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A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
How The Truth On Community Wildlife Conservation In Namibia Is Twisted

Editorial by Gerhard R. Damm

On February 26th, 2019 Mongabay.com ('News & Inspiration from Nature’s Frontline') published an unusually long article called “It pays, but does it stay? Hunting in Namibia’s community conservation system”, replete with photos, graphs, statistics and videos. In it, the author, John Grobler, heaped scathing criticism on Namibia’s Wildlife Conservation Model. Almost a month later, a condensed version titled “Troubled times for Namibian wildlife”, was published as an op-ed in The Daily Maverick, an online South African newspaper. Funding for Grobler’s work appears to have come (at least partially, as this was disclosed in the Daily Maverick op-ed) from the Conservation Action Trust based in South Africa.
In these articles, Grobler suggests that there are inherent problems with hunting in Namibia in general, and with Namibia’s renowned conservancy system in particular. As ‘proof’ he cites isolated governance- and socio-economic-related issues in the Nyae Nyae Conservancy (NNC) and the Ju’hoansi communities and draws on some anecdotal observations from a hunting safari operator describing problems of elephant and hippo hunting quotas in the Zambezi Region.

In fact, due diligence finds that Grobler has cherry-picked several incidents and situations, and that he not only quoted the hunting safari operator out of context, he put words into his mouth. One suspects that he also ‘framed’ unsuspecting rural community members through cleverly constructed questions. In addition, Grobler used NACSO (the Namibian Association of CBNRM Support Organizations) graphs out of context and created further distortions with his own pseudo-scientific graphs. The result is patent untruth.

Grobler appears to rate his own expertise higher than that of Namibia’s recognized conservation experts, but his writings show a distinct lack of understanding of wildlife management, quota setting, and hunting and the regional ecology in and around Nyae Nyae.

The Nyae Nyae is part of the Kalahari woodland/sandveld ecosystem; low wildlife populations are normal due to extreme shortages of water and low-nutrition vegetation on leached sandy soils. During years of higher or early rainfall, not many animals come to the artificial waterholes to drink. This happened, for example, in the 2015/2016 rainy season, when Nyae Nyae had much more than its average rain fall, and large waterlogged pans formed across the landscape. In any case, many species in the Kalahari, like oryx, kudu, duiker, steenbok, etc., are not overly water dependent and do not visit waterholes daily. Grobler’s conclusions concerning Nyae Nyae game numbers are based upon his utterly erroneous interpretation of moonlight counts and a few anecdotal observations made when he visited the area for one week. Moonlight counts have never been used for quota setting as they are extremely inconsistent; they are sometimes used to supplement harder data, obtained in other ways, to determine minimum populations of certain species. Historically, hunting quotas for Nyae Nyae have been based on intermittent aerial census data, community ranger sightings from the

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¹ Data needs to be presented over a much longer period of time to account for climatic fluctuations and responsive movements of animals.
event-book-monitoring system, offtake rates and effort, hunter report-back data, and trophy quality monitoring.

Nyae Nyae’s elephant hunting quotas are based on the population of the wider Khaudum National Park and the Nyae Nyae Conservancy together. MET (Ministry of Environment and Tourism) aerial census data from 1998-2015 show that the Khaudum/Nyae Nyae elephant population grew by an average of about 3 percent annually. Additionally, elephant hunting records confirm a stable to improving trophy quality over the same time frame. Another aerial census is due later this year.

Grobler also disregards that Namibia’s severe climatic conditions may require drastic changes in harvest regimes. He lacks objective knowledge—or refuses to learn from experts—of the synergetic links between sustainable hunting, habitat and wildlife conservation, and sustainable community development. Grobler’s errors are too many to be addressed individually; perhaps worse, he fails to propose improvements or viable alternatives to existing wildlife management systems.
Over the years, Grobler has aligned himself with Izak and Ingrid Smit, two other Southern African anti-hunting activists who seek to discredit Namibia’s conservancies, the country’s Ministry of Environment and Tourism, NACSO, NAPHA (the Namibia Professional Hunting Association), WWF-Namibia, IRDNC (Integrated Rural Development and Nature Conservation), and other NGOs active in community-based wildlife management. Grobler et al. seem to focus on bringing disrepute upon communal conservancies and sustainable hunting in Namibia; their relentless rhetoric has fueled the fervor of many desktop anti-hunting Social Media activists.

Grobler’s opinions are shining examples of confused self-overestimation. He has a tendency to twist reality to suit his and his funders’ anti-use ideology.

We know this as the Dunning-Kruger effect—an observation from psychology that ‘incompetence prevents the incompetent from recognizing their incompetence’. Two other cognitive biases may help explain Grobler’s flawed conclusions: First, in an act of ‘active information avoidance’ Grobler seems to ignore information that could help him better understand the issues, because it clashes with his existing beliefs. Second, he succumbs to the ‘backfire effect’, which describes how people can become entrenched in their original positions after rejecting new information.

In fact, the Namibian Wildlife Conservation Model, despite some acknowledged shortfalls, has one of the best conservation records in the world. The Namibian conservancies and their members are central stakeholders in habitat and wildlife conservation, that give power to rural communities.

If the system were failing—as Grobler contends—why does Namibia have more than 166,000 square kilometers (64,000 square miles) of land under 86 communal conservancies? Why are the country’s rhino and elephant populations growing, despite the onslaught of organized wildlife crime? Why does Namibia today have lions on communal lands, when in 1995 there were none?

Like any practical wildlife conservation program anywhere in the world, the Namibian Wildlife Conservation Model is work in progress. Researchers, managers and agencies strive constantly to improve conditions for habitat, wildlife and the people living with wildlife. Habitat evaluation and science-based wildlife monitoring over time and space detect critical
intervention points and produce new knowledge; the outcomes are used to adapt methods and processes.

44% of Namibia is under conservation management in communal conservancies, freehold conservancies, community forests, tourism concessions, forest reserves and national parks (map and percentage figure do not include many of the private game ranches in the southwestern and central parts of the country). Sustainable hunting plays a major role in the Namibian habitat and wildlife management program. (Image credit: NACSO 2019)

Yes, there are some problems in the Nyae Nyae conservancy and in the Zambezi Region, and there are regionally specific problems within the Namibian CBNRM (Community Based

A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
Natural Resource Management) program, but they are not necessarily the ones identified by Grobler.

We don’t need global internet battles and irrational Social Media storms fanned by underinformed and fact-twisting ‘journalists’ with ulterior motives. What Namibia needs is for all stakeholders to work in concert to further improve the country’s inclusive and successful sustainable-use wildlife policies.

Postscript: The timing of Grobler’s recent writings may not be accidental. We are now seeing a 180-degree reversal in Botswana’s wildlife policy back toward sustainable hunting; and the next CITES Conference of Parties will take place in May in Sri Lanka. We have to brace ourselves for more of the anti-wildlife-use actions aimed at Southern Africa.

Material for this editorial came from Malan Lindeque, Chair of the Namibian Conservation Board (an 11-member board appointed by the Minister of Environment and Tourism engaging in policy frameworks, solutions and strategies on the management of wildlife in Namibia), Danene van der Westhuyzen, President of NAPHA and member of the Namibian Conservation Board, and Stephan Jacobs, professional hunter and safari outfitter for the Nyae Nyae Conservancy, as well as from publicly available records of NACSO, and the Namibia Chamber of Environment.

Photo1: Herd of roan antelope in the Khaudum Omarumba; Photo 2: Bull elephant, Khaudum National Park; photos published with permission.
Reopening Botswana To Trophy Hunting Depends On U.S. Support

by Catherine Semcer

For nearly a year, momentum has been building in Botswana to reform the nation’s wildlife sector to increase its economic productivity and, the options available to manage the country’s large elephant population. Last April’s election of President Mokgweetsi Masisi, a mild-mannered scion of one of Botswana’s political dynasties, created the space to challenge the policies of his predecessor, Ian Khama. This includes Khama’s near-complete closure of the country to trophy hunting enacted in 2014. Calls to overturn the hunting ban were made in parliament shortly after President Masisi assumed office and a cabinet-level subcommittee recently supported that proposal. The continuing progress of pro-hunting voices has generated opposition inside Botswana by the country’s well-connected photo tourism operators and by international animal rights campaigners. It has also fed divisions within the Botswana Democratic Party to which both Presidents Masisi and Khama belong.
One key voice that has so far remained silent is the United States, where the bulk of the world’s trophy hunters reside, and which possesses the import permitting authority that can make or break Africa’s trophy hunting industry and, the success of any decision to allow hunting to return to Botswana. Recent history suggests that U.S. support for such a return is not a given and that the domestic politics of the world’s largest hunting market may risk undermining the Masisi Administration’s aspirations for reform.

The United States has a history of engagement with trophy hunting and wildlife conservation in Botswana, beginning with the creation of the latter’s community based natural resource management (CBNRM) program in the 1990s. Developed with funding and technical assistance from the U.S. Agency for International Development, the CBNRM program established both the system of Communal Hunting Areas and Community Based Organizations around which most of Botswana’s trophy hunting industry was historically centered and, to which many of its economic benefits were given.

It was this system that was disrupted in 2014 when then President Ian Khama made the decision to close Botswana to trophy hunting, undermining and in some cases destroying the livelihoods of the 500,000 rural Batswana who are part of Community Based Organizations. The decision came during the height of international concern over widespread poaching of African elephants and rhinos, concern that some NGOs had leveraged to build political opposition to trophy hunting in the global north. It was also prescient of the explosion of western public opposition to trophy hunting that would emerge in the wake of the killing of Cecil the Lion in Zimbabwe the following year.

It is notable that the United States greeted President Khama’s effective shuttering of a program the U.S. had invested so much in developing with little comment, save for then President Barack Obama making a general statement after the ban’s imposition that “[Khama’s] leadership in wildlife protection and environmental conservation sets an example for the region and the world.” Whether this relative silence was an attempt to avoid interfering in Botswana’s internal affairs or a de-facto expression of support for the Khama Administration’s action is presently unknown. What is known is that the silence echoed in the context of a visible deterioration of U.S. support for trophy hunting in Africa and increasing politicization of decision-making about the importation of hunting trophies into the U.S.
The same year Botswana’s hunting ban went into effect, the U.S. enacted an import ban on
elephant trophies from Botswana’s neighbor, Zimbabwe, a move that eventually resulted in a
thirty percent decline in Zimbabwe’s safari industry. The decision to lift a “non-detriment
finding,” an administrative opinion made under the U.S. Endangered Species Act that a nation’s
hunting programs do not jeopardize the survival of legally protected species, was made
without consulting with the Zimbabwe Parks and Wildlife Management Authority or U.S.
NGOs with experience working in the country. It was also made based on anecdotal reporting
and at a time when the United States was leveling sanctions on the government of former
Zimbabwean President Robert Mugabe, opening the door to speculation that the ban was
politically motivated.

Challenged in U.S. courts, judges eventually ruled that the agency had acted improperly by not
consulting with their foreign counterparts, or the U.S. public, as required U.S. law, so that its
decision might be based on stronger information.

In attempting to lift the import ban to comply with a settlement in the case, the U.S. Fish and
Wildlife Service encountered unexpected obstacles as the protests of animals’ rights activists
eventually became amplified by populist U.S. political pundits. These voices eventually reached
U.S. President Donald Trump who issued a tweet second guessing the agency’s actions and
effectively chilling the process. In the time since, efforts to resume importation of Zimbabwean
elephant trophies into the U.S. have remained in limbo with the USFWS judging permits on a
“case by case basis” and leaving many U.S. hunters unable to obtain approval of the permits
they require.

All of the above points to increased politicization and decreased stability of the world’s largest
trophy hunting market. According to the International Fund for Animal Welfare, the United
States is home to slightly more than seventy percent of the world’s trophy hunters, making it
essential to the success of any effort to reopen Botswana to the hunting trade.

A repeal of Botswana’s hunting ban will represent a severe setback for international animal
rights NGOs and will likely inspire the kind of political outcry that has shown itself capable of
reaching a White House with a demonstrated antipathy to trophy hunting and willingness to
politicize agency decision making. Even before a decision has been made in Gaborone, activists
have engaged in an international media campaign to highlight a widely disputed report that
Botswana faces a new poaching crisis. In doing so they are shaping the political environment in

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which any decision will be made. They are also supplying agencies like the U.S. Fish and Wildlife Service with a document that, though possibly dubious, could be used to justify any decision not to allow hunting trophies from Botswana to be imported in the U.S and tie up the effective resumption of trophy hunting in Botswana in U.S. courts.

Complicating matters further is the fact that whatever decision the US makes it will effectively be picking sides in the ongoing schism within the Botswana Democratic Party that has emerged between the Masisi and Khama camps based in a conflict between reform and the status quo.

This conflict will come to a head in April’s national election where the Khama wing is running a candidate in hopes of unseating Masisi. While it is not clear that the U.S. is supporting either faction it is likely that a preference will emerge and that it will be for whoever can best help the U.S. achieve broader strategic goals such as countering China.

In this regard the Masisi camp has two advantages stemming from its efforts to reopen Botswana to trophy hunting. First, the size of the U.S. trophy hunting market is something that increases ties between the United States and African nations in a way that China lacks the capability and capacity to match. Second, U.S. support for hunting in Botswana stands to increase positive perceptions of America among the roughly 500,000 rural Batswana who are part of Community Based Organizations and whose lives and livelihood would be positively impacted by such reform. It is not clear that the status quo embraced by Khama supporters can offer anything similar.

For better or for worse the size of the U.S. trophy hunting market will play a key role in the outcome of any effort to allow the practice to return to Botswana. With both popular and presidential sentiment aligned against the killing of elephants and other African wildlife, a decision out of Gaborone to once again embrace sustainable use will represent a high-profile political test for Washington as it seeks to deepen its relationships across Africa. Recent history suggests that supporters of hunting in Botswana should take nothing for granted when it comes to U.S. policy and that any challenges on the road ahead can best be navigated by engagement and appeals to the wider context of American engagement on the continent.

Catherine E. Semcer is a US based researcher in environmental security, sustainability and conservation finance.
Elephant Hunting and Poaching in Botswana: Politics, Popular Grievances and the Power of Animal Advocacy

by Keith Somerville
This comment by Dr. Masisi sums up the feelings of not just Botswana's President but also of many of its parliamentarians, community leaders and—especially—of Batswana who live in rural areas alongside potentially dangerous and destructive wildlife. To them it seems that Western animal lovers and animal-rights NGOs, and their African allies, appear to cherish wildlife above any concern for people who suffer crop damage or loss of livestock. This has been a long-running issue across southern Africa, but Botswana in particular is now caught up in an increasingly bitter controversy over its elephants that is fueled by a number of factors, including:

- Vastly differing estimates of elephant numbers and elephant poaching.
- Competing approaches to the conservation of wildlife and habitats.
- Significant political divisions within Botswana since the Presidency changed in April 2018.
- Conflicts of interest between the eco-tourism and sustainable-use lobbies and rural people and their elected representatives.
- Foreign sentiments about wild species and habitats, especially versus the needs of rural people.

Poaching, EWB & the BBC

In Botswana, these issues heated up in September 2018, when Dr. Mike Chase, the veteran elephant researcher and founder of the advocacy group Elephants Without Borders, told the BBC News that he and his EWB colleagues had found 87 elephant carcasses between the Okavango and Chobe rivers, and that many of these had been killed illegally—i.e., poached. Hunting (for trophies or meat) has been illegal in Botswana since January 2014.

Yet most of the reported carcasses had been seen only from the air, and no corroboration was provided of how many there were, how many had been killed, how long they had been there, or of their ages or sex. Nonetheless, the BBC’s Africa correspondent, Alastair Leithead, ran with the story. He uncritically reported Chase’s claims that “[this] scale of poaching deaths is the largest seen in Africa” and that it indicated a massive rise in poaching resulting from “Botswana's anti-poaching unit being disarmed.”
“‘People did warn us of an impending poaching problem and we thought we were prepared for it,’ said Mr. Chase.” Leithead included no statement from the Botswana government or the DWNP, the Dept. of Wildlife and National Parks, and no verification of the statement that its APU, the Anti-Poaching Unit, had been disarmed.

