularly on intelligence-based criminal network disruption, would be really helpful for us right now.

Senator MARKEY. Thank you, Mr. Wittemyer.

Thank you, Mr. Chairman. An excellent panel. Thank you.

Senator FLAKE. Thank you.

Mr. Froment, can you talk a little about the differences between the challenges we face with forest elephants in Gabon and the DRC and the savanna elephants that we have been talking mostly about today? I know a lot of your work is in Central Africa. So you have a good grasp of this. The transit routes I assume are different in terms of the traffic out, probably West African ports. How are these issues different for us?

Mr. FROMENT. I think that the forest elephants are more related to the problem of governance in the different countries, except in Gabon where they are starting to develop a huge national parks network and are trying to strengthen the wildlife department to react to the problem of poaching in that nation. For the other nations of the Central African countries, I see that most of the elephant populations have already been ripped off except a few elephants in Chad and DRC, a small pocket remaining.

But the main threat in the savanna area is all the links with the Janjaweed, with South Sudan and the Lord's Resistance Army, links we have also noted in Sudan. So these are the two major different aspects. And what is above the problem of Central African countries is that it is only a problem of governance and courage. And, everybody is involved in ivory trafficking and meat trafficking. Without addressing these questions, I think it will be quite difficult to change anything in this part of the world. And this is why I believe the sole possibility we have in that context is to really try to protect a few pockets with good management.

Senator MARKEY. Thank you.

Ms. Hemley, in South Africa, the big problem with rhino poaching—that is mostly white rhino or black rhino in Kruger Park?

Ms. HEMLEY. Mostly white rhino.

Senator MARKEY. And most of it makes it across the border into Mozambique I understand. That is a 250-mile border, a very difficult problem there. But you were saying that this amount of poaching could not be done without some acquiescence or some knowledge certainly at higher levels, and you have encouraged us to take this up with the South African Government.

Has some of this been done? Are some of the problems being acknowledged at this point? What state are we in? When you have last year 1,200—this year I understand we are already over 700 for the year. It will be the highest yet. We cannot go on very much longer like this. I think it is estimated there are—what—about 20,000 left? So that does not take long to decimate and be at levels that we were at years and years ago. So what level are we at right now with South Africa?

Ms. HEMLEY. We know that South Africa has been a priority for the State Department engagement on this issue. At the same time, we are concerned that there is not acknowledgement that there is an internal problem, and we do see a lot of philanthropic dollars going into the country that do not seem to be having the kind of impact that we would like to see in terms of stopping the problem.

Mozambique has been a country of great concern. There is, we know, a petition pending with the Interior Department under the Pelley amendment to certify that country as a key transit point for rhino, which we believe deserves consideration given the need to crack down in that area.

But in terms of South Africa, I think we just need to keep the pressure on and engage at the highest levels possible. I know Secretary Clinton was there when she was at the State Department a couple of years ago. Yet, the problem has worsened. And so we just need the support from the highest levels here to engage and press and get action.

Senator FLAKE. Thank you.

I will pose this to Mr. Saunders, but if the others can think about it as well. Part of the purpose of this hearing is this is oversight. We appropriate monies for Fish and Wildlife, AID, and some of these programs that you are talking about. Can you give us examples of—we have talked about programs, community-based programs, that have worked. What does not work? Can you give any examples of areas where our money could be better spent? And I know some of this changes over time where we focus more on trafficking one year. It may be better to focus more on funding game rangers the next year. And I understand some of that. But what areas have been proven not to be effective here?

Mr. SAUNDERS. I think that we are facing such a dynamic challenge. Where we are not effective is that we are not moving with the challenge, particularly from a wildlife security perspective. We have been sedentary in our approach for many years in Kenya and Tanzania, and being a former Tanzania wildlife officer, I can tell you that our approach to antipoaching started in the 1950s and it has not changed. The threat has changed. The dynamism has changed. So I think that is an area that we have to look at very closely.

