

from Serengeti in Tanzania (where there is no sport hunting) and other large protected areas, such as Hwange National Park in Zimbabwe (where lion populations rapidly recovered after a 4-year moratorium was enforced). The demise on the lion populations in these areas is attributed to "sport hunting" and the answer to resolving this issue is to ban sport hunting altogether or at least prevent lion trophies from being imported into the USA.

On the surface, the arguments advanced by the pro-ban fraternity appear to be powerful and convincing. But these arguments tend to gloss over the real issues of carnivore conservation outside of protected areas. They shy away from the facts that the real threat to lion populations is from loss of habitat, disease, conflict with communities that result in poisoning or other forms of retaliatory killings and snaring. They also tend to shy away from explaining the realities of lion biology and the fact that adult male lions will kill, injure and maim both adult males and females irrespective of whether there is sport hunting or not. And they shy away from exposing the fact that uncontrolled and indiscriminate "hunting", especially of adult females, will result in population crashes.

Sport hunting targets mature adult males, preferably over the age of 5 years. Wild populations of lions residing in areas co-habited by people and livestock have not declined as a result of sport hunting this segment of the population, especially where the hunting industry is well managed and administered, and where communities benefit from this industry. Removing this incentive by enforcing a ban on hunting lions will surely place this important carnivore on the endangered species list.

The Rhino Debate – Where is the Plan?

With over 4,800 black rhino and close to 21,000 white rhino in Africa, there is the potential to harvest up to 20 tons of rhino horn per year. A comprehensive report, [A Study on the Dehorning of African Rhinoceroses As a Tool to Reduce the Risk of Poaching](#), undertaken by the Endangered Wildlife Trust on behalf of the Department of Environmental Affairs (DEA) in 2012 investigates the impacts and efficacy of dehorning and to identify the circumstances under which the intervention is most likely to be effective at reducing poaching.

A dehorning procedure

Some game farmers and private reserve owners have resorted to dehorning their rhinos to protect them from poachers. The dehorning process is painless to the rhino as their horns are composed primarily of keratin and they do not have a bony core. If horns can be removed painlessly from rhino, we have to wonder why these magnificent animals are dying every day to provide it.



1. The rhino is darted with anaesthetic by a vet
2. The sedated rhino is blindfolded to reduce stress levels.
3. The horns are measured for growth point location.
4. The horns are cut off with a reciprocal saw
5. The dehorned rhino. Blood and horn samples are collected
6. The vet administers a drug to wake the rhino up
7. The rhino is awake and back with other rhinos within minutes
8. The horns are measured again, weighed and micro-chipped.

This procedure takes about 20 minutes, from darting to wake-up. Blood and horn samples are sent to the national database for research and identification purposes. The procedure can be performed about every 3 years on one rhino, as rhino horn regrows.

See <http://www.wrsa.co.za/conservation-a-hunting/item/282-rhino-dehorning>

Yet the rhino debate continues. In the following sections, we first provide an article by Michael 't Sas-Rolfes, an independent conservation economist based in Cape Town, South Africa who describes the increase in rhino poaching in South Africa where rhinos are hosted on both state and privately owned land, suggesting that a fresh look be taken at the possibility of re-opening international trade. The article provoked considerable interest and we have therefore invited follow-up contributions from Colman O Criodain of WWF and Mike Knight, Chair of the African Rhino Specialist Group of IUCN/SSC. Colman focuses on enforcement problems relating to illegal trade in one country, while Mike explains more of the background as well as the

dilemmas facing rhino conservationists and calls for a balanced and creative approach. Finally Rowan Martin, an independent wildlife consultant in the Southern African region on a range of conservation and development projects comments that all three articles leave him with a sense of dissatisfaction and stipulates that rhino have the potential to transform land use in southern Africa.

Rhino dehorning has been used historically as a tool to reduce the threat of poaching in parts of southern Africa. Dehorning is a contentious matter due to uncertainty regarding the effectiveness of the method at reducing poaching, and due to potential veterinary impacts and adverse effects on the behavioural ecology of rhinos.