The claim that this was the “largest scale” of elephant poaching in Africa was preposterous, but it gained public attention. While elephant poaching in Botswana has risen since President Khama’s 2014 ban on hunting, it pales against the mass killing (generally for ivory) of elephants in Tanzania and Mozambique in recent years and, in 2012, in northern Cameroon and the Central African Republic.

As a former BBC journalist (I spent 28 years with the BBC World Service and the BBC College of Journalism), I know how these stories are put together, and how the customary BBC concern with balance often goes out the window when it comes to wildlife. Animal-rights groups are routinely treated as the sole purveyors of truth, and such stories—the furor over Cecil the lion, for example, which I researched and wrote about in detail—become emotive clickbait. So I contacted Alastair Leithead to ask about the balance and facts of his report.

His reply: “I honestly don’t believe Mike Chase made up the 87 carcasses—I’ve met him a few times and respect him and his work and believe he acted in the best interest of the animals at great personal cost it seems.” Leithead thought it was “a shame” that people with “an agenda” had used his statement of findings to create a row about hunting, the APU and conservation.

However, the Botswana government has said it did not find the number of carcasses Chase claimed had been killed illegally, and it strongly disputed any lapse in effectiveness of the APU. President Masisi responded angrily to the BBC story, and the truth about the “disarming” of anti-poaching patrols emerged: Botswana’s APU had traditionally carried semi-automatic rifles, as used by game rangers across southern Africa. But during the presidency of Ian Khama—a vehement opponent of legal hunting as well as poaching, and a former commander of the BDF, the Botswana Defense Force—the APU had been given full-automatic military assault rifles. This was illegal, but President Khama overrode the law and never submitted the issue to Parliament. The APU continued to be deployed along Botswana’s borders with Namibia, Zambia and Zimbabwe and members were authorized to shoot suspected poachers. As a result, in 2015 alone, “at least 30 Namibians and 22 Zimbabweans” were killed by the APU or the BDF on suspicion of poaching.
After taking office, in April 2018, Ian Khama’s successor, President Masisi, announced (to the relief of neighboring governments) an end to this aggressive approach to suspected poachers, and the APU gave up its assault rifles. However, the members were not “disarmed”; they went back to their semi-auto rifles. There was never a period when the APU was unable to perform its duties, and it can still call in heavily armed BDF units in the Chobe, Linyanti, Savuti and Okavango districts for support if necessary.

In the view of many sustainable-use conservationists across Southern Africa, Chase’s BBC story (which was picked up by other international news organizations) and his conclusion (that, since the APU was “disarmed,” elephants were in unprecedented danger) seemed calculated to generate sympathy for elephants—and timed just as a move to end Botswana’s four-year-old ban on hunting was gathering strength.

**Elephant Numbers, Elephant Hunting**

Rural communities and their leaders and MPs (Members of Parliament) say that after hunting was banned in Botswana, in 2014, they suffered substantial increases in crop losses and property damage due to elephants, and in livestock losses to lions. Some communities also lost significant hunting-related revenue. As a result, a large majority in Parliament, of both the governing Botswana Democratic Party (BDP) and opposition MPs, have called on government to lift the hunting ban, particularly on hunting elephants.

Vice-President and Boteti West MP Slumber Tsogwane said that human-wildlife conflict is a major problem in areas bordering the wildlife-rich habitats of the Okavango Delta and the Chobe and Boteti rivers. Elephant numbers have increased in these areas, he said, and they are causing unsustainable levels of damage to crops and property. The Vice-President emphasized, however, that if government did reinstate hunting, this “should not be regarded as a leeway to promoting poaching of elephants, as government would implement stringent measures to protect elephants and other wildlife species.”

According to Maun East MP Kosta Markus, speaking in June 2018, available figures indicated that Botswana’s elephant population is 237,000 while the country’s carrying capacity had been calculated by the DWNP (in the early 1990s) to be 50,000 elephants.
The number 237,000 is widely regarded as inflated; it may instead be the elephant population of KAZA, the Kavango-Zambezi Transfrontier Conservation Area, where Botswana, Namibia, Angola, Zambia and Zimbabwe converge. Figures extrapolated from the African Elephant Status Report 2016 put elephant numbers for KAZA between 202,000 and 240,000. That survey also calculates Botswana’s elephant population at 131,626 with a margin of error that could mean a maximum of 144,134. Elephants Without Borders now sets Botswana’s number at 126,114 with a possible maximum of 136,036.

In response to the request to allow hunting again, the Masisi Government appointed a ministerial committee to consult with all affected parties and to call traditional kgotla meetings, local assemblies where Batswana can question, challenge and even defeat suggested government policies. This committee was formed in late 2018 and its findings were made
public in February 2019. The committee’s report, combined with further media coverage of Chase’s claimed catastrophic rise in elephant poaching, led to the controversy that rages today around elephant management in Botswana.

Before going further, it is worth looking briefly at historical and political contexts.

**Conservation, Militarization & Grievances**

Between Independence, on September 30, 1966, and the imposition of the hunting ban by President Ian Khama in January 2014, Botswana had seen, thanks to favorable natural conditions, protection in national parks and strict quotas in hunting concessions, a significant rise in elephant numbers. At the time, elephant poaching was not widespread in Botswana. This led to a wildlife conservation plan built on three platforms: protected national parks, photo-tourism reserves and concessions where controlled hunting—for trophies and also for meat by communities such as the San/Bushman, who use traditional weapons—was legal. In each hunting concession, the DWNP set annual quotas of game that could be harvested.

This wildlife plan fostered high-price/low-volume tourism, which earned substantial income for the country and for safari operators but, other than some employment, it provided little cash at the local level. However, many San (and Tswana) communities opted to sell their hunting quotas, set by government for species including elephants, to safari operators and to work for them as guides, trackers, skinners, drivers and camp staff.

Then President Khama banned hunting. In this, he was supported and encouraged by his brother Tshekedi (the Environment Minister, responsible for the DWNP and APU) and by anti-hunting allies and business associates such as Dereck Joubert (the filmmaker and owner of the vast Selinda Concession) and Mike Chase and Elephants Without Borders. Just as Jomo Kenyatta had done in Kenya 40 years earlier, Khama unilaterally banned hunting with no consultation or public input and no legislation in Parliament. At the same time, he gave military weapons to the APU and authorized them to shoot poachers, also without the permission of Parliament.

Government did not provide alternative livelihoods and many villages lost (literally) the lion’s share of their income. In 2015, Steve Johnson of the Southern African Regional Environment Program told me of San communities along the Khwai River, outside the protected area of the
Okavango, that had earned hundreds of thousands of dollars annually from selling their hunting quotas. In 2018, Chief Timex Moalosi of Sankuyo, north of Maun, told me that the hunting ban cost his villagers $600,000 a year in lost income, and that they were suffering wildlife damage on a massive scale.

The hunting ban not only impoverished communities, it also led to more human-elephant (and human-lion) conflict. Hunting concessions had acted as buffers between game parks and farmland, and boreholes in the concessions (wells maintained by safari operators or local people) meant that wildlife need not move into farms in search of water.

Hunting provided other benefits as well: Safari operators supplied meat to villages and left partial carcasses in the bush, which meant that, if necessary, lions and other predators could find food without raiding livestock. The presence of hunting parties also deterred poachers.

These issues were ignored by the Khama Administration, which moved away from the democratic and consultative traditions of Botswana and became increasingly authoritarian and unaccountable. It began to crack down on journalists, critics and freedom of speech. In several visits, from 1993 to 2018, as a journalist and then an academic researcher (as well as a camping-safari aficionado), I saw how ordinary Batswana and conservationists, local and
foreign, had become wary of expressing any opinion not in line with President Khama’s policies. Researchers feared losing their permits if they were seen to be “off message” by the government.

Another worrying trend was the evidence of growing cronyism and the development of a powerful elite around the Khama brothers and their intelligence chief and business associate Isaac Kgosi. Kgosi has since been sacked and arrested on charges of corruption.

In April 2018, by law, Khama stepped down after two terms in office. He had tried to arrange for his brother Tshekedi to succeed him, but the Botswana Democratic Party would not accept that. Instead, Mokgweetsi Masisi was elected President. As a fallback, Khama expected Masisi to appoint Tshekedi to be Vice-President. When he did not, Khama turned against President Masisi.

A New Day, a New Outlook

The power struggle in Botswana is still going on, with national elections coming up in October 2019. But many Batswana, and political and conservation commentators, are relieved that the country appears to be returning to the more accountable and democratic ways of the pre-Khama era. One of the most encouraging aspects of the current furor over elephants is that, as evidenced by the appointment of the committee tasked to study hunting, government is now listening to citizens again.

In Africa Geographic, carnivore specialist and human-predator conflict consultant Gail Potgieter compared the reactions of Western animal-advocacy NGOs and the international media with those of ordinary Batswana to the proposed return to hunting:

“Western news media seems to mourn the change of presidency in Botswana, and yet in Botswana itself this is not the case. To find out why, perhaps it is necessary to look at the apparent difference in governance style of these two presidents. Masisi consulted with his people by setting up this [hunting] task team specifically for Social Dialogue.

“The broad community consultation process was actioned at the request of parliament, in recognition of calls by citizens and local scientists to re-think the hunting ban. This may not seem revolutionary to outsiders, as this is surely what presidents of democratic governments should do. But for the citizens of Botswana, this simple act of consultation was seemingly both
a breath of fresh air and a blast from the past. The spirit of democracy and consultation is what made Botswana a successful nation; and some say that this was sorely missed during Khama’s reign."

These sentiments were echoed in Botswana’s Mmegi newspaper by Masego Madzwamuse and Liz Rihoy, who also contrasted the focus on elephant advocacy by the Western media and NGOs with the importance, in Botswana, of accountability and the need to consider the human cost of wildlife damage.

The Khama brothers opposed this return to consultative politics and President Masisi’s policy of listening to the people on hunting and their wildlife problems. As Environment Minister, Tshekedi Khama had fought for the hunting ban; in December 2018, seven months after his brother left the Presidency, he lost his ministerial post. In the same month, the Botswana government decided not to renew Mike Chase’s “large herbivore” (i.e., elephant) research permit. With this, and the committee report and the doubts about Chase’s poaching report, the bitter divisions over hunting were now openly on display.

The Committee & Poaching

The ministerial report on hunting was made public by the government on February 21, 2019; it contained a number of recommendations:

From the submissions made by the communities and other stakeholders, the Committee as assigned by Your Excellency, found it necessary to propose the following recommendations, stated here in summary form.

- Hunting ban be lifted.
- Develop a legal framework that will create an enabling environment for growth of safari hunting industry.
- Manage Botswana elephant population within its historic range.
- Department of Wildlife and National Parks (DWNP) should undertake an effective community outreach program within the elephant range for Human Elephant Conflict mitigation.
• Strategically placed human-wildlife conflict fences be constructed in key hotspot areas.

• Game ranches be demarcated to serve as buffers between communal and wildlife areas.

• Compensation for damage caused by wildlife, ex gratia amounts and the list of species that attract compensation be reviewed. In addition, other models that alleviate compensation burden on Government be considered.

• All wildlife migratory routes that are not beneficial to the country’s conservation efforts be closed.

• The Kgalagadi southwesterly antelope migratory route into South Africa should be closed by demarcating game ranches between the communal areas and Kgalagadi Wildlife Management Areas.

• Regular but limited elephant culling be introduced and establishment of elephant meat canning, including production of pet food and processing into other byproducts.

The Masisi Administration has indicated that it will act upon these recommendations, though it did not promise to enact them in full. It is clear that the hunting ban will be lifted. New regulations and other actions—to reduce human-wildlife conflict and to restore income to local communities—also are likely.

The recommendation to cull elephants and process their meat for pet food was the most controversial and drew immediate reaction from animal-rights advocates such as Dereck Joubert, who called it a “Blood law” that would lead to the killing of “massive numbers of elephants.” The BBC continued to adhere to Chase’s story of elephant poaching and seemed to reject (mainly through the tone of its reporting) the government’s new pro-hunting stance; it too highlighted the pet-food angle, as did CNN, Britain’s The Telegraph and many other international news outlets. The highly emotive reporting largely ignored the fact that these were still just recommendations, not policy or legislation, and that many observers expect that the culling proposal in particular may not be implemented because of possible damage to Botswana’s tourist industry and its international reputation.

Hunting, however, will become legal again. The ban had been decreed by Ian Khama with no vote in Parliament and no legislation, so it can be lifted easily. One hopes that, in the process,
DWNP creates formulas for scientifically based hunting quotas and fair shares of hunting revenue. As before, hunting concessions should not only act as buffers against wildlife intrusion, to reduce damage to crops, livestock and property, but also provide income and livelihoods at the community level.

The Poaching Dispute Worsens

However, while government works on this, it still has to contend with the growing row over poaching. In September 2018, Mike Chase had reported 87 elephant carcasses and said that many of them had been killed illegally. In December, Elephants Without Borders submitted its 2018 Dry Season Survey, an aerial study of elephants and other wildlife in northern Botswana, and this time it reported 128 “fresh/recent” elephant carcasses, “many of which showed clear signs of [having been] poached,” and from this extrapolated a total of 837 such elephant deaths.

The report was not supposed to be made public, yet the BBC got a copy. In January 2019, Mike Chase took Alastair Leithead on a helicopter flyover of the area. Leithead told me he saw 66 dead elephants from the air, and that Chase had “verified” to him that these were mainly victims of poaching and that the carcasses were anywhere from fresh to one to two years old—but offered no information on how any of this had been determined. In an extensive follow-up BBC report in February, Chase is quoted as saying, “We saw with our own eyes 157 confirmed poached elephants. We estimate that the total poached in the last year is at least 385 and probably far more because that is based on what we actually saw and have not had time or finances to visit all carcasses on the ground.” In addition, EWB claimed a “six-fold increase in the number of fresh or recent elephant carcasses in northern Botswana amid obvious signs of poaching.”

The director of DWNP told the BBC that he was unimpressed by these numbers: “Nobody can deny that elephants are being killed in Botswana, but those reported by Mr. Chase had died from natural causes and retaliatory killings.”

Quoting sources on both sides of the issue, the BBC story includes terms such as “false and misleading,” “unsubstantiated and misleading,” “hoax,” “traitor and liar” and says that Chase has received death threats.
If we examine Chase's (and Leithead's) claims against carcass reports from MIKE, the respected CITES-linked Monitoring the Illegal Killing of Elephants program, the observed counts, whether 66 or 87 or even 157, are within the expected range and would not suggest a catastrophic rise in illegal elephant deaths. MIKE figures for 2004-2016 in Botswana are:

<table>
<thead>
<tr>
<th>Year</th>
<th>MIKE figures</th>
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<tbody>
<tr>
<td>2004</td>
<td>73</td>
</tr>
<tr>
<td>2005</td>
<td>153</td>
</tr>
<tr>
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<td>2014</td>
<td>239</td>
</tr>
<tr>
<td>2015</td>
<td>197</td>
</tr>
<tr>
<td>2016</td>
<td>121</td>
</tr>
</tbody>
</table>

What is harder to explain, and has been flatly rejected as incorrect by the Botswana government, is EWB's Dry Season Survey report of 837 "fresh/recent" elephant carcasses and a 600% increase in deaths and poaching. A government press release, dated February 24, 2019, questioned EWB’s estimates, noting that there is no great change in the country’s overall elephant numbers that would suggest a serious rise in poaching:

The figure reported by [EWB] in the report on the number of elephants in their survey area is not statistically different from the 2014 survey. The only reasonable conclusion that can be inferred from the authors’ statistical analysis is that the population has remained stable between the two surveys. The results of the survey are at odds with statements attributed to Dr. Mike Chase in an interview with BBC. It is regrettable that Dr. Chase, in a report purporting to be scientific, includes an astonishing number of pictures of dead elephants, 63 pages to be precise. This is definitely not standard practice in aerial survey report writing. By their own admission, only a portion of all carcasses observed during the aerial survey were verified by helicopter. The authors report that only 33 out of a total of 128 suspected poaching events were actually confirmed by ground verification.