The way we can address that would be to look at creating a doctrine. I mean, we have a continent the size of Africa. We have many countries carrying out antipoaching operations and wildlife security. Yet, as far as I know, we have no doctrine for wildlife security, which in essence is conservation and counterinsurgency and a doctrine has to be monitored and updated continuously through academic stress testing and reports from the field. So I think that is an area that we have not been very successful at doing, and that is what our StabilCon philosophy wants to address through best practice. So that is what I would say would be—because this is such a complex matter, we could come up with 100,000 things, but that is one that I think I would like to identify.

Senator FLAKE. And I do understand what works in Kenya may not work in Gabon.

Mr. SAUNDERS. Exactly.

Senator FLAKE. And there is a change and different threats.

But anybody else want to take a stab at that, looking at areas that we have over time realized it is not enough bang for the buck or it is just a misprioritization of funds? Anybody else? And I know you do not want to throw any member organizations under the bus and I am not trying to go there at all. But as part of our oversight role, that is one area that we want to focus on. If there are monies that are going somewhere that should be better spent, could be better spent elsewhere, then we want to know about it.

Dr. WITTEMYER. So one point I would point out would be the Tanzanian example, where the high-level officials in the Tanzania Government have been brought forward and lauded and awarded,

despite no action on the ground taking place. USAID money is going in there to actually change their wildlife management scheme, their hunting based scheme, which desperately needs re-vamping. It is really imperative. But at the same time, as these actions to prop up and give coverage to governments and individuals occurs, it needs to be directly tied to and in recognition of successes.

So one of the concerns with the Tanzanian Government example is that possibly they were given too much attention too early in the hope that that would help elicit action. In fact, it did not. And so we need to try the other side of really forcing them to take action. "Force" is the wrong word. Really encouraging them to take action before we award them for their lack of action.

Senator FLAKE. Ms. Hemley.

Ms. HEMLEY. I will just add one thing.

We have seen a lot in the past support going toward capacity-building in the field, which is important, but what we think we need is really to take that up a level to increase the professionalization of the ranger corps, the wildlife rangers and the park rangers, in the field to upgrade their status within their countries, within their systems, help with training in that respect so that it is not just one-off capacity-building opportunities but really to help kind of upgrade the whole sector there, which is I think critical if you are going to have the kind of credible and supported and the capacities needed to really be effective at the level you need when you are dealing with organized crime and increasingly sophisticated poaching networks.

Senator FLAKE. Thank you.

Well, thank you. I just want to thank you again for the time that you have spent preparing. Like I said, I really enjoyed reading all the testimony and hearing it today and further explanations. This will be invaluable to us as we go ahead and make policy and consider the legislation that is before us. We hope that you will remain in touch. We will certainly keep the hearing record open for the next couple of days for other testimony.

And just as a point of personal privilege, I just want to thank Mary Angelini who is here on our staff. She has been on loan from the State Department for the past several months, and this will be the last hearing that she will be able to put together. She is leaving, going back in a couple of weeks. And we just want her to know how much we appreciate her efforts.

And thank you again and thank you, Ranking Member Markey, for your help here.

And this meeting is adjourned.

[Whereupon, at 3:30 p.m., the hearing was adjourned.]

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

RESPONSES OF DR. GEORGE WITTEMYER TO QUESTIONS SUBMITTED BY SENATOR TOM UDALL

Question. With regards to demand. We have recently agreed to work with the Chinese to increase cooperation to combat wildlife trafficking and restrict trade in ivory.

- ◆ In your opinion has China made significant progress to address the illegal trade in ivory, and what more can be done—in your opinion—to decrease the demand in ivory in China and throughout Asia?

Answer. In respect to the question of if China has made significant progress to address the illegal trade in ivory, I would answer that progress has been significant in certain areas and woefully lacking in others.

Chinese Government has made significant impacts by:

(1) Closing ivory sales through public auctions (legislated and implemented in late 2011), which appears to have made a significant impact by reducing a critical avenue for laundering illegal ivory as legal ivory. Experts have also stated at the time, this was the primary means for marketing of ivory.