So where is the plan? South Africa have released their plan (see National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004): Biodiversity Management Plan For The Black Rhinoceros (*Diceros bicornis*) In South Africa 2011-2020 Government Gazette, No. 36096 25 January 2013) The plan was jointly developed by South African members of the SADC Rhino Management Group (RMG). The Vision of this plan is to contribute to the long term recovery of the black rhino population by having viable populations throughout their former range within South Africa. The target is to have at least 3000 *D.b. minor* and 500 *D.b. bicornis* by 2020 with at least 5% growth rates. Amongst the six components to achieve this is the proposal for a regulated harvesting regime limited to bulls.

Kenya has released its plan (see Conservation and management Strategy for the Black Rhino (*Diceros bicornis michaeli*) in Kenya: 2012 – 2016, 5th Edition. Kenya Wildlife Services, P.O. Box 40241 – 00100 Nairobi, Kenya). Their Vision is to conserve 2000 East African Rhino with the goal of increasing the national herd from 623 to 750 animals by 2016. At an estimated implementation cost of Ksh632 million (~US\$7.35million), the plan places a heavy emphasis on law enforcement and protection and envisages expanding the range of rhino habitat through establishing additional sanctuaries. There is no mention of any form of harvesting or trade in rhino horn.

In both cases, the strategies are advocating to continue with the status quo which is extremely costly and has not worked in the long term. Missing from this approach is what to do with the harvested horn. A paradigm shift is required here if the reduction in illegal trade in rhino horn is to be reduced. This will require that all stakeholders in all range states, from producers to consumers, begin working to the same plan. Rhino producers in Africa cannot continue to bear the opportunity costs (estimated at US\$400 million annually) as a result of decisions at international forums such as CITES.

Either the forum advocating the non-trade approach should fund rhino protection *in situ* by paying the opportunity costs imposed on rhino producers like protected areas, communities and private landholders in Africa or support devolving the ownership of rhinos to private, community and state landholders and promoting legal markets for rhino hunting and trade in regulated harvested horn. This will provide powerful economic incentives for rhino conservation in Africa that will reverse the uncertainty and double the population of rhinos in the next 20 years.

The Rhino Debate at IUCN CEESP/SSC Sustainable Use and Livelihoods Specialist Group (SULi)

[IUCN SULi](#) (with permission)

African Indaba is indebted to the IUCN Sustainable Use and Livelihood Specialist Group for giving AI permission to publish these important contributions to the rhino debate.

Escalation of Rhino Poaching in South Africa: Is the Trade Ban Approach Working? Michael 't Sas-Rolfes

Rhino poaching is on the rise in South Africa and threatens to undermine the country's remarkable conservation track record, which is grounded in principles of sustainable use. Eager to maintain this success, many South African conservationists now wonder whether the rhino horn trade ban is the problem rather than the solution.

In the year 1900, the southern white rhino was on the brink of extinction, consisting of a single small population in the Zululand region of South Africa. Today it is the world's most abundant rhino species, accounting for more than two thirds of the global rhino population. This is due to the proactive approach toward rhino conservation adopted by South Africa in the 1960s: The first step was to establish new populations through translocation, in both public and private protected areas; next was to allow regulated legal commercial trophy hunting. Legislative changes to recognize private ownership rights over wildlife combined with the establishment of an auction-based market pricing system for live animals created economic incentives for private landowners to embrace rhino conservation and breeding, and provided a valuable source of income to state protected areas who sold off their excess stocks.

By the year 2000 South Africa's white rhinos were thriving, with numbers and prices steadily increasing. South Africa's black rhino population was also growing steadily, and in 2004 CITES approved limited quotas for trophy hunting this species too (as well as in Namibia, which has adopted similarly successful approaches to rhino conservation). Whereas South Africa and Namibia sheltered a small fraction of the continental black rhino population in the 1960s, today they account for some 75% of the African population of close to 5,000 animals.

Unfortunately, the black market price of rhino horn in Asia also co-incidentally started to increase around that time and, without a legal supply channel, the market sought ways to find horn from the most significant remaining source. At first horn was obtained by buying it legally on the domestic market from non-lethal sources (and then exporting it illegally) or by way of Asian nationals posing as legitimate trophy hunters to obtain legal CITES permits to export horns as trophies. Once the South African government became aware of this, it responded with several restrictive measures: an onerous permitting system was introduced to monitor all rhino-related transactions, limitations were placed on Asian hunters and exports of live animals to Asian countries, and a moratorium was placed on the domestic trade in rhino horn.