The government also took issue with the methodology used to estimate total deaths and likely poaching:

[T]he authors reported a carcass ratio of 2% in 2010 and 7% in 2014, with 8.1% reported for 2018. The 2014 figure is almost 4 times higher than the 2010 figure, but the authors did not sound the alarm at the time. Instead at that time, the authors considered Botswana an elephant safe haven. Surely, greater concerns should have been expressed after their 2014 survey than now, when the ratio is only slightly higher.
The government’s observation that, although carcass sightings rose after 2014 (when the hunting ban came into force), no alarm was sounded by EWB until a change in the no-hunting policy was likely, is supported by my own experience. Beginning in 2015, I wrote a series of articles for African Arguments, Commonwealth Opinion, Talking Humanities and The Conversation that called attention to a rise in poaching after the hunting ban. During my research trips to Botswana after 2014, Amos Ramakoti (of the DWNP in Maun), Michael Flyman (organizer of the DWNP wildlife censuses) and Baboloki Autletswe (head of the Kalahari Conservation Society) all told me that poaching had increased since hunting was banned, and that Batswana were no longer cooperating with anti-poaching teams as they had previously. Instead, more rural people were helping ivory poachers from Zambia and Namibia and were themselves engaging in poaching for bushmeat. (See my book Ivory. Power and Poaching in Africa for details.) Flyman said that known elephant poaching had risen from about 30 to 35 animals annually before the ban to more than 50 per year since 2014.

In 2015, I contacted Mike Chase to ask about poaching levels and the possibility that the rise was linked to the hunting ban, but he was then busy in Kenya. From 2016 onwards, Chase declined to reply to e-mails from me and (on my behalf) from veteran conservationist John Hanks requesting his views on the evident rise in poaching. He had been pictured with carcasses of recently killed elephants in mid-2016 but did not then flag this as a potential crisis. It was only after the change in government, with the impending end of the Khama Regime and the strong likelihood that hunting would be legalized again, that the opportunity arose to try to link the (false) story of disarming the APU to an increase in poaching. Chase has openly opposed the restoration of legal hunting.

Even taking a conservative estimate of around 130,000 for the elephant population of Botswana, EWB’s carcass figures do not show a serious threat—especially as the 130,000 figure is part of the 202,000 to 240,000 population of KAZA. Elephants are highly mobile and move into and out of Botswana’s main elephant habitat in Ngamiland. (Also, given the high levels of poaching in the southern Angolan and southwestern Zambian parts of KAZA, elephants know that Botswana is a relatively safe haven.)

The eminent Zimbabwean conservationist Brian Child, now teaching at the University of Florida, flatly says that “88 dead elephants are a storm in a teacup” and underlines this with the following calculation:
Furor Today, Hope for Tomorrow

It is clear that there has been a rise in elephant poaching in Botswana since hunting was banned in 2014, but not a significant one; and it is also clear that this progressive but modest rise in poaching began when hunting was banned. The present controversies over hunting, conservation policies and the threat of poaching are a complex (and evolving) mix of politics and power struggles within Botswana. However, these domestic matters are made worse by the Western media's tendency to favor animal advocacy over science and to ignore the views of African governments—and the experience of people who have to coexist with wildlife.

Increasingly, however, in Africa and elsewhere, conservationists and wildlife scientists, universities and NGOs (like the International Union for Conservation of Nature and its Sustainable Use & Livelihoods Specialist Group) recognize the importance of listening to and working with local communities. Sustainable conservation and development solutions must incentivize and bring income to rural people, while conserving habitats and species that would disappear if land were taken from wildlife and turned into farms. Botswana can show us the way.

Professor Keith Somerville is a member of the Durrell Institute of Conservation and Ecology at the University of Kent (and teaches at the Centre for Journalism there). He is a fellow of the Zoological Society of London, a senior research fellow at the Institute of Commonwealth Studies (University of London) and a member of the IUCN Sustainable Livelihoods Specialist Group. His book, *Ivory: Power and Poaching in Africa*, was published in 2016; his newest book, *Humans and Lions: Conflict, Conservation and Coexistence*, will be available in July 2019.

<table>
<thead>
<tr>
<th>Dead Elephant</th>
<th>880</th>
<th>88 (x 10% sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elephant population</td>
<td>130,000</td>
<td>conservative estimate, possibly an under-estimate</td>
</tr>
<tr>
<td>Carcass Ratio</td>
<td>0.7%</td>
<td></td>
</tr>
<tr>
<td>Population Growth</td>
<td>5.0%</td>
<td>ca. 6,500 elephants per annum</td>
</tr>
<tr>
<td>Population Doubling Time</td>
<td>14 Years</td>
<td>Calculation: 70/5%</td>
</tr>
</tbody>
</table>

A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
Postscript

Statement On Safari Hunting In Botswana of the Community-Based Organizations as represented by Ngamiland Council Of Non-Governmental Organizations

1. Community-Based Organization (CBO) as represented by NCONGO would like to appreciate the handing over of the Hunting Ban Consultative Report to His Excellency the President of the Republic of Botswana by the cabinet sub-committee led by Minister Hon. Frans Van Der Westhuizen.

2. CBOs would like to support the recommendations by the Cabinet Sub-committee that conservation Hunting should be re-introduced in Botswana. The re-introduction of hunting will go a long way in alleviating rural poverty by re-introducing tourism benefits lost in 2014 when the hunting moratorium was initiated. Hunting will also mitigate against human wildlife conflicts especially crop damage, livestock predation and the destruction of property especially by elephants. Elephants are causing deaths to our people and have injured many. As a result, the hunting of elephants will result in these animals relocating from human settlements too far away protected areas where they are meant to live.

3. Community Based Organizations (CBO) calls for the strengthening of the Community-Based Natural Resource Management (CBNRM) program in Botswana. It is our strongest believe that the CBNRM program is one approach that can result in meaningful tourism benefits to communities not only through hunting but through other tourism development projects.

4. As communities, we do not take kindly to those who are attacking our Government and all initiatives meant to re-introduce hunting and uplift our livelihoods and reduce human wildlife conflicts in our local areas. It is believed that Botswana is a sovereign state and we have a right to discuss and decide on issues which directly affect our livelihoods and well-being. This is said in reference to the elephant distribution and populations which are threatening food security and lives in our local areas.

5. Finally, we would like to encourage the international community to financial support conservation initiatives in Botswana especially the management of elephants such that
they be reduced to carrying capacity levels and have them managed away from human settlements.

Christmas At CITES: Santa In Sri Lanka

by Kirsten Conrad

Santa is coming to Sri Lanka! Thousands of delegates will assemble in Colombo 22 May – 4 June 2019, ostensibly to save endangered flora and fauna. Yet for many, there is a different agenda: get donations flowing in.

The Conference of the Parties (CoP) of the Convention on International Trade (CITES) are to wildlife conservation NGO’s what Christmas is to retailers. For the latter, it is peak selling season when sales surge. It is the same with the CoP and NGO’s. By definition, revenues from
NGO’s are generated through donations. As in the past, most of these public donations come through media channels; today there are simply more of them, both social and traditional. And just as in the past, CITES, is inclusive. Yet the days of simply running an advertisement in a newspaper (NGO), or hosting a CoP under a tree (Gaborone, 1983) are far gone. Why have CITES events become commercial events?

First of all, CITES itself has grown. In 1983, there were 81 Parties. Today, 2019, that number has expanded to 183. Rumor is that Plenary in Sri Lanka will be conducted in a tent. A wider audience means, on the one hand, more people to influence, and on the other, more media.

Second, the field of wildlife conservation has expanded. Formerly the purview of biologists and forestry officials, today lawyers, economists, media specialists, policy analysts, lobbyists, and campaigners join the party. Many of these people are from areas other than wildlife conservation, such as animal rights, animal welfare, musical instrument associations, firearms associations, and community groups. As the field has expanded, so public interest and the number of NGO’s. Media now have dedicated environmental reporters, and big events guarantee the ability to file numerous reports.

The third reason for the explosion is that wildlife conservation—that includes Conventions themselves and NGO’s—is a maturing industry and is exhibiting textbook examples of such. As industries mature, customers (donors) become better educated. They make more informed choices. They are choosier. Providers, in this case Conventions and NGO’s, must expand their product and service offerings to retain their customer and client bases and attract new entrants. Donations (including grants and secondments) are the equivalent of revenues. In the context of wildlife conservation, “Products” are species—think charismatic megafauna, and “Services” are programs, such as Demand Reduction and Livelihoods. Some customers become fickle, switching their allegiance to other organizations, or to other causes. Providers must protect their customer bases, while eliciting donations. More organizations are chasing the dollar.

Here is how the business model works:

1) **There is a Crisis.** In our world, it’s typically been one of a species or a sub-set thereof, facing an Endangered Future. It is important to recognize that wildlife conservation and animal welfare have deliberately been conflated (extending the Product and Service lines), so that
today’s message increasingly goes beyond “pure” conservation to concern individuals as well as populations.

The crisis can be caused by an individual or a group of people because the model 2) Requires a Villain. This Villain, plural or singular, can act out of greed (profit is inherently evil and those who seek it are morally bankrupt), ignorance (Traditional Chinese Medicine is hocus pocus), or even sadism (stalking trophy animals). Exponential campaign effectiveness occurs when one tribe (Villains vs Saviors) is set against another. At first defined by culture (Western vs Asian or African), tribes are now increasingly defined by ideology (compassionate conservationists versus bloodthirsty hunters). As one group put it “Are you with us or against us?”

Crisis + Villain gives rise to the 3) need for a Savior, in this case it is always the NGO, and, by extension, a government hosting or collaborating with the NGO, and donors to that NGO. You cannot put it more plainly than “Be part of the Solution”. This is why an NGO will run a survey, so as to approach a government with “votes in hand”. No sane politician would ignore a potential bloc of votes. Surveys are also used to educate and solicit funds. This is a win on both sides of the coin for the NGO as it solidifies its audience with both individuals and their governments, and raises money at the same time.
CITES is truly Christmas, when both Villain and Savior will be in the same room, at the same time, discussing the Crisis. Thanks to technology, the public can also be present, in real time. Anyone can sit in a CITES meeting and tweet or otherwise electronically immediate communicate it is working hard on a certain issue. Donors can virtually participate in working groups, attend side events and press conferences, and listen to interventions.

When the public tire of the same Crisis, and donations started to taper off or become too expensive to solicit, NGO’s “expand their product offerings” in two ways. The term marketing professionals use is “commercial wear out”. One way to protect the customer base to “market” new, charismatic species. The pangolin is a prime example. A few years ago, it was not on anyone’s radar. Now NGOs are stumbling over themselves to support “the world’s most trafficked animal”. The pangolin fit a number of criteria. 1) It has eyes and a face 2) it curls into a ball, looking vulnerable 3) the Villain was China. People were tiring of hearing about elephants and tigers, but their capacity to believe bad things about an alien tribe was not yet saturated.

Another new product is Demand Reduction. This is a culturally less disdainful antidote to the Villain which must tolerate domestic campaigns within its borders. It also offers a way to infiltrate the Villain, and has the ultimate aim of ‘divide and conquer’. Demand Reduction is now a multi-million-dollar business; however, it has inherent problems. These problems have been at the core of CITES since its inception and are basically about what to do about people who depend on wildlife for a living, and the right of humans to use animals. If so, do some
humans have rights (subsistence hunting) while others do not (fur pelts). Until these core issues are discussed openly, they will continue to dominate in subtle ways—and NGOs will tease them out, so as to generate revenues.

This is the simple model. In a more mature stage, management and even control of the public narrative is required. This goes beyond overt advertisements, infomercials, and lobbying politicians directly.

A well-documented example is the polar bear campaign that was run prior to CoP15 (2010) and Cop16 (2013). This was a well-coordinated effort to up-list the polar bear to that all trade would be prohibited. In this instance, a lead NGO (which has subsequently been elected into IUCN!!) manipulated the narrative by cherry-picking data to spin a story.

In what has become part of the playbook, NGO’s present selective facts to tell the stories which supports their business model, i.e. fundraising or policy objectives. Frequently they start with a public opinion survey. This is subtly worded or polled in such a way that the outcome (generally Trade Ban, to deny the Villain and promote a sense of moral superiority to the Saviors) is pre-determined.

Positive public opinion to, say, “save” polar bears (Crisis) is played out in the press (happy to have a story, with readership guaranteed by the survey and NGO publicity on social media). CITES delegations are then urged to vote for the solution that appears to be supported by his or her constituency. How, then, can one be
optimistic about the role of science in CITES?

The Conference of the Parties of CITES has become a veritable media jamboree. This is fully facilitated by the Secretariat, which maintains special channels—and free passes VALIDATE—for accredited media, offers dedicated press facilities, and has institutionalized briefings as part of the daily routine. One tiger campaigner who had written a book avoided paying the full US$600 fee for Observers by applying under the auspices of her publisher. From the media perspective, having the opportunity to interview Villain and Savior in front of the Crisis is a home run.

Thousands of people will descend on Colombo in May. The general public will hear about how hard they are working to save wildlife. What they will not hear about is the millions of dollars that those who preach about the evils of commercial trade will themselves have reaped.

Kirsten Conrad's research interests include legal and illegal trade, captive breeding, in situ conservation, trade bans, demand reduction, animal rights and animal welfare, and Traditional Chinese Medicine. Kirsten has lived in Asia since 1995 and is a member of the IUCN SSC Sustainable Use and Livelihoods Group (SULi) and the CITES Working Group on Asian Big Cats.

Fear-based Fundraising: Why Conservation Optimism is Needed More than Ever

by Matthew Lewis

Not long after I began working for a large international conservation organization (one of the world’s largest), I received a phone call from an irate member. He had received a fundraising appeal in the mail telling him that tigers would go extinct soon unless he acted fast to donate money. I remember this call vividly, as it pulled the wool from my eyes about how conservation fundraising works by large NGO’s. These organizations may be officially “non-profit”, but they are extremely efficient at extracting money from their supporters.

His problem with this mailer, as he put it, was that he had received the exact same mailer thirty years earlier. He questioned me, “How can tigers have been going extinct for thirty years? If
that’s the case, why aren’t they extinct already?” Forced to think fast to placate this irate donor, my only reply was to assure him that had we not been working diligently for thirty years (and longer), tigers would indeed have gone extinct, but our efforts (and his generous contribution) have helped prevent that from happening, though the threat had not gone away. I wasn’t sure I believed my answer, but it served to calm him down at least.

This incident was my first exposure to fear-based fundraising. The overwhelming majority of communications material produced by the international conservation community is pessimistic. Conservation fundraisers have been habituated to rely on fear to prompt philanthropy. To paraphrase the common message, “If you don’t give us money, elephants (or rhinos, or polar bears, or the iconic species of the day) will go extinct soon!” Conservation isn't the only sector to use this approach. The American gun lobby has very successfully used the fear of gun control to raise billions of dollars. And the hunting sector uses the same approach, convincing supporters that the “antis” are itching to take away their hunting heritage unless they donate.

Certainly, many species populations are under threat. We can’t be naïve about that. Similarly, gun laws and hunting rights are under attack. But rather than inspire followers through
positive messaging, organizations have fallen back on fear-based fundraising in almost every instance. Partly because it's effective, but also partly because it's often easier to scare people than it is to inspire them.

Personally, I'm tired of the pessimism. Twenty-five years into my conservation career, it has become exhausting to face gloom and doom day in and day out. Fortunately, I'm not alone. A few years ago, a group of like-minded individuals founded a movement called Conservation Optimism dedicated to inspiring and empowering people by being optimistic yet realistic in its messaging. This movement isn't exclusive. By simply using the hashtag #conservationoptimism in social media, we can all contribute. If we all work to identify positive news and share it widely and tag it when we do, we can counter this overwhelming cloud of dire threats.