(2) Law enforcement activities with numerous arrests of different individuals illegally importing ivory (primarily through airports) and selling ivory in illegal venues. Notably, however, all evidence suggests large-scale illegal ivory continues to flow into China despite these efforts, so they are not enough (see below).

(3) We have seen positive movement from online venues in removing ivory from their market spaces (though I believe this is by private companies and may or may not be related to specific government actions).

We have not seen significant efforts by the Chinese Government to address the following identified areas that drive illegal trade in ivory:

(1) Ensuring government legal ivory markets are unable to launder illegal ivory. Widespread reporting of reusing and counterfeiting of official documents (those that identify legal ivory products) occurs in legal government market places. As such, the legal government markets are thought to be major distributors of illegal ivory. We have seen the occasional enforcement activity targeting these shops, but the problem continues to be prolific. Similarly, markets in Hong Kong are a major source of trafficking illegal ivory.

(2) Illegal trafficking of ivory into China continues at pace. The Chinese Government is believed to have increased attempts to seize trafficked illegal ivory, but large volumes continue to enter via shipping containers. Recently, the large amount of illegal ivory being sold in Hong Kong and moved into mainland China has also been flagged as a major trafficking route. Little to no effort is put on screening for such products of individuals moving from Hong Kong to mainland China.

(3) Chinese companies in Africa have been flagged as primary illegal wildlife product consumers. This is for ivory as well as a whole portfolio of items from other wildlife products to conflict minerals and timber. We would like to see much more concerted effort to penalize rogue companies and award companies that are putting stringent control measures in place.

(4) Possibly most importantly is the disruption of criminal networks running smuggling syndicates which, in that, in some cases, are thought to extend deep into Africa, possibly managing on the ground poaching operations. This is a place where combined efforts of the United States and China, as well as other strategic partners, could bear fruit and make a huge impact.

Finally, in respect to demand reduction, it is widely thought officially ending legal domestic ivory trade in China is the key to end the ivory crisis. At the moment, many in China see legal ivory sales through government shops as indicating that there is not a problem. Some perceive all the press on the ivory issue as another Western conspiracy to make China lose face internationally, with the legal ivory markets serving as evidence that consuming ivory is okay. Another key factor driving the Chinese ivory trade appears to be speculative investment in ivory as a limited commodity with robust appreciation, leading to hoarding of ivory. It is suspected that strongly curbing the ability to sell such ivory would have a massive impact on illegal ivory pricing. Again, this would be most effectively done through a domestic ivory ban in China.

Reduction of demand in the West in the 1980s was driven by raising social consciousness of the cost of ivory trade to elephants. Efforts to do this in China are also important. Similar efforts in Japan have driven the consistent decline in the use of ivory products over the last 20–30 years. China is thought to require a similar approach, with sustained social campaigns slowly reducing the valuation of ivory over decades. This is to slow in terms of the elephant impacts we are witnessing now, but is important to sustain any immediate gains we make for the long term.

Question. Dr. Wittemyer what do you think is the best case scenario for the remaining elephants? If the poaching were curbed today, what would it take to restore the elephant populations to healthy levels?

Answer. If the poaching were curbed today, elephant populations will begin to rebound. We are already seeing this where we are having successes on the ground. In addition, the 1990–2000s demonstrated that given time and space, the elephants

come back (e.g., doubling in Kenya over this time). And, given stability, tourism and other use models will develop to harness benefits from wildlife. However, this will depend on the will of the governments and communities in those areas. Lessons from the past suggest that with the shooting out of elephants and loss of potential wildlife revenue streams in areas, land uses in those places will shift to other economic activities. This will result in the permanent loss of current elephant range. The killing of elephants in the 1970–1980s likely resulted in range losses of ~50 percent. We will likely see that again, particularly given technological advances that enable agriculture in arid lands that were once thought only suitable for wildlife and livestock. Areas targeted for novel economic uses will likely never recover to their former wildlife oriented land uses and population densities. It is critical development projects (including those from USAID) work to protect wilderness areas, even where it takes time for elephant numbers to rebound.