These measures were followed by a rapid escalation in illegal killing. Prior to implementation (until 2007), South Africa lost about one or two rhinos per month to poachers. However, from early 2008 poaching levels accelerated dramatically and have continued to do so ever since. Here are the sobering statistics: 2008 – 83; 2009 – 122; 2010 – 333; 2011 – 448. At the time of writing a further 216 rhinos have been lost this year – if this rate is maintained, the figure will reach some 600 for 2012 (*actual figure 668. 102 killed in first 52 days of 2013 – Ed*). Although Asian consumers do not seem to differentiate between horns of the two species, most of the animals poached are white rhinos as they are far easier to locate.

The methods used to poach rhinos are of an unprecedented level of sophistication and involve international organized crime syndicates. Measures to combat poaching include increased spending on conventional anti-poaching patrols and increased law enforcement efforts as well as selective dehorning or horn dyeing and poisoning. To date, none of these has been effective in arresting the poaching onslaught (which has also affected Zimbabwe and Kenya).

Private owners are increasingly concerned about security risks and this has stifled growth in the market. The National Parks Board will not sell any live rhinos this year. Sources of rhino-related income are dwindling and security costs to both public and private landowners have increased dramatically. If the rate of poaching continues to increase, South Africa's rhino population will start to decline, with serious broader economic and conservation consequences.

Many South Africans feel that implementing the CITES trade ban approach, far from being the solution, is part of the reason for the recent poaching crisis. Accordingly, there are calls to investigate more carefully whether South Africa's successful sustainable use model could also be applied to a carefully regulated legal trade in rhino horn. Existing legal horn stockpiles are already substantial and growing as private owners increasingly dehorn their animals. Unlike elephant ivory, rhino horn can be obtained both non-lethally and renewably and the potential legal supply source easily exceeds existing illegal levels of harvest.

The South African government has adopted a cautious approach on the issue of legal horn trade but is willing to consider all options. There is an urgent need for more carefully considered research on the issue.

IUCN CEEP/SSC Sustainable Use and Livelihoods Specialist Group (SULi)

The work of SULi includes highlighting the importance of wild species for providing community benefits; analyzing and communicating best-practice in aspects of sustainable use; promoting innovation in adaptive responses to the challenges of sustainable use; and developing practical tools and approaches to support sustainability and resilience in resource use.

Key thematic areas of interest are:

- Food security
- Wild meat (bushmeat)
- Coastal/artisanal fisheries
- Sustainable use/Community-based Natural Resource Management (CBNRM) and community empowerment
- Engaging with key international fora such as the CBD and CITES on sustainable use and equitable benefit-sharing. Collaboration is also anticipated with other IUCN Commissions, such as the Commission on Ecosystem Management (CEM), and other specialist groups, programmes, and working groups both within and outside IUCN.

For more information go to

http://www.iucn.org/about/union/commissions/sustainable_use_and_livelihoods_specialist_group/

Rhino Poaching – A Contribution to the Debate

Colman O Criodain

This is a response to Michael t'Sas Rolfe's article describing the increasing loss of rhinos in South Africa from poaching. WWF agrees broadly with his description of the current situation in the country but we do not agree that resuming trade in rhino horn is the appropriate solution at this time.

We are not ideologically opposed to consumptive use of wild animals; in fact, we are committed to the principle of sustainable use. Nevertheless, we do not believe that the answer to a species conservation crisis always lies in easing trade restrictions, any more than we believe that the solution always lies in curtailing trade. The realities are more complex and they vary according to the biology of the species concerned, the prevailing legislative and enforcement regime, and the demands of the market.

South Africa did not achieve recovery of its rhino population by simply liberalising ownership and hunting laws and leaving it to the market to do the rest. Such very modest easing of the laws as did occur was a calibrated response to an initially strict regime that was yielding progressive results.

The other factor in this success was the pressure placed via CITES on consumer countries that were implicated in illegal trade. China banned trade in 1993 and has repeatedly stated that it has no plans to modify this ban. Yemen took steps more recently to curtail the market for traditional rhino horn daggers.