It's not hard to find good news in conservation. It's there if we look for it. We have made great success in conservation. The biggest risk in relentless fear-mongering is that people will simply give up in frustration. Complacency and apathy are the biggest threats to biodiversity, much more threatening to biodiversity than poaching. Once people become convinced that the situation is hopeless, no matter what we do, we have lost the battle.

The southern white rhinoceros is one of the greatest conservation success stories of our time, yet the story of its recovery is almost never told at the expense of stories about recent poaching increases. From a tiny remnant population of fewer than 100 in 1900, the subspecies has recovered to well over 20,000 today. Yes, the poaching problem of the past decade has been terrible, and if left unchecked it would certainly drive the population into decline. But despite that the population remains stable and is not at imminent risk of extinction. Yet a casual observer would never know that based on the prevailing dire messaging coming from all sides. In the immediate aftermath of the rhino poaching surge in South Africa, hundreds of fly-by-night “rhino conservation” NGO's were registered in the country to capitalize on fundraising around this crisis. Let's be realistic in our messaging, and not give in to the temptation to sensationalize the problem in the misguided belief that it will result in more resources to address the problem.

Tragically, while conservation NGO's have been busy raising millions based on the false assertion that poaching is driving species like African elephant (IUCN Vulnerable, population increasing) and southern white rhinos (IUCN Near Threatened, population increasing) toward imminent extinction, many other species are quietly going into decline as a result of the more
urgent threats of habitat loss, human encroachment, infrastructure development and climate change.

And yet there is room for optimism here as well. While we have recently heard many gloomy predictions for giraffes, two subspecies, the West African and Rothschild’s, were downlisted last year from “Endangered” to “Vulnerable” and “Near Threatened,” respectively, due to conservation success. It’s rare that a downlisting receives much press, but an uplisting is covered exhaustively in the media, and is fodder for fundraising blasts by NGO’s. I have yet to see a tweet or a fundraising mailer from an NGO stating, “We have achieved great success in conserving X species, and as a result the population is flourishing. Join us in spreading this success with the help of your donation.” I’d personally much rather support the winning team than throw money toward a losing battle, and I think others would, too.

Conservation optimism doesn’t mean naivety. We must be realistic, and without question the biodiversity of our planet is under threat. Conservation is necessary, now more than ever, and the urgency is real. But there’s no need to exaggerate or sensationalize the urgency. In the long term, relentless pessimism and embellishing the facts will hurt us more than it will help us. While it may be tempting in the short term to use dire messaging in fundraising appeals, we must realize that eventually the donors will become desensitized to scare tactics and shock, and will realize that the sky isn’t falling, at least not today. If we draw from the well of fear one too many times that well will surely run dry.

*Matthew Lewis is a wildlife biologist who has worked on conservation issues in North America, Asia and Africa for the past 25 years. Originally from Missouri, he calls Nairobi, Kenya home, and works on wildlife conservation across Africa.*

**New Chair of IUCN-SSC SULi: Dr. Dilys Roe**

*by Gerhard R. Damm and Kai Wollscheid*

Conservation Frontlines Foundation congratulates Dr. Dilys Roe on her appointment to the Chair of the IUCN Sustainable Use and Livelihoods Specialist Group (SULi) in January 2019.

*A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization*
Dilys follows Dr. Rosie Cooney, who retired from this position in December 2018, but remains an active member of SULi.

IUCN-SULi is a global expert network formed by IUCN as a joint initiative of the Species Survival Commission (SSC) and the Commission on Environmental, Economic and Social Policy (CEESP).

Dilys Roe is a Principal Researcher at the London-based International Institute for Environment and Development (IIED) where she leads the Institute’s work on biodiversity and conservation. Her work focuses on the human dimensions of conservation – including understanding and supporting the necessary conditions for effective community-based conservation. A strong element of her current work is on engaging local communities in tackling illegal wildlife trade and, more broadly, enhancing community voices in conservation policymaking and strategies for linking biodiversity conservation with human wellbeing and social justice.

Dilys has a PhD in biodiversity management from the Durrell Institute for Conservation and Ecology and the University of Kent. She is a member of the UK Government Darwin Expert Committee (DEC) and Illegal Wildlife Trade Advisory Group, and a Fellow of the UN Environment World Conservation Monitoring Centre.

The two editors of Conservation Frontlines are long-standing members of the IUCN Sustainable Use and Livelihoods Specialist Group (SULi) and we are looking forward to work with Dilys and report to our readers about the work and achievements in this global expert network.
Hunters And Their Wild Harvest

by Gerhard R. Damm

For most of human history, and before large-scale farming, wild game made up a large portion of mankind’s diet. Until about 10,000 years ago, domesticated animals did not exist and, throughout the preceding millennia, our ancestors had but one option to obtain essential proteins: They had to hunt wild animals. Meat from wild game provided the proteins that made us human.

“The primordial animal predator and the contemporary hunter have much in common”, says Florian Asche in his article Remaking Hunting as Human, “the game, the hunter, the stalking, the flurry, the death, and the consumption of the prey. In both examples the million-year-old game of pursuit and death is rewarded by death renewing life.”
According to Asche, “it is not hunting that makes us human, but our consciousness to hunt ... humans are the only beings on this planet who can apprehend and review hunting in a logical way. As a result of our λόγος [logos]— not simply our speech but more generally our rational mind—hunting leads us from the mere existence of nature to moral and ethical issues in the trade-off between bondage and freedom, and in the aesthetics and the meaning of becoming and passing.”

Today, says Asche, “hunting still serves to defeat the oblivion of nature and to heal the soul of man in all cultures.” And, I am inclined to add, hunting connects us to where it all began at the dawn of human history.

In modern society, eating healthy wild-harvest products seems to be increasingly important; wild game is a rising star in the health-conscious kitchen—the original organic, grass-fed, free-range and naturally sustainable meat source. It is free of hormones and antibiotics, it is not genetically modified and it does not contribute to the proliferation of super-bugs. It holds a healthy balance of omega-6 and omega-3 polyunsaturated fatty acids and is richer in iron, niacin and B vitamins than the meat from ordinary livestock. It typically contains fewer calories than commercially raised meat and has more protein.

Personal harvest of meat or plant foods from the wild involves no (or little) alteration of natural ecosystems. I dare to argue that it has an even lower ecological impact than a thoughtless vegan diet—especially if the wild meat is local and the vegan vegetables are imported, or—in the case of soybean products—come with a hefty cost of clear-cut forests, heavy fertilizing and proliferation of pesticides. Wild game is probably the eco-friendliest meat; and from a humane point of view, hunting involves no abattoirs and only minimal stress or suffering for animals.

Wild ungulates subsisting on a natural diet provide meat that is likely a bit tougher than that of a less active, farm-raised animal; these are also usually older animals, not industrially raised sub-adults. This is why wild game meat has substantially more and often better flavor.

When buying fresh game, as opposed to hunting it, basically the same rules apply as with other meat products: The meat must not have a blackish color or smell unpleasant. However, game meat is often comparatively darker in color. This is partly due to the higher content of iron, which colors muscle tissue, and partly because the game is not slaughtered but shot, and therefore the blood is not completely drained from the veins. Game meat tastes better if it is...
aged in the skin for some time to allow enzymes to break down proteins and improve tenderness and flavor.

Like hunting itself, butchering a wild animal is also an art. We have to know our cuts and how to follow the individual muscles with a knife; we need to know which cuts are best for different methods of preparation. Done properly, the result is the best organic meat available. And don’t forget the organs—the heart, liver and kidneys—as ingredients for very tasty recipes. In fact, all cuts and parts of a game animal can be used by the visionary chef.

Many older North American recipes suggest that steaks, casseroles, pies or burgers are the best ways to serve game; or it is made into biltong (Southern Africa), jerky (North America) or some standard sausage form. These are all remnants of the pioneer kitchen. The Old World has a richer, centuries-old history of preparing wild meats, although some of the dishes served at the tables of feudal lords would hardly appeal to modern palates.

Today, chefs in Europe and North America no longer resort only to the traditional ways of serving the bounty of the hunt; they give us a constant stream of innovative creations, whether simple or complex.

We should all make a conscious effort to discover this new culinary universe, one where nothing is wasted from our wild harvest. Game processing and cooking books now flood the market, and the Internet provides access to thousands more recipes. Conservation Frontlines will also offer tried-and-tested recipes, and we have a continuously expanding section in our library dedicated to wild foods.

Wild game meat is unquestionably the all-around healthiest option for a diet containing meat. It is, therefore, not astonishing that game continues to surge in popularity, particularly among sophisticated and health-conscious foodies. However, we should note that there is a difference between hunted wild game meat and some commercial venison products.

The “wild” game or venison offered in most North American restaurants or supermarkets is, in fact, the comparatively flaccid flesh of captive-bred, farm-raised, formerly wild animals. It has the same culinary relationship to true wild meat as farmed salmon does to the genuine free-swimming creature from the northern regions of North America Europe and Britain.
Renowned wildlife conservationist Shane Mahoney recently wrote: “The recreational wild harvest in North America should be viewed as one of the most sustainable, healthy, and environmentally friendly food procurement systems in existence. The harvest of wild protein by the approximately 40 million Canadians and Americans who hunt and fish every year recreationally provides an enormous amount of food. It's organic food. It's food that's taken from landscapes that are maintained naturally and as functioning ecosystems. So, if you just consider whitetail deer: of the obvious multitudes between five and seven million a year are harvested; for very coarse estimation assume 100 pounds of meat per animal; we're looking at 500 to 700 million pounds."

In the Wild Harvest Initiative, Mahoney and his partners assemble and evaluate data on the harvest of wildlife and fish in Canada and the United States; and from there they will estimate the amount of meat that comes from the harvested animals and work with economists to assign it a fair-market value.

Regulations in North America generally prohibit the sale of wild game meat. Luckily for the non-hunter, North American hunters often share their harvest with their extended families, friends and neighbors. One of Mahoney’s conclusions from the work done so far in the Wild Harvest Initiative “puts the number of people that are engaged in some way, touched in some way, by our hunting traditions to maybe 200 million people, maybe 250 million people, out of approximately 360 million who live in Canada and the United States.”

Encouraging as this is, hunters also need to be more proactive. We could work with professional chefs and restaurants, or hand out samples of expertly prepared venison together with factual information on hunting at local farmers’ markets. I am sure that we would find an attentive audience in non-hunting visitors. Taking to the taste buds can be a promising way to inform non-hunters about the benefits of sustainable hunting. Many non-hunting but environmentally conscious people could quickly become passionate about fresh, locally sourced wild products—once they have tried properly hunted and processed game meat. With our help, they might then see hunting with different eyes!

The situation in Europe and Southern Africa is less altruistic and more commercial. Across Southern Africa, on regulation-fenced land, live animals are the property of the landowner and can be traded alive or, when hunted or culled, sold as meat. Game meat is regular fare on hunters’ tables in Southern Africa, but it rarely appears in non-hunting kitchens—although
most locals (and some visitors) will go miles for good biltong. Only a few enterprising African chefs feature game in their restaurants. This is a situation that Southern African game ranchers would do well to address with urgency.

In Europe, no one owns wildlife—landowners or leaseholders acquire ownership once the wildlife is legally harvested on their property. Game meat is routinely sold on the open market and has significant commercial value. Wild game is an important part of culinary culture across all of Europe. Especially during hunting season, many butcheries offer a great variety of cuts, and traditional and innovative restaurant menus alike are loaded with tasty wild game creations sourced from the regional harvest.

In Germany, for example, the meat from some 75,000 red deer, 63,000 fallow deer, 4,500 chamois, 7,000 mouflon, 835,000 wild boar and 1,190,000 roe deer reaches the kitchens and tables of aficionados every year. Add to these figures more than 180,000 brown hares, 100,000 wild rabbits, 76,000 pheasants, 95,000 wild geese, 273,000 wild ducks and 430,000 wild pigeons and you get an idea of the economic significance of game meat. In a country about half the size of Texas and with about three times its population, the annual wholesale value alone of wild harvested game meat approaches $300 million US.

At Jagd & Hund, Europe's largest annual hunting fair, with more than 80,000 visitors, the culinary preparation of wild game has greatly increased in popularity. In January 2019 an entire exhibition hall was dedicated to the Wild Food Festival. This “show within a show” includes sample delicacies, fresh produce and ingredients, creative cooking ideas, exciting stage shows and workshops dedicated to game cooking that feature top chefs, and much more.

Hunters nowadays lack a lofty pedestal from which to defend their interests; as well, pro-hunting evidence is too scientific and complicated to be rendered in attention-grabbing tweets. Instead, we hunters could gain a great deal by refocusing the public debate on the benefits of a sustainable, healthy supply of game meats, both fresh or cured. Hunters can unequivocally state that fish, fowl and red meat, harvested sustainably from the wild, are naturally and even morally superior to industrially produced meats. And, done right, proper hunting provides healthy exercise in the outdoors!

Too many people grow obese and ill from eating industrially produced, chemical-drenched, fat-laden pseudo-meats. Livestock, fish and poultry “factories” often damage the Earth as well,
taking a huge toll on our environment and climate. These costs include the proliferation of antibiotic-resistant bacteria, the death of aquatic ecosystems, and the pollution of soil, groundwater and air with heavy metals, phosphorus, nitrogen, pathogens, hormones, ammonia and methane.

The average meat-eater today is obsessed with tenderness and mild flavor. To that end, in North America and Europe, almost all commercial animals are slaughtered young or even as juveniles. This drive to produce more, and cheaper, tender meat leads to the historically high consumption of industrial meat we see today. Yet a growing number of “conscious consumers” are trending toward eating less but higher quality meat, and are willing to pay for this privilege. Wild game meat could play a small but significant role in this process.

For some, the moral question of hunting is the over-riding issue—but I suggest that the moral and environmental implications of factory farming are what we should be debating, not ethical hunting.

Our society has largely lost its connection to the food chain. Done right, hunting and killing of wild game is natural and moral. A hunter carries out the tracking, killing, eviscerating, skinning, butchering, preparing and cooking of a wild animal. These are sensory experiences far beyond the selection of a vacuum-sealed package of meat based on its weight, price and sell-by date!

The death of that wild animal is caused directly by the individual hunter. And once the trigger is pulled, or the arrow released, the real work begins. The animal must be gutted immediately. The carcass must be allowed to cool. During field-dressing, blood literally covers the hunter’s hands. Hunting demands an incomparably greater connection to the reality of life and death than does a thoughtless trip to the supermarket. Hunting is a true interaction with the natural cycle, all the way from the preparations for the hunt to the point where the hunter takes the animal’s life. This interaction continues from the processing to the cooking and consumption at table.

If you believe it is wrong to eat meat, you can become vegan; that decision is down to the individual, just like the decision to hunt. Globally, regionally and locally, it is impossible to prevent the killing of animals—but hunting makes it possible to ensure that animal deaths are natural and ethical. And there is no denying that a regulated wild harvest provides a sustainable supply of healthy, organic meat for the discriminating gourmet.

A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
Whatever your position, let us exercise tolerance and have a civilized debate while agreeing on the need to live in harmony with nature.

*Image supplied free via Creative Commons Zero CCO: Adriaen Van Utrecht, 1599–1652, Artist, Still Life*

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**On Wanting to Eat the City Deer**

by Lauren Koshere

I walked home from work one afternoon not long after moving to Washington, D.C. It had been a long day. Partway home, I stopped at the Kahlil Gibran Memorial on Massachusetts Avenue, NW, about a half mile from Rock Creek Park. I studied the motion of water in the fountain, savored the cool air and green smell rising from the adjacent woods, and listened over traffic sounds to the rustle of wind through leaves shifting above me.

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A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
After a few minutes, I looked up. I was surrounded by white-tailed deer: five six-point bucks, one doe, and one fawn. Not one flinched when I stood to walk away, passing within fifteen feet of them.

This was my first encounter with city deer. As for non-city deer, I couldn’t say whether my first exposure was a sighting in the woods or a morsel on my fork.

In the hardwoods-and-lakes country of the Upper Midwest where I grew up, hunting and fishing is a part of the culture. Wild fish and game are a regular part of many families’ diets.

My initial thought that day on Massachusetts Avenue was to call my dad, home in Wisconsin: “Seven deer, five six-pointers—all within feet of me! You can tell city deer aren't used to being hunted.” My next thought was that I wished I had some venison in my freezer.

“I cannot imagine going to the woods to shoot an innocent animal,” said an intern from New York when I mentioned the hunting traditions of my background one day at work. Across her brow came a twisted arc, shock that I would even admit to being such a redneck.

Seen through one lens, sure, I can understand how, to many urban dwellers, hunting and eating game sounds downright rednecker.

Seen through another lens, I could also make a case that my siblings and I were raised on protein that was all-natural; local; organic, sustainable; free-range; vegetarian-diet; low-input; biodynamic; soy-, hormone-, cage-, and antibiotic-free—not to mention compatible with the Paleo Diet—long before any of those qualifiers were righteous among savvy urbanites.

What’s more, we knew the story of our meat. The hunters in our family—my dad, my mom, my uncle, my brother—could tell me how, when, and where the hunt had occurred. They took me to walk through our forty-acre woods on trails established by the deer. They demonstrated how to properly and respectfully handle meat to avoid waste. And I learned from them, year-round, as they practiced meaningful skills—tool and bow and rifle maintenance, target practice, scouting the woods, interpreting deer sign and habitat types—all in preparation for hunting season.
The morality of hunting was never questioned. But the seriousness of the act was implicitly honored. My dad taught me what he said after he took an animal’s life when hunting or trapping: Megwitch. An Ojibwe word. “Thank you.”

It’s a lot easier to take for granted the meat that slides into your pan from butcher paper than the meat you or someone you know hauled from the woods, cut from the bone, and wrapped in freezer paper.

This is all to say—I wish I could hunt the deer I see along Massachusetts Avenue.

I wish it for my sake. I wish I could skip the throng of people lined at the meat counter. I wish I could know more about my meat, trust more about my meat, respect more about my meat, than I can from what the index cards at Whole Foods tell me.

And I wish it for the deers’ sake.

It’s certainly not their fault that their best habitat for miles is in the heart of Washington, D.C., bereft of natural predators, crisscrossed with busy streets, and abutted by yards abundant with the temptation of juicy vegetation, houses inhabited by frustrated gardeners.

Nor is it their fault that, unless the deer population falls, their grazing of native vegetation in and around D.C.’s Rock Creek Park will continue to contribute to all sorts of mounting problems—for the health of their population, for local ecosystems, and for people.

Regardless of whose fault it is, there is consensus that the local deer population must be reduced. In May of 2012, a Rock Creek Park deer management plan was adopted that would reduce the Park’s population through lethal and non-lethal means. The lethal means—culling the population by sharp shooters—however, will not happen yet, pending a lawsuit by an animal rights group and local residents.

I appreciate that managing wildlife anywhere, especially in a populous urban environment, is a complicated one. I respect that different personal backgrounds give way to a myriad of value judgments on the topic.

But that still doesn’t change the fact that, every time this particular urban dweller passes a docile deer on the edge of woods and lawn somewhere along Massachusetts Avenue, NW, she wishes she could eat it.
Lauren Koshere’s writing has appeared in High Country News, ISLE, and others. She is a graduate of St. Catherine University and the University of Montana. Find more at https://laurenkoshere.com/. This essay first appeared as a contribution to the Center for Humans and Nature’s City Creatures Blog and is reproduced here with permission.

A Duck Hunter’s Thoughts on Preparing the Bounty

by Rachel Owen

Editor’s Note: Wade Truong is a self-taught chef from Virginia, avid fisherman and late onset hunter; his partner Rachel Owen, author of this article, considers herself a Virginia native and
says that she didn't grow up outdoors, the outdoors grew on her. Both hunt, fish, and forage together with their black Lab Tater Tot. Wade and Rachel love cooking for friends, and exploring new ingredients and flavors. They do it because it gives them a deep sense of pride, rootedness, and nourishment to be connected to their food. They do it because they want to be active participants in the natural world, honor their hard-won experiences in the field and enjoy the abundance of the untamed table.

New York Times correspondent Kim Severson describes the hunting and cooking of the two millennials in *A New Breed of Hunters Focuses on the Cooking* in The New York Times Cooking Section on February 5 2019. Make sure you read this article. Severson also penned *DIY Duck Pastrami* in Garden & Gun Magazine and *Food-focused millennials are keeping American hunting alive* in the Independent (UK).

It’s winter, and we’re on the tail end of a cold snap that has brought incredible duck hunting but also bone-deep fatigue.

We’ve spent the past few days walking, crawling, and falling through the frozen marsh, hauling decoys and hunting birds that have arrived in such numbers that the sky at first light looks clouded with wisps of smoke. We broke ice in the creek, off the decoys, from the dog. We shot ducks. A lot of them.

We set up and watched as the wind whipped the creek, frothing water over the ice until we were almost frozen in, our decoys motionless in the slush, until we packed them all in and moved up creek to another spot. We set up again. We shot mallard and gadwall and black duck and bufflehead and a goose for good measure.
We watched birds hang over the spread, watched as flocks came in like we had them on a string. We said how this feels like Arkansas, except in Arkansas you don’t worry about the cold as much, probably.

We pushed ourselves for 3 days, amazed & exhausted in equal measure, and when we got home, we made bulgogi.

Bulgogi, for the uninitiated, is a Korean dish traditionally made from marinated prime cuts of beef, grilled quickly and often served with rice, all kinds of ferments, pickles, and side dishes (called banchan).

This recipe couldn't be faster, easier, or more satisfying. Use a couple shot-up, skinned, or otherwise not-so-pretty duck or goose breasts for this dish- you’re not roasting or grilling whole, so aesthetics don't matter so much. It will almost take you longer to make the rice for this meal than to do the rest.

Many recipes will call for an overnight marinade, but we couldn't wait, so instead we sliced our duck breast thin, massaged it with the marinade, and vacuum-sealed it to pull the flavors into the meat.

Gochujang is a Korean fermented chili paste that is delicious in just about everything. If your local grocer doesn't stock it, it’s worth seeking out online for its perfect balance of sweet, spicy, and umami depth.

### Duck Breast Bulgogi

**Prep time:** 15 minutes active, 1-hour total - Serves: 2-4

**Ingredients:** 2 duck breasts, sliced thin; 4 cloves garlic, minced; 1 thumb-sized piece of ginger, peeled and diced; 2 tbsp sesame oil; 1 tsp hot chili flake; 1/3 cup soy sauce; 1/4 cup neutral oil, such as canola; 1 tsp white sesame seed; 1 tsp black sesame seed; 2 tbsp sugar; 2 tbsp gochujang.

**Method:** Trim duck breasts if necessary. Slice thin, against the grain, into pieces about 1/8 of an inch thick. In a bowl, mix together all other ingredients. Place sliced duck into marinade and massage it in, then pour everything into a vacuum bag and seal. Allow it to marinate for 30-45
minutes. This is going to pull the marinade into the meat more quickly. If you don’t have a vacuum sealer, or have a little more patience, you can let it sit in the fridge for 4-6 hours instead. When you’re ready to cook, heat a large pan over medium high heat. Add a few tablespoons of oil and, working in batches, stir fry the duck. Make sure that all the marinade makes it into the pan and cooks down into a sticky glaze. Ideally, you want the marinade to reduce and caramelize without totally overcooking the duck. The meat will be medium-well to well done, but the marinade keeps everything tender and flavorful. Serve over rice and garnish with sesame seed and hot peppers.

Editor’s Afterthought: True to style, Wade and Rachel don’t only prepare the choice parts of their ducks – every morsel is used: check out their recipes for duck gizzards and hearts, and the long, slow and low treatment of duck wings for a confit, plus their method of rendering duck fat.
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Book Review: Call of the Mild - Learning to Hunt My Own Dinner

by Editorial Team


When Lily Raff McCaulou switched from an Indie film production career in New York to a reporting job in Bend, central Oregon, she never imagined that she'd find herself picking up a gun and learning to hunt. She'd been raised as a gun-fearing environmentalist and an animal lover. In fact, her husband said “when we first met, I classified her as an anti-hunter.”

The young woman's transformation from a New York City urbanite into a small-town Oregon hunter with a conscience started when her husband taught her how to fly-fish. By own admission fly-fishing was her gateway drug to hunting. Interviewing Oregon ranchers and loggers, many of whom hunted, for her articles, made her discover an astonishing lifestyle connected to nature. Hunting, which she had long associated with cruel and indiscriminate killing, started to intrigue her. The more she researched, the more she came to believe that true hunters were in fact environmentalist role models. And after Lily finally started hunting herself, she realized that killing, and eating a hunted animal created an intimate bond to
another creature and, by extension, the land where that creature lived. Throughout the book, the author shares her mostly profound insights.

In her book, Lily explores modern humanity's alienation from the natural world, and all the big questions surrounding hunting in the 21st century: gun legislation, tensions between hunters and environmentalists, and new models of sustainable and ethical food procurement. She contends that hunting is not only a cultural tradition, but an ecological necessity and argues that hunters are common-sense conservation partners for all nature lovers.

In an interview Lily Raff McCaulou said “To hunt, I have to immerse myself in the landscape. There’s no room for talking or daydreaming. I scan the ground for animal scat or tracks. I listen for snapping twigs or flapping wings. I feel which direction the wind is blowing. I identify the plants around me and notice if their stalks have been nibbled or their roots burrowed under. Hunting requires fluency in an ecosystem— something that is increasingly rare in our modern lives. It connects us to our ancestors because it gives us a window into what humans used to have to do to stay alive. And because hunting roots us to the land and to the wildlife, it gives us a great reason for conservation.”

Call of the Mild is most of all brilliantly narrated - personal, self-critical, amusing, deeply moving and factually informative. It is a book not only for your own library, but also an ideal gift for your non-hunting friends!

*Lily Raff McCaulou is a journalist based in Bend, Oregon. Her website is [www.lilyrm.com](http://www.lilyrm.com). Read more in [Elle](http), [The New York Times](http) and [The Oregonian](http).

*Listen to interviews with Lily on [Talk of the Nation](http), [Q with Jian Ghomeshi](http) or [OnPoint with Tom Ashbrook](http).*

*A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization*

By Gerhard R. Damm


Karl-Josef Fuchs is a master chef and passionate hunter and also owner of the extraordinary family-run Spielweg Hotel in the Münstertal Valley in Germany’s Black Forest. As a culinary artist, Fuchs is always on the lookout for the perfect preparation of all parts of wild...
game harvested (sustainably!) from the hunting grounds around his hotel. His book features innovative, artful, truly wild cuisine from two top chefs—himself and his daughter Viktoria (who, together with her sister Kristin, comprise the sixth generation managing the Spielweg). Fuchs' growing fame has given wild game cooking new significance in Germany.

In addition to chapters on preparing different German game species, the book has a detailed chapter on specialty sausages. And throughout, step-by-step photos illustrate the recipes and help even neophytes enjoy the bountiful harvest from German forests. Fuchs writes: “Wild game meat has an infinite advantage—it is always organic, and I rarely need much more than pepper and salt to experience a wealth of special flavors and tastes.” Be it a spicy roast of boar, a perfect leg of roe deer, a filet of red deer, chamois or mouflon, each is prepared alongside ingredients that create a flavor explosion for the palate. His recipes go well beyond conventional standards and, with a little imagination, they can also be used for game from North America and Africa.

Fuchs does not compete for the stars, hats or spoons of professional ratings, nor is he given to artful turrets of scallops, decorative lemongrass or artsy brushstrokes of sauce. Instead, his focus is the high-quality handling of wild game and down-to-earth but imaginative cooking. A flavorful wild game sausage, perfectly grilled on an open fire; a juicy wild duck terrine; a wild boar roast with traditional Black Forest trimmings—these are the memorable creations that he and Veronika share with their guests. Fuchs also teaches wild game cooking and sausage making, and writes a column on the topic in Wild & Hund, the largest German-language hunting magazine. At Conservation Frontlines, we will work with the Fuchs family to publish English translations of some of their recipes on our website.


Across Southern Africa, many people still seem to believe that meat from wild game is tough, dry and difficult to prepare—in other words, good only for biltong, potjie-kos and sausages. But there (as everywhere), wild game meat is coming into its own, thanks to its optimal nutritional value,
essential proteins and minimal fat and cholesterol. Although currently out of print, Camdeboo Karoo Venison—with a preface by the well-known author and hunter Peter H. Flack—fulfills every home chef’s dream of preparing healthy and interesting Southern African wild game dishes. Hunters and their families, and non-hunters who buy high-quality game meat from trusted sources, will enjoy these excellent and proven recipes, and learn that eating wild game can be a marvelous experience.


This book features innovative yet easy recipes for Nature's most sustainable, lean and delicious meats from some of North America's top gourmet chefs: Jon Bonnell (Texas), Daniel Boulud (New York), Travis Brust (Virginia), Michael Chiarello (California), Josh Drage (Montana), Chris Hughes (Texas), Bob Hurley (California), Emeril Lagasse (Louisiana), Scott Leysath (California), Jorge Morales (Montana), Daniel Nelson (Michigan), Holly Peterson (California), Susan Prescott-Havers (Wyoming), Anthony Scanio (Louisiana), and Hank Shaw (California).

Also included is a fully illustrated 24x36-inch, double-sided reference poster for wild game processing, preparation and cuts from Chef Daniel Nelson from the Gourmet Gone Wild TV program. Renowned food scientist Moira Tidball provides a detailed table of the nutritional content of wild game and fish species. (She also highlights the differences between farm-raised and wild game meat.) And Marc Mondavi gives wine pairing recommendations for different game meats.

New to hunting and fishing? Wild Gourmet will demystify processing and preparing wild game. In case your game larder is bare, it also recommends smart substitutes. Whether in North America, Europe or Africa, this book is for the discerning hunter or angler who wants to share
the fruits of his or her days afield with family and friends. It is a celebration of the culinary arts and the health benefits of wild fish and game, one that has taken the locavore movement by storm.

Book Review: Towards a Sustainable, Participatory and Inclusive Wild Meat Sector

by Editorial Team


The meat of wild species is an essential source of protein and income for millions of forest communities in tropical and subtropical regions. However, unsustainable harvest rates currently endanger ecosystems and threaten the livelihoods of many vulnerable households. This report is a technical tool to help guide the wild-meat sector toward sustainability; it is an extensive compilation of the current knowledge on the use of wild meat, its drivers and impacts, and it provides recommendations for better wild-meat governance and management.

In tropical and subtropical regions, advances in hunting technologies and the penetration of new lands by logging, mining, agriculture and infrastructure enable greater wildlife offtakes.
Upwardly mobile consumers in fast growing nearby urban centers, who see wild meat as a luxury item rather than a staple, drive the demand. This market pressure has significant impacts on wildlife populations and ecosystems, which in turn jeopardize the financial and food security of rural and indigenous communities that obtain much of their dietary protein and other nutrients from wild meat.

Key to sustainable wildlife management is ensuring that the consumption of wild meat is considered as a cross-sectoral issue and solidly incorporated into national resource and land-use planning. The success of these management strategies depends on an enabling environment at the national, governmental level. In many countries, a key first step will be the revision of hunting laws and land-tenure systems in consultation with all stakeholders. Research must focus on producing science-based evidence that governments, communities, NGOs and industries can use to improve management policies and practices.

The creation of a sustainable wild-meat sector requires interconnected interventions along an entire value chain that includes hunters, urban consumers and the wider society. Well-designed participatory approaches can enable sustainable management of the wild meat supply for local communities, but only if this is strongly supported by methods that reduce and control urban demand.