What is now putting South Africa's achievement at risk is the emergence of a new consumer market in Vietnam (1), a country that is failing to take even the most minimal steps to curtail that market, having lost its last rhino in 2010. It is this market that is driving poaching, thus increasing private owners' security liabilities. Herein lies the core problem. With Vietnam as the only likely market and with enforcement there so conspicuously lacking, there is no reason to have faith in the premise that poaching and illegal trade would not continue. Rather, the existence of a poorly regulated legal market could facilitate laundering of illegal horn. A comparable situation can be found with ivory markets in Thailand, where an exemption for trade in ivory originating for domestic elephant - without any accompanying burden of proof - has allowed open trade in ivory of illegal African origin, a fact acknowledged in discussions in CITES (2). It has been argued that the existence of a legal supply would be sufficient to divert consumers from purchasing illegally sourced horn. However, the case for this has not been adequately substantiated. It depends, inter alia, on whether or not traders seek to charge a premium for the legal product or to try and undercut the illegal product; in the latter case it also depends on whether or not they are successful. Therefore, the option of allowing legal trade is a risky one compared to the alternative, which is to exert pressure on Vietnam to enforce its own laws and its obligations under CITES, including via the threat of sanctions.

The Rhino Dilemma

Mike Knight

The letters by Michael 't Sas-Rolfes and Colman O Criodain reflect the polarized debate buzzing around the rhino community. As Chairman of the IUCN African Rhino Specialist Group (AfRSG), my role is to remain independent, yet promote the debate towards seeking sustainable conservation management solutions for our African rhinos. All too often simple solutions are being advocated for this otherwise complex issue. Under the current escalating rate of poaching of a relatively low resource base (rhino population size), we will need to be bold and assertive to conserve these magnificent creatures. We ultimately need to do what is best for rhinos, irrespective of ideological leanings. Crucially, we need a shared vision and objectives for rhinos that virtually everyone can agree on, such as the need to have growing rhino populations, part of an economically viable wildlife industry, gaining full benefit from the species, with a reduced illegal demand and black market prices for horn, and less of a poaching threat to our living rhino populations.

At the start of 2011 South Africa was conserving a total 20,700 rhinos, or 75% of the wild rhinos on the planet. Despite poaching the population is growing by around 5% per annum. The country is therefore a crucial stakeholder in this debate. The provision of surplus rhinos from state-run Parks to the private sector, from the late 60's onwards, was aimed at sharing the conservation burden, and finding homes for surplus rhinos that needed to be removed to prevent established populations becoming overstocked - which is currently the case with the state reserves. On the back of supportive legislation, sustainable use of white rhinos (via sport and trophy hunting which started in 1968) and the advent of the first wildlife auctions in late 1980s saw rhinos realize their true commercial value. Prior to this, the provision of animals from the state at highly subsidized low prices resulted in perverse incentives that saw no growth in the private rhino populations. These economically valuable private rhino populations now conserve an extra two million hectares of land and habitat, hosting a range of plant and animal species, - a broader positive conservation outcome.

The increase in poaching has coincided with soaring rhino protection costs and general risks, so much so that members of the private sector have started disinvesting in rhinos. Providing further incentives through allowing a trade in horn, on the back of the current sales in live rhinos and limited trophy hunting, is being increasingly advocated in South Africa as a possible way to combat and reduce poaching; whilst creating an enabling environment for private rhino conservation to encourage an expansion of range and numbers of rhinos on to both private and possibly also community land and sustainably achieve rhino conservation aims. Others, however, have cautioned that controls would need to be in place at all stages of any such trade to prevent the development of a parallel illegal trade which could threaten rhino populations in other range states. It has also been argued that opening a trade in horn might potentially stimulate a growth in market demand, putting even more pressure on our populations, while others have argued that demand could be influenced by raising prices as necessary. It is important to state that thus far no potential trading partner in south east Asia has as of yet put its head above the parapet in support of such an idea. In line with current policies, the demand reduction approach (through enhanced legislative controls, increased law enforcement, awareness etc) has been advocated and implemented. Some suggest that this has not seen a respite on the loss of Africa's rhinos and new approaches are desperately needed. Some point to how the demand reduction and substitution campaigns with threats of sanctions successfully reduced horn use and trade in the 1980s in other SE Asian countries, and suggest that similar attempts should be made in Viet Nam.

We thus sit with a dilemma. Do we expand an obviously successful conservation model, built on good protection and a sustainable use philosophy, into an uncharted and potentially large trade environment? Or do we stick to a conceptually simpler approach of demand reduction with law enforcement, with its huge costs and disincentives for private and community rhino owners, all set on top of a relatively small international rhino population? What is required is a rational risk-benefit assessment of a number of different management interventions on the delivery of a shared vision and objectives for rhino conservation. Given the international, cross cutting complexity of the issue, it requires the involvement of a wide diversity of skills and knowledge. This assessment needs to be undertaken in source and consumer countries to tease out the relevant local and universal principles affecting delivery on the shared vision. We also need to be adaptive in our approach, and accept the fact that we learn most by trying.