Editors’ Note: Wild meat includes more than 500 vertebrate species traded and consumed throughout Oceania, South America, South and Southeast Asia and Sub-Saharan Africa. In remote rural communities, it is an important source of protein, but growth in urban populations and trade between rural and urban areas, where wild meat is considered a luxury, are pushing some wild-meat species to extinction. Learn more about "bushmeat" by exploring the Center for International Forestry Research (CIFOR) wild meat package, which includes research, data and media materials. Go to https://mailchi.mp/cgiar.org/content-package?e=0f9b92ca8b.
Book Review: North American Wildlife Policy and Law

by Editorial Team


Since its founding in 1887, the Boone and Crockett Club has been a major force for laws and policies to secure the future of North America's wildlife and wild places. The Club's contributions run like indelible threads throughout the fabric of North America's conservation history. It is most fitting that this comprehensive text book was conceived and created by the Boone and Crockett Club. It is a definitive treatise on natural resource policy and law in North America and a vital resource for undergraduate curricula and wildlife professions. The comprehensive text thoroughly examines the history and foundation of policy, reviews and analyzes major federal, state, and provincial laws and policies important to natural resource management, and most uniquely discusses application and practice of policy to ensure sustainability of wildlife, fish and their habitats.

A basic understanding of wildlife law and policy is essential knowledge for anyone who aspires to work in wildlife management and other natural resource fields. Now, for the first time, students and professionals have all the information they need in one comprehensive volume.

The book begins by examining the need for, and history of, wildlife policy and law; wildlife and gun ownership; wildlife law enforcement; constitutional authorities and jurisdictions; how laws
and policies are made; statutory law and agency rule-making; relationships of Indigenous peoples to natural resources; and subsistence resource use. Building on this foundation are detailed sections addressing:

- The Foundations of Wildlife Policy and Law
- The North American Model of Wildlife Conservation
- Jurisdictions in the U.S., Canada, and Mexico with detailed coverage of key federal laws
- The roles of state and provincial agencies, Native American tribes, and conservation organizations
- International wildlife conservation
- Policy jobs in conservation
- Roles of politics, professionals, and the public

As the editors write within the introduction to the book: “Our primary purpose for this textbook is to provide students in wildlife and related fields with a comprehensive source for information on wildlife law and policy in North America. Coursework on policy is required in the curricula leading to degrees in natural resources as well as for professional certification as a Wildlife Biologist®. We intend this as a key textbook to satisfy those academic requirements. We also offer it as a comprehensive reference for diverse professionals working in the wildlife and natural resource fields.” Moreover, the book’s extensive coverage makes it an excellent reference for anyone interested in natural resource management, public policy, or environmental law.

Contributors include professors from prominent wildlife programs across the country and throughout the world, biologists holding top-level jobs in government agencies, and current natural resource professionals. Chapter 35 (Wildlife Policy and Law in Africa – Pages 480-501) has been written by Conservation Frontlines Joint Editor-in- Chief Gerhard R Damm.

A comprehensive online preview of North American Wildlife Policy and Law is available at http://www.boone-crockett.org/nawpl/NAWPLpreview/
Abstracts Of Recently Published Papers On Hunting And Conservation

by Editorial Team


**Abstract:** Hunting lactating or non-lactating female ungulates is a debated issue because of the potential risks connected to the premature separation of kids from their mother (i.e., offspring orphaning). In many chamois populations, harvesting of lactating females is currently discouraged. Recently, however, it has been suggested that a ‘random’ management regime, which implies harvesting of yearlings and ≥ 2 years old females – irrespective of their reproductive status, would have no effect on chamois population dynamics. In chamois, many 2-3 years old females are non-lactating: selective harvesting of non-lactating females may thus over-impact on this age class, which enjoys high potential for survival and reproductive success; conversely, random harvest is expected to relax hunting pressure on subadults, thereby favoring population demography. We argue that this conclusion deserves great caution, because of several uncertainties associated with the proposed hunting regime. For example, potential negative long-term effects could be expected on orphans if the mothers are removed during the nursing period, including reduced kids’ growth, survival and reproductive success. These effects may be expected to aggravate in hunting systems that allow chamois hunting during the period of intensive maternal care. Furthermore, removing restrictions on lactation puts females at risk of trophy hunting, i.e. females with longer horns (which are expected to be the most productive segment of the population) might be prematurely removed, possibly hampering the population performance in the long term. Investigating the potential outcomes of different harvesting regimes is important for the development of effective management strategies. However, modeling of harvesting regimes requires that all sources of uncertainty are taken into account, to obtain more generalizable recommendations. Given the current uncertainties, we suggest that selective harvesting of non-lactating females, combined with the adoption of hunting quotas for different female age...
classes, may effectively reduce the pressure on young females with high reproductive value, while avoiding the negative effects of trophy hunting and all the uncertainties – ethical issues included – of orphaning.

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Abstract: Across the globe, wildlife populations and their behaviours are negatively impacted by people. Protected areas are believed to be an antidote to increasing human pressures but even they are not immune to the impact of anthropogenic activities. Areas that have been set aside for the protection of wildlife therefore warrant more attention when investigating the impact of anthropogenic pressures on wildlife. We use cheetahs Acinonyx jubatus as a case study to explore how a large carnivore responds to anthropogenic pressures inside wildlife areas. Using GPS-collar data we investigate cheetah space use, both when moving and stationary, and movement parameters (speed and turn angles) in relation to human disturbance, distance to human settlement, livestock abundance and livestock site use inside wildlife areas. Space use was negatively influenced by human disturbance, resulting in habitat loss and fragmentation and potentially reducing landscape permeability between neighbouring wildlife areas. Cheetahs were also less likely to stop in areas where livestock numbers were high, but more likely to stop in areas that were frequently used by livestock. The latter could reflect that cheetahs are attracted to livestock however, cheetahs in the study area rarely predated on livestock. It is therefore more likely that areas that are frequently used by livestock attract wild herbivores, which in turn could influence cheetah space use. We did not find any effects of people and livestock on cheetahs' speed and turn angles which might be related to the resolution of the data. We found that cheetahs are sensitive to human pressures and we believe that they could be an indicator species for other large carnivores facing similar challenges. We suggest that further research is needed to determine the levels of anthropogenic pressures needed to maintain ecological integrity, especially inside wildlife areas.

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A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization

**Abstract:** Insights into the genetic characteristics of a species provide important information for wildlife conservation programs. Here, we used the OvineSNP50 BeadChip developed for domestic sheep to examine population structure and evaluate genetic diversity of snow sheep (*Ovis nivicola*) inhabiting Verkhoyansk Range and Momsky Ridge. A total of 1,121 polymorphic SNPs were used to test 80 specimens representing five populations, including four populations of the Verkhoyansk Mountain chain: Kharaulakh Ridge–Tiksi Bay (TIK, n = 22), Orulgan Ridge (ORU, n = 22), the central part of Verkhoyansk Range (VER, n = 15), Suntar-Khayata Ridge (SKH, n = 13), and Momsky Ridge (MOM, n = 8). We showed that the studied populations were genetically structured according to a geographic pattern. Pairwise FST values ranged from 0.044 to 0.205. Admixture analysis identified K = 2 as the most likely number of ancestral populations. A Neighbor-Net tree showed that TIK was an isolated group related to the main network through ORU. TreeMix analysis revealed that TIK and MOM originated from two different ancestral populations and detected gene flow from MOM to ORU. This was supported by the f3 statistic, which showed that ORU is an admixed population with TIK and MOM/SKH heritage. Genetic diversity in the studied groups was increasing southward. Minimum values of observed (Ho) and expected (He) heterozygosity and allelic richness (Ar) were observed in the most northern population—TIK, and maximum values were observed in the most southern population—SKH. Thus, our results revealed clear genetic structure in the studied populations of snow sheep and showed that TIK has a different origin from MOM, SKH, and VER even though they are conventionally considered a single subspecies known as Yakut snow sheep (*Ovis nivicola lydekkeri*). Most likely, TIK was an isolated group during the Late Pleistocene glaciations of Verkhoyansk Range.


A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
Abstract: Shooting is an important tool for managing terrestrial wildlife populations worldwide. To date, however, there has been few quantitative methods available enabling assessment of the animal welfare outcomes of rifle hunting. We apply a variety of factors to model flight distance (distance travelled by an animal after bullet impact) and incapacitation from the moment of bullet impact. These factors include body mass, allometric and isometric scaling, comparative physiology, wound ballistics and linear kinematics. This approach provides for the first time a method for quantifying and grading the quality of shooting processes by examining only body mass and flight distance. Our model is a universally applicable tool for measuring animal welfare outcomes of shooting regimes both within and among species. For management agencies the model should be a practical tool for monitoring and evaluating animal welfare outcomes regarding shooting of mammalian populations.


Abstract: Fragments from bullets used for moose (Alces alces) hunting contaminate meat, gut piles, and offal and expose humans and scavengers to lead and copper. We sampled bullets (n=1,655) retrieved from harvested moose in Fennoscandia (Finland, Sweden, and Norway) to measure loss of lead and copper. Concordant questionnaires (n=5,255) supplied ballistic information to complete this task. Hunters preferred lead-based bullets (90%) to copper bullets (10%). Three caliber classes were preferred: 7.62mm (69%), 9.3mm (12%), and 6.5mm (12%). Bullets passed completely through calves (76%) more frequently compared to yearlings (63%) or adults (47%). Metal deposition per bullet type (bonded lead core, lead core, and copper) did not vary among moose age classes (calves, yearlings, and adults). Average metal loss per bullet type was 3.0 g, 2.6 g, and 0.5 g for lead-core, bonded lead-core, and copper bullets, respectively. This corresponded to 18–26, 10–25, and 0–15% metal loss for lead-core, bonded lead-core, and copper bullets, respectively. Based on the harvest of 166,000 moose in Fennoscandia during the 2013/2014 hunting season, we estimated that lead-based bullets deposited 690 kg of lead in moose carcasses, compared with 21 kg of copper from copper bullets. Bone impact increased, whereas longer shooting distances decreased, lead loss from lead-based bullets. These factors did not influence loss of copper from copper bullets. In
A framework to measure the wildness of managed large vertebrate populations. 2019. Matthew F. Child; S.A. Jeanetta Selier; Frans G. T. Radloff; W. Andrew Taylor; Michael Hoffmann; Lizanne Nel; John Power; Coral Birss; Nicola C Okes; Michael J. Peel; David Mallon & Harriet T. Davies-Mostert. Conservation Biology. DOI: 10.1111/cobi.13299

Abstract: As landscapes continue to fall under human influence through habitat loss, fragmentation, and settlement expansion, fencing is increasingly being used to mitigate anthropogenic threats or enhance the commercial value of wildlife. Subsequent intensification of management potentially erodes wildness by disembodied populations from landscape-level processes, thereby disconnecting species from natural selection. Decision-makers thus require tools to measure the degree to which populations of large vertebrate species within protected areas and other wildlife-based land-uses are self-sustaining and free to adapt. We present a framework comprising six attributes relating to the evolutionary and ecological dynamics of vertebrates. For each attribute, we set empirical, species-specific thresholds between five wildness states using quantifiable management interventions. The tool was piloted on six herbivore species with a range of Red List conservation statuses and commercial values using a comprehensive dataset of 205 private wildlife properties with management objectives spanning ecotourism to consumptive utilization. Wildness scores were significantly different between species, and the proportion of populations identified as wild ranged from 12% to 84%, which indicates the utility of the tool to detect site-scale differences between populations of different species and populations of the same species under different management regimes. By quantifying wildness, this foundational framework provides practitioners with standardised measurement units that interlink biodiversity with the sustainable use of wildlife. Applications include informing species management plans at local scales; standardising the inclusion of managed populations in Red List assessments; and providing a platform for certification and regulation of wildlife-based economies. We hope that applying this framework will assist in embedding wildness as a normative value in policy,
thereby mitigating the shifting baseline of what it means to truly conserve a species. This article is protected by copyright. All rights reserved Article impact statement: This is a regulatory tool to empirically measure the wildness of managed populations to bridge the science–policy divide.

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**Abstract:** Many wildlife use industries are facing criticism from animal welfare groups. In some recent cases, opposition to contentious practices (e.g., kangaroo [*Macropus* spp.] harvesting) has achieved widespread community support and industries have lost market access or regulatory approval. The concept of social license to operate has become an important focus for many natural resource management fields, but there is ostensibly less awareness of its role in animal industries. To regard this contemporary threat to traditional wildlife management as more than inexplicable requires some delving into social sciences. We use the example of the declining harp seal (*Pagophilus groenlandicus*) harvest in Canada to illustrate how poorly addressed animal welfare concerns can erode social license and decimate even ecologically sustainable wildlife use enterprises. We argue that other consumptive wildlife use industries, such as North American fur harvesting and kangaroo harvesting in Australia are at risk of loss of social license if animal welfare concerns are not addressed proactively and effectively. When faced with opposition from animal advocacy groups, many wildlife use industries have traditionally been reactive and have been reluctant to engage with stakeholders who possess seemingly irreconcilable differences. Instead, industries have often resorted to secrecy or deception, or have steadfastly defended their current approaches while attacking their critics. We suggest that a more effective approach would be for industries to proactively engage with stakeholders, establish a shared vision for how their industry should operate, and support this vision by transparently monitoring animal welfare outcomes. Proactive management of community expectations surrounding animal welfare is essential for the maintenance of social license for wildlife use enterprises.

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Abstract: Concerns about poaching and trafficking have led conservationists to seek urgent responses to tackle the impact on wildlife. One possible solution is the militarisation of conservation, which holds potentially far-reaching consequences. It is important to engage critically with the militarisation of conservation, including identifying and reflecting on the problems it produces for wildlife, for people living with wildlife and for those tasked with implementing militarised strategies. This Perspectives piece is a first step towards synthesising the main themes in emerging critiques of militarised conservation. We identify five major themes: first, the importance of understanding how poaching is defined; second, understanding the ways that local communities experience militarised conservation; third, the experiences of rangers; fourth, how the militarisation of conservation can contribute to violence where conservation operates in the context of armed conflict; and finally how it fits in with and reflects wider political economic dynamics. Ultimately, we suggest that failure to engage more critically with militarisation risks making things worse for the people involved and lead to poor conservation outcomes in the long run.


Abstract: Community-based natural resource management programs can recover wildlife and deliver tangible benefits such as financial gains to local communities. Less-tangible impacts like changes in attitudes towards wildlife are not as well-understood, yet in the long-term, positive attitudes may be an important determinant of sustainability in such programs. We investigated the connection between actual and perceived benefits of a community-based conservation program in Namibia and residents’ attitudes towards wildlife. We administered a questionnaire with a specific focus on attitudes to >400 community members across 18 communal conservancies that generated either (i) high benefits from tourism, (ii) high benefits
from hunting, or (iii) low/no benefits. We used an empirical modelling approach that isolated the impact of conservancy-level benefits, while controlling for a variety of factors that can also influence attitudes towards wildlife. Using an information theoretic and model-averaging approach, we show that all else equal, respondents living in conservancies generating high benefits from hunting had more favourable attitudes towards wildlife than those living in conservancies generating low benefits (as expected), but also as compared to those living in conservancies generating high benefits from tourism. A variety of individual-level characteristics, such as the costs and benefits (both tangible and intangible) that respondents have personally experienced from wildlife, as well as demographic factors, were also important in conditioning attitudes. Our results demonstrate that community-based conservation programs can positively impact attitudes towards wildlife, but that this is conditioned by the type and magnitude of benefits and costs that individuals experience from wildlife, all of which should be assessed in order to most effectively support such programs.
The State of Conservation in Oklahoma’s Most Rural Counties

by Joe Pinson

Natural Beauty Marred by Carelessness

Tucked away in the southeastern corner of the state lies Oklahoma’s most diverse terrain. From the pine-covered Kiamichi and Ouachita mountains to the hardwood bottoms and swamps along the Red River, this unique area is home to everything from black bear to alligator. It also boasts the poorest counties in the state. Poverty and a suppressed economy have made their mark, and conservation is rarely a prominent subject among citizens.
Driving through the small towns that dot the southeastern-most counties, one might have entered another country. Slow paced and quiet, somewhat dilapidated, many of these communities peaked early in the 20th century. Now, they seem left behind, forgotten. The moment one looks closely, perhaps turning off of the main thoroughfares onto the numerous graveled back-roads, it becomes impossible to ignore a sense of apathy.

Carelessly discarded trash litters the roadsides—most popular seems to be cans from varieties of cheap light beer. Household trash and old tires are dumped into creeks by individuals ingrained with a multi-generational mindset of disregard. Certainly not representative of the majority, it is prevalent enough to mar the natural beauty for all who seek to appreciate it.

**Oklahoma’s Whitetails: A Conservation Success Story**

Along those same roads, seeing wildlife is almost a certainty, especially when the sun is low on either horizon. Like elsewhere in the country, the most popular of game species is the whitetail deer.

Whitetails in Oklahoma are themselves a shining example of successful conservation efforts. Unregulated hunting for market and sustenance nearly eliminated them from the state by the turn of the 20th century. Through conservation efforts of individuals and organizations, populations rebounded. Trap and transfer operations led by the Oklahoma Department of Wildlife and Conservation (ODWC) reintroduced whitetails into portions of the state that had not seen a deer track in years.

Today we take deer sightings for granted. However, taking our right to hunt for granted is ill-advised. Where species populations were once the issue, social and public perception now present the greatest threats to ethical and sustainable hunting.

**Conservation Starts at Home**

When the subject of conservation is broached, it often invokes images of Africa’s giant mammals or South American rainforests. For some, that represents their backyard, and those places are near and dear. To others, they represent a cause; an outlet for philanthropic environmentalism. For the rest of us, as noble (and important) as it is to save the rhino and the tapir, conservation must begin in our own backyards. Southeastern Oklahoma having been my
backyard for seventeen years, I set out to find what we are doing right. I also wanted to take an honest look at needed changes.

**Changing Mindsets in an Area Resistant to Change**

While the impact of poverty in Southeast Oklahoma cannot be denied, it is questionable at best that poverty excuses hunting violations. There is no doubt that a number of deer and other game species quietly find their way from forest to frying pan every year, taken outside of the boundaries of local game regulations. The traditional mindset of hunting to feed one’s family tends to rationalize such behavior. Compared to more heinous game violations, such as wanton waste, it seems understandable. However, it does not hold up to scrutiny today the way it may have for previous generations of hunters.

Results of a successful anti-poaching operation conducted by Oklahoma Game Wardens. The deer were donated to families in need.
Lt. Dru Polk is an Oklahoma State Game Warden stationed in McCurtain County. That single county has roughly the same amount of land area as the state of Delaware. The entire seven county district patrolled by Polk and fourteen other wardens adds up to 8,831 square miles of what Polk describes as “the most rural and roughest environment in Oklahoma.” He is no stranger to poverty being used to excuse game law violations.

“I believe 40 plus years ago this was a reality,” Polk says “I have lost several cases within our judicial system due to the so called ‘socio-economic issues’ of our area. I have arrested many individuals over the years claiming to need meat for their families, but they’re driving a King Ranch with a Browning X-Bolt and a case of beer. This doesn’t sit well with me. There are truly those in need and given the opportunity I have always taken care of these individuals. Today, I believe it’s a lack of respect for our game laws and a mindset of those laws not really meaning much.”

Youth, Boredom, Beer, and Backroads

Poaching is a major issue around rural communities, with so called “road-hunting” being the primary complaint. Thousands of miles of isolated roads patrolled by a handful of wardens is prime environment for this violation. Interestingly, otherwise honest citizens sometimes engage in this activity.

According to Lt. Polk, “Many people would never intentionally break the law, but for some reason don’t feel our wildlife laws meet the same criteria as the rest of the laws within our judicial system.”

One of the more troubling trends noted is the evolution from harvesting an animal for sustenance to killing for thrill, especially among younger generations.

“Not many years ago individuals would go out and shoot one or two deer illegally, utilizing the majority of the animal, and leaving little to no part of the animal to spoil,” Polk states. “This still happens in many occasions, but there is a new and growing trend of our younger generations killing for sport and not sustenance. I have found in the last several years a growing trend of calls involving freshly killed bucks with no head and no meat utilized or taken. The headless deer is normally a mature buck which was illegally killed for the prize of his antlers.”

The Future of Hunting Depends on the Positives

A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization
Despite our flaws, the outlook is far from negative. While wardens work to break the “we’ve always done it this way” mentality of certain individuals, many more are becoming increasingly involved in conservation. Overall, a mutual respect between hunters and game wardens helps unite us in a common goal to perpetuate not only hunting, but healthy and balanced populations of wildlife. For hunters, the importance of this cause grows as our way of life faces unprecedented modern challenges.

As hunters, we cannot deny that we are killers. No matter how it is phrased, when an animal is “harvested”, that animal is killed. It cannot be assumed that the rest of the population is as accepting of this reality. In an age of social media, those who oppose hunting loudly disseminate their agenda.

While hunting is no longer threatened by dismal populations of game animals (largely in thanks to conservation efforts by hunters), it is threatened by perception. When discussing illegal activity by poachers, we often hear how “they give all hunters a bad name”.

Faced with anti-hunters who place more value on the life of an animal than that of a human, any illegal, immoral, or unethical actions by hunters provide them with ammunition to attack the sport. It is hard to converse with people who hold such radically different views than our own. It is not the anti-hunter that needs involvement in our conversation—it is the non-hunter.

**The Vital Non-Hunter Connection**

Warden Polk puts it quite well. “For the last 20-plus years as a Hunter Safety instructor, I have taught my students that there are roughly 10% of the population which either hunts or fishes,” he says. “There is also the other end of the spectrum of roughly 10% who adamantly opposes hunting or the legal harvest of any animal or fish. So, you have approximately 80% of the population that can be persuaded one way or the other, depending on the actions they see first.”

The role of non-hunters as partners in conservation is important, but their acceptance of hunting is paramount for its future. We are surrounded by individuals that do not partake in hunting, but neither do they condemn it. These are often members of our own families.

A conflation of hunting with poaching is detrimental to this relationship. Consider the number of animated children’s films and TV shows that portray the hunter as a villain. Entertaining they...
may be, but if we cannot counter that sort of portrayal with ethical actions and a conservational attitude, support of our way of life will continue to erode as fewer young people are brought up with a familiarity of hunting.

**Wardens Condemn Individual Actions; Public Opinion Condemns Entire Groups**

In my corner of Oklahoma, it is no challenge to kill a deer. The challenge is harvesting an animal within the constraints of the law, ethically and morally. It may seem innocuous to test the boundaries of regulations, but does it serve us to do so?

There is that aforementioned independent mindset of “we’ve always done it this way” running deep in the citizens of Southeastern Oklahoma. Regarding conservation, this must be personally altered at the individual level. We should act as hunters with the consideration of how our actions will appear to non-hunters. Will it lead them to support us, or will it drive them into the ranks of those who hope to see an end to the sport? If the men and women tasked with enforcing our game laws would frown on a behavior, we can safely assume that it is harmful to the public image of hunting and threatens the rights of future hunters.

*Joe Pinson ([https://joepinsonwriting.com/](https://joepinsonwriting.com/)) is a freelance outdoor and agricultural writer and a resident of Southeastern Oklahoma. All photos in this article are courtesy Oklahoma Department of Conservation and Wildlife Game Wardens*

*A World That Values The Conservation And Livelihood Benefits Of Sustainable Wildlife Utilization*
Like the Stars. As New West meets Old West, conflict is the norm. It doesn’t have to be.

by Brian Yablonski, Executive Director, PERC

The 1990 classic “Dances with Wolves” features a scene in which the main character, Lieutenant John Dunbar, played by Kevin Costner, shares a campfire with Lakota Sioux medicine man Kicking Bird, played by Graham Greene. As the wind blows through a grove of cottonwood trees, the two ponder the impending wave of emigrants. “You always ask how many more are coming,” Dunbar says to Kicking Bird. “There will be a lot my friend, more than can be counted.” Kicking Bird asks for help in understanding what that means, and Dunbar replies, “Like the stars.”

In the 19th century, America tilted from east to west, spilling farmers, miners, cattle ranchers, and foresters into the New West, displacing the Old West Native American tribes, trappers,
and thoroughfares of wildlife. Today, the tilt and spill come from all directions, bringing baby boomers and retirees, technology and healthcare workers, conservationists and outdoor recreation enthusiasts, all changing the DNA of communities that were once built on natural resource extraction. The New West of the 19th and 20th century becomes the Old West of the 21st century, and the cycle starts again.

According to the Census Bureau, seven of the 10 fastest-growing states in America are in the West, with Idaho, Nevada, and Utah leading the way. Similarly, seven of the top 10 fastest-growing micropolitan areas are in the West, including my new hometown of Bozeman, which saw nearly 4 percent growth last year.

The New Westerners bring their own ideals—such as a desire to live healthy, outdoor lifestyles—and disposable income. Sixty percent of new net income in the West comes from non-labor sources like dividends, interest, rent, and other financial investments. For the most part, they are not here to harvest trees, graze cattle, or mine for minerals. They come for the anchor public lands like Yellowstone National Park and nearby national forests and wild and scenic rivers.

A consequence is more real estate development, which can consume land, splinter wildlife habitats, put pressure on agricultural working lands, and increase demand for a new consumptive land use: outdoor recreation. Yet increased recreation demand can pose its own challenges. As the ever-intuitive Aldo Leopold, father of wildlife ecology, wrote in 1934, “The salient geographic character of outdoor recreation is that recreational use is self-destructive. The more people are concentrated in a given area, the less is the chance of finding what they seek.”

“You always ask how many more are coming. There will be a lot my friend, more than can be counted. Like the stars.”

PERC recently hosted a panel discussion in Washington, D.C., with some of America’s biggest landowners—the acting director of the National Park Service and the deputy directors for the U.S. Forest Service and the Bureau of Land Management. Their challenges mirrored that of the Old West, New West dichotomy.
For the National Park Service, the main obstacle was not the threat of resource extraction but rather the swelling number of visitors to our national parks and the strains on infrastructure—the facilities, trails, roads, and sewer systems in need of nearly $12 billion worth of repairs. In 2016, after three decades of flat visitor numbers, the National Park Service shattered its visitation record by almost 24 million visits—an increase of more than 7 percent.

For the Forest Service, it was the concern of wildfires and the growing cost to protect homes and communities developing in the forested wildland-urban interface, along with threats wildfires place on watersheds that provide drinking water to western communities. The “Fire Service,” as it’s come to be known, now spends half of its budget, nearly $3 billion, fighting wildfires.

And for the Bureau of Land Management, it was the challenge of being a multiple-use agency balancing a working landscape that generates revenue with the growing demand for conservation and outdoor recreation that largely does not.

Free market environmentalism has answers to all of these challenges.

As the tectonic plates of New West and Old West meet, conflict is the norm. It doesn’t have to be. Free market environmental approaches grounded in cooperation can offer conservation solutions untethered to political winds.

For example, wildlife advocates can work with ranchers and farmers on economic incentives to preserve working landscapes that provide important migration corridors for elk, mule deer, and pronghorn. Creative financial arrangements can be deployed to actively manage forests for wildfires threatening municipal water supplies. National parks can use market-based fee approaches to address maintenance challenges and grant more decision-making authority to local park managers. Conservation can be an allowable “use,” financed with New West disposable income, that competes with other uses on public land in bidding for timber or gas. And as timber, mining, grazing, and even hunting diminish as revenue sources for conservation, outdoor recreation—which generates more than $400 billion in annual economic activity, according to the Bureau of Economic Analysis—can step in to fill the void.

This past summer, I had the opportunity to address a hard-working group of ranchers from Eastern Montana. Their fears of a lost way of life were real and worthy of understanding. They
are the underdog. New West public land advocates should take time to appreciate Old West private ranchers and their stewardship of the land. We need both healthy public and private lands.

Growth will continue in the West. It will come with conflict and with opportunities for new markets both in conservation and on working landscapes. I am living proof of the New West—a Florida Man in Montana. Both a hunter and a hiker. Somebody who wants to preserve the best of the Old West working lands while conserving the landscapes and wildlife that brought me to this special region. Coming to Montana from a place that witnessed decades of explosive growth, I’ve already seen this movie.

I share with my friends here that their state, now our state, will become an aspiration, a prize for a life well lived someplace else. When they ask how many, I tell them: Like the stars.

This essay was first published in PERC Reports: The Magazine for Free Market Environmentalism, Volume 37, No.2, Winter 2018. Conservation Frontlines appreciates the permission to re-publish. PERC—the Property and Environment Research Center—is a conservation and research institute dedicated to free market environmentalism. Research examines how markets encourage cooperation instead of conflict over natural resources and how property rights make the environment an asset by giving owners incentives for stewardship. Together, they improve environmental quality.

Brian Yablonski is the executive director of PERC and the former chairman of the Florida Fish and Wildlife Conservation Commission.

Painting by Albert Bierstadt, (January 7, 1830 – February 18, 1902), a German-American painter best known for his lavish, sweeping landscapes of the American West.
In his Foreword to *Sand County Almanac*, Aldo Leopold wrote, “There are some who can live without wild things, and some who cannot.” He continues, explaining that his essays, “are the delights and dilemmas of one who cannot” (p.xvii). Today, our industrialized and highly technical society has many people living without wild things. Indeed, far fewer people hunt than don’t, so how is it possible to make the case that hunting makes us human?

While only about 4% of the American population hunts each year\(^2\), the majority of the American public supports hunting even if they don’t personally participate, with about 80% of

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adult Americans nationwide indicating they approve of legal hunting. Furthermore, the inventions of agriculture, government, and technology have made hunting for food generally unnecessary for nearly every single person. It seems counterintuitive that hunting, an activity in which so little of the population participates and that which is no longer critical to survival, would enjoy such widespread, contemporary approval. Nonetheless, social science research clearly confirms this support. We argue that it is only when we view these modern opinions on hunting through the lens of the past that the apparent contradiction between low participation and high approval makes sense. We must examine today’s attitudes in an evolutionary context to begin to understand how hunting is inextricably part of who we are today, part of what makes us human.

Without detailing the specifics or debating the issue, most of us can probably agree that humans were once a species whose very existence once depended upon the ability to hunt (as well as to gather). Prior to the development of farming and agriculture, hunting was an activity intended exclusively to obtain meat for the tribe, group, village, or family. The hunters in the group were primarily males who would pass the ability to survive on to the next generation by taking them hunting. Each of these aspects of hunting remains prominent among hunters today. Hunting today is still predominantly a male activity: 83% of hunters are male. Research also consistently shows that it takes a hunter to make a hunter, meaning almost all hunters today were initiated into hunting by another hunter, usually by a father or father figure.

Hunting for the meat is a motivation that has persisted well beyond its necessity in the U.S. In fact, in recent years hunting for the meat has even increased in importance, with the percentage of hunters who hunt for the meat increasing from 16% in 2006 to 39% (and the top 4


There are many motivations for hunting and while the top reason is currently hunting for the meat, hunting to be with family and friends is also commonly cited, emphasizing hunting’s historical relationship with the group in which hunting was almost always a group activity and hunters in the group would pass on the knowledge of and participation in the activity to the next generation to ensure survival.

Another consideration for how hunting makes us human is the way in which the general population relates to hunting. As we previously indicated, the majority of the American public (80%) approves of legal hunting. Furthermore, about 9 in 10 adult Americans also say it is important to them that people have the opportunity to hunt, even if they do not personally participate. Clearly, whether participating or not, hunting is still viewed as a meaningful or valuable human activity.

The value of hunting, however, is not unconditional. Public support of hunting varies based on multiple factors, including species hunted, motivations, and methods. These variations in support can again be understood in relation to the historical role of hunting as a necessity.