While the process of dialogue and review of pros and cons of alternative rhino conservation options in South Africa has started, I call for this exercise to be urgently undertaken elsewhere, as time is not on our side. It is important to accept that there will more than likely not be a single solution to this complex issue but rather a suite of management options best suited for local circumstances. Accepting this is critical, even if it runs contrary to one's conservation philosophy. In conclusion, whatever approaches are advocated, it should not detract from the fact that the conservation of rhinos still depends upon good-old fashioned protection, monitoring, biological management of free-ranging rhinos, adequate application of controls of illegal trade in consumer countries, with sufficient incentives and funding to successfully protect and grow rhino numbers and range into the future. Let us get this right, for the sake of rhinos.

Some Remarks on Letters Relating to Rhino Rowan B. Martin

It would seem that everyone is a 'stakeholder' when it comes to debating the rhino crisis...but it is essential to understand that these stakeholders are not equal. The primary stakeholders (those with rhino on their land) should have a far greater say than other stakeholders on decisions relating 'to trade or not to trade'. All three articles are weak in this area.

Last year in July and August, I did a field trip around South Africa and Namibia to assess the readiness of the diverse players in this theatre to put a proposal to CITES for a legal trade in rhino horn. The following is an extract from my trip report:

I was surprised at the overwhelming consensus amongst the people with whom I met that a legal trade in rhino horn offers the best remedy for the escalating illegal hunting of rhino in South Africa. In Namibia, although illegal hunting is not yet as serious as it is in South Africa, there was a similar consensus in favour of a legal trade.

However, this groundswell is not reflected in the articles. Both 't Sas-Rolfes and Knight want more research. This appears to me as temporising. Mike Knight calls for risk-benefit assessment but adds that: "*We also need to be adaptive in our approach, and accept the fact that we learn most by trying*". There is an inherent contradiction in this. Adaptive management is both a means of managing and, simultaneously, it is the research tool to understand the system being managed. Adaptive management requires structuring one's approach into a comfortable acceptance of surprises and uncertainties as an ongoing part of the environment, and not simply events which one failed to predict.

Colman O'Criodain reduces the problem simply to that of closing down the illegal trade in rhino horn in Viet Nam. This is naïve. Studies of the illegal drugs trade show quite clearly that getting rid of one entrepot will automatically result in the opening of another. But O'Criodain's letter also gives an insight into much larger issues. Let us say that, implausibly, shutting down the Viet Nam connection worked and, overnight, the illegal hunting of rhino in South Africa ceased. What is the prize? A quote from Marshall Murphree (1997) is relevant: "*The incentives which determine preferences for the mode of use vary significantly from global to local levels. At present the tendency is for international intrinsic and existence valuations to be accorded higher order status and for local and instrumental conservation incentives to be regarded as lower level factors to be co-opted in the pursuit of these values. This does not work. Aside from their inherent merits, local incentives have a powerful veto dimension. Unless they are accommodated, international values and goals will be subverted by local responses ranging from defiance to covert non-compliance.*"

Mike Knight observes that: "*The increase in poaching has coincided with soaring rhino protection costs and general risks, so much so that members of the private sector have started disinvesting in rhinos.*" South Africa is moving further and further away from its stated goal of disseminating rhino widely throughout the country and increasing their numbers, and a process of range shrinkage has already started (Martin 2012). O'Criodain's solution to the rhino crisis does not address the fundamental issue that reducing the illegal hunting will not, on its own, realise the national goal for rhino.

Rhino have the potential to transform land use in southern Africa. Martin (2011) estimated that the net land use value of rhino managed under dehorning is at least 100 times greater than that of domestic livestock earnings. But to achieve this real conservation victory would require an active and thriving legal trade in rhino horn and the full suite of incentives for private and communal landholders to benefit from such a trade.

The prospect of continuing to pursue failed conservation measures such as O'Criodain is advocating is an unsatisfactory option with extinction at the end of the tunnel: however, there is nothing unsatisfactory about a legal trade in horn that does not require the deaths of rhino in order to take place.