When asked about approval or disapproval of hunting for various species, adult Americans are much more likely to approve of hunting for those species traditionally hunted for food in hunter-gatherer societies, such as deer (78% approve of hunting for deer), wild turkey (78%), and duck (74%). However, support drops with some of the species that posed a higher threat to humans, were more difficult to kill, and were not the type of meat typically consumed, such as black bear (44%) and mountain lion (38%). Note that the latter species with less approval also happen to be the type of hunting that anti-hunting and animal rights groups like PETA and

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In Defense of Animals tend to attack because it is easier to sway public opinion in their favor in such cases because those species are not the ones around which hunting for sustenance evolved.

Browsing any number of the many hunting and outdoor magazines in your local bookstore reveals that hunting for a trophy receives the most attention in the media. Yet, only about 1% of hunters indicate that their primary motivation to hunt is for a trophy. As we mentioned above, today’s hunters most commonly hunt for the meat, like their ancestors, which is a motivation that does have public support. Interestingly, hunting for a trophy is, in general, opposed by a majority of the public.

The highest levels of public support for hunting occur when we ask specifically about hunting for reasons related to historic hunting for survival: 84% of adult Americans approve of hunting for the meat and 85% approve hunting to protect humans from harm. While majorities also support hunting for reasons related to wildlife management and animal control, approval starts to drop dramatically for reasons not related to survival, such as for the sport (50% approve of hunting for this reason), for the challenge (41%), and for a trophy (29%). Opposition to hunting also grows when the method used diverges from our basic means of hunting and becomes too modernized or technological to the point of challenging the concept of fair chase, such as hunting using high tech gear like hearing devices and laser tripwires (63% of adult Americans oppose this type of hunting), hunting on property that has a high fence around it (66% oppose), and hunting over bait (55%) or special scents to attract game (45%).

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As the variations in public support for hunting demonstrate, humans are concerned about hunter behavior, with the perceived ethical reasons for and methods of hunting being connected to the historical role of hunting in humanity’s survival and development. We should be concerned that many public and media depictions of hunting so often ignore these basic and historical aspects of hunting in favor of emphasizing what only a minority of American hunters do, that is, hunt for a trophy. Hunter ethics is critical not only to public support of hunting, but to the hunters, connecting us to why we hunt in the first place and to who we are as humans.

An emphasis on hunting for a trophy has also affected the understanding of and support for hunting globally. We already know hunting enjoys high levels of support in the U.S., but what about in other countries and cultures? Just to share a few examples, research has shown high levels of support for hunting in Sweden (80% of the public supports hunting in general) but much lower public support in places like Germany (85% oppose hunting) and Italy, where 72% were in favor of a nationwide ban on hunting. However, in many areas around the globe, hunting for a trophy or sport is highly publicized, making up the primary public image or perception of hunting.

When research goes a bit deeper, we often find that public approval or acceptance of hunting increases when it is connected to our primal reasons for hunting and follows the same basic human understanding of hunter ethics. In Sweden where support is already high, for example, there is also a higher frequency of game meat consumption comparable to that of the U.S. In Germany where public opposition to hunting in general is so high, further research found that, as in America, positive attitudes toward hunting is actually fairly high when qualified with ethical behavior: 86% of Germans agree that hunting is part of the human heritage, 82% agree hunters have to regulate wildlife populations, 82% agree hunters do not hunt because they like killing, 76% agree hunters are conservationists, and 70% agree hunters do not go hunting to show off a trophy.

20 Eriksson, P. Hunting acceptance in relation to motivation, location and game meat consumption. Department of Wildlife, Fish and Environmental Studies, SLU, Umeå University.
So, does hunting make us human? Hunting was integral to our survival, and although it is no longer necessary to our survival, we still participate in it, still support it, and insist upon it being carried out in much the same manner as it was in prehistoric times. To echo Leopold once more, some can live without wild things, and some cannot. But whether we live with or without hunting today, we seem to have an innate understanding that connects our participation in, opinions on, and attitudes toward hunting to its critical role in our history, an understanding that persists despite significant historical, societal, and environmental changes. It is this persistence that convinces us as social researchers that hunting is, indeed, part of who we are.

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When Is It Time To Stop?

by Peter Flack

I know no-one likes to think about it but, inevitably, we will all stop hunting sometime, either voluntarily or involuntarily. There are so many involuntary reasons I don’t want to even try and write about them but what about the voluntary reasons, the ones within your control?

When I was in my forties, I thought that, if I could hunt the way I’ve always have, on foot, carrying my own rifle and kit, over a full day, into my mid-fifties, I would be happy to call it quits. Of course, when this day arrived, I didn’t want to stop. So, I tried to box clever, train harder, use a gun bearer and a baggageman to carry my katunda, rest every seventh day, and so on. I started thinking about this more seriously about five years ago and wrote an article, How to Hunt Hard When It’s Hard to Hunt.
In my 60s, I went on a difficult hunt in terrain I did not like, during which I lost the nails on both my big toes, where I battled to see camouflaged game in the thick cover which blanketed the region, was slow to acquire those I could see in my scope and succumbed to pressure to shoot at and clean missed a huge kudu bull three times in a row at a distance I should never have attempted. It was the first time I had not enjoyed a hunt. I was disappointed with myself and decided it was time to stop hunting before I started wounding the wonderful wild animals, I was so passionate about.

That was not the only reason I decided to stop and, in retrospect, I suspect that each hunter who voluntarily decides to do so will have his own reasons, even if some of them are similar. Maybe some of my reasons may resonate with some of those that are on your mind.

Some of my reasons related to why I hunted in the first place. I loved being in nature. I loved the companionship around the campfire with like-minded men and women. I enjoyed the planning and preparation for my annual pilgrimages. I enjoyed practicing on the shooting ranges to help ensure I could kill my prey quickly and cleanly; the training to be fit enough to walk the five to eight hours a day - with the occasional route march thrown in - over the week, two, three and even four-week safaris I went on. But I found I could still do all those things without actually hunting.

Some things I couldn't replace however. The comfort, confidence even, that I felt in pulling my weight and fulfilling my role in a safari hunting team. The satisfaction I felt deep within me in overcoming all the difficulties in finding, outwitting and cleanly killing an old, lone male of a long sought-after game species. Something I believe has been genetically programmed into my DNA due to the fact that, for 95% of the 200 000 years we humans have been on earth in more or less our current form, we have been obliged to hunt to provide for and protect our families.

At the end of a successful hunt – and I must admit there were any number when I came home empty handed – I felt proud of my achievements and happy that, although they were not the only reasons I hunted – I had made a significant contribution to conservation and provided wholesome and healthy protein for my family.

Then there were other reasons. I know some hunters who thoroughly enjoy hunting the same areas for the same game year in and year out and I envy the expertise they develop as a result. But I am not one of those. I enjoy the adventure and challenge of hunting new areas, meeting
new people and hunting new game in Africa. No, more than enjoy, these new adventures enthused me, made me come alive!

Now, I found the excitement I felt in seeking out a new challenge and in the planning and preparation that went into it, diminished as I grew older and the places I wanted to visit and game I still wanted to hunt grew fewer. I did not want to hunt purely for the sake of hunting and even repeating previous hunts began to pall. And, as we all know, trying to repeat a past happy experience is notoriously difficult and these expectations, when they meet reality, seldom win.

Apart from this, just getting to those wild, unfenced parts of Africa I had come to love so much became more and more difficult due to incompetence, bureaucracy and corruption. Just the time, expense, irritation and frustration involved in obtaining visas and firearms permits started to become prohibitive. Then, once in the countries, the road blocks or extortion points and the ever-increasing aggressive nature of some of them, knocked most of the gill that was left off the gingerbread. I had rifle barrels pushed into my chest, I had to unpack the contents of my suitcase in the road, I was accused of importing armor piercing ammunition – 300 grain Norma solids for my .375. I can go on and on, and this is not to mention the time I was shot at by three AK47 wielding thugs.

Then there were the undeniable effects of the passing years on things like eyesight, strength, stamina, skill, fitness and flexibility levels. So, at one and the same time, while my physical attributes necessary for hunting were reducing, so was my motivation. From being a single-minded hunter, always planning two to three years in advance, I was battling to find something to look forward to.

Over an excellent steak, accompanied by an even better red wine, my friend and hunting companion, Eben Espach, persuaded me to carry on just a little longer. “Just hunt the animals you really enjoy hunting in the places you love, Pete,” was his compelling advice. I listened to him and found that, although they were ever more difficult to find, there were still places and game I still wanted to hunt.

A difficult but ultimately hugely enjoyable and successful hunt for two massive, old Livingston's eland blue bulls followed in Northern Mozambique, succeeded by the complete opposite for nyala in the same country the following year and an outright disaster in the Republic of Congo the year after.
And then, at the Dallas Safari Club Convention in 2016, I met Franz Coupé; the 80-year-old professional hunting icon found a ready listener, when he described his successes over the last three years in hunting giant eland along the eastern border of Benoue National Park in North Central Cameroon. I booked to hunt with him over the dark moon period in January/February, 2017. The exact time, when giant eland are at their most attractive, wearing their full, thick, chocolate brown, winter neck ruff.

Now, when it comes to plains game, my all-time favorite is a giant eland hunt in one of the vast, unfenced, wilderness areas of West Africa. And, if this hunt is the cream of plains game hunting, then hunting an old, lone, super-wise giant eland bull, which has long since passed on its exemplary genes and been expelled from the herd by the reigning bull, is the cherry on top of the cream.

One part of me feels a deep empathy with and sympathy for these old warriors who, after giving their herds their protection and counsel for many years – most of them are over 12 years old and many in the last year or two of their eventful lives – are summarily discarded. It is pitiful to see how they still try and sneak back into a herd, only to be pushed out forcibly by the resident herd bull yet again.

They remind me a bit of myself, truth be told. I mean what is it that makes young people assume a man in his sixties is suddenly an idiot incapable of rational, logical thought? That anything he might have to say is irrelevant and not worth listening to?

Well, expelled these bandit bulls may be, but stupid they certainly are not. They know they no longer have the protection of the guardian cows and the eyes, ears, noses of the herd. Therefore, they are hyper alert. Like the big roan bulls whose habitats they share, they also never stopped walking. They feed on the move.

Of course, being on their own, finding their tracks is difficult in the first place, but following them through head-high elephant grass screening the ground from view is even harder and a skill few are blessed to the possess. No wonder then that, in my humble opinion, giant eland trackers are the very best in the business.

For some reason – some may say masochism has played a role – I’ve been fascinated by the challenge of hunting these loners and have tried to hunt them time and again. It may help
explaining why, over five giant eland hunts, covering a total of 52 hunting days, I have managed to kill only three bulls. But, if I say so myself, what three bulls! The Rowland Ward minimum entry level is 45 inches and the three huge bulls I shot measured a half inch under and a half inch over the magical 50-inch mark, with the last one measuring 48 inches on the dot.

Sunday, 29 January, 2017 – the seventh day of my hunt and my day off. I slept in until 06h30, had a leisurely breakfast, cleaned my rifle, cameras and binoculars and was photographing the camp when our driver, Moosa Ali Baba, a Muslim Fulfulde from Tchollerie to the north, arrived to fetch me.

Unbeknownst to me, the trackers had gone out on their own and found the smoking hot spoor of the lone eland bull – the Bandit as such a bull is known in West Africa - we had been tracking for the last five consecutive days, crossing a dirt track. The dung was still green and wet and warm. We started on the tracks at 08h44, about an hour behind the bull.
He did not stop once! He headed in a south westerly direction into the Makat Hills on the southern border of the concession.

The territory was all tree savannah, rolling hills and green valley bottoms and we followed him up hill and down dale. We regularly lost his tracks in the unburnt, long, blonde grass and, when we stopped for a quick, 15-minute break to eat a cheese and tomato sandwich and drink a coke, I felt we had not made any inroads into the hour.

Sabou, our Dourou head tracker, was convinced, however, that we would catch him before dark. He was right and, at about 16h15, I saw him stop suddenly and throw up the shooting sticks. Papye, my gunbearer, immediately turned and handed me my rifle. I was on the sticks in seconds and saw the noble head and muscular neck of the Bandit through the scope, heading towards us at a 45° angle about 180 meters away.

We saw one another almost simultaneously. He reacted faster. The bull went from a walk into a flat-out, left to right run as my finger tightened on the trigger and the shot battered through the spot he had just vacated. A tad too high and, I suspect, behind him.

We followed the Bandit for three quarters of an hour. He was completely unharmed and resumed his normal, stately, steady, ground-eating walk within half a kilometer. When we crossed a heavily utilized game trail at about 17h15, we had been on his spoor for nine and a half hours. Soon after, we found that a large herd of about 40 eland had obliterated the heavily indented, well-worn hoof-prints of an animal I was increasingly thinking of as Our Boy.

The next morning started off well once again. We found Our Boy’s lone track at 07h30. Sabou and Papye followed them while we leapfrogged in the truck. We had not gone far before we found his spoor covered by a huge herd in which counted at least seven other mature bull tracks. Although we felt confident Our Boy would be booted out of the herd in no time, to find where and when he exited such a large herd, whose tracks meandered all over the place, was a well-nigh impossible task. The decision, however, was taken from us by the arrival of my hunting partner on the scene. They had been following the big herd all morning and so we left them to it.

The mood was somber as we drove back to camp, each with his own thoughts. We had been more than lucky so far but where could we possibly look for the Bandit now or the next day?
We did not seem to have any answers. The only thing that kept me going was the realization that I had been on this hunting roller coaster many times before - from joy to sorrow, from happiness to despair plus a whole variety of other intense emotions all crammed into a few hours.

I went to bed early that night but the extra sleep did not bring any enlightenment. When we drove out of camp at the normal time of 06h00, none of us had come up with any clever ideas and, as darkness gave way to early dawn heralded by the chortling calls of the Stone partridges scurrying about under the matted grass next to the dirt track, we dawdled in the direction of the Makat Hills.

An hour and a half later, we stopped to examine fresh eland tracks. Sabou seemed certain they were from the same herd of cows and calves that Our Boy had temporarily joined before. For want of anything better to do and without any discussion or clear decision, we somehow started following the tracks in a desultory fashion.

By 1100, we had pushed the small herd three times without scaring them too badly, nor being able to wink out a decent, mature bull. Still we persisted and, an hour later, lo and behold, found the Bandit’s tracks crossing those of the small herd at right angles to it. How lucky could you be? We were back in business!

Of course, the question on your mind may be, how did we manage to identify the Bandit’s spoor? Well, quite simply, apart from the fact that his were very large, worn and deeply indented, the cleft of the left back track had a small but unmistakable kink in it.

Our buzz was back. Everyone was suddenly taking special care to minimize the noise made although, given the break dry, burnt grass and crunching, earthworm golf balls underfoot, we sounded like a company of jackbooted infantry. Midday found us heading up a steep, narrow, rocky, tree clad ravine.

I saw Papye tap Sabou on the shoulder and point ahead with his chin. They called Franz over and a long, rapid conversation took place in French, too fast for me to follow. All three were looking through their binoculars, as was I, but I could see nothing, nor could Franz.

Worse was to follow as Franz tried to translate Sabou’s instructions for me. I just could not see a thing. It must have taken all of three minutes before I eventually saw the dim, grey shadow

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silhouetted in deep shade near the top of the ravine over 200 meters away. Much further than the directions I had received. I was nervous that, with all the loud whispers and jockeying to see the bull, we had mere seconds to make the shot.

Fortunately, Sabou and I had practiced him throwing out the shooting sticks, kneeling and holding them steady, while Papye moved in to give my chicken wing a steady place to rest on his shoulder.

Within moments the 300 grain Swift A-frame flowed from the barrel almost without conscious thought and, as I recovered from the recoil, the first thing I saw gazing up at me was Sabou’s beaming face. The bullet hit precisely where I aimed – a high shoulder shot through the spine and the bull never woke from his siesta.

What an end to a hunt! What a hunt! Day Nine and the sixth consecutive day of tracking the same bandit! I had realized the dream of a lifetime.
The current hunt had been wonderful. I had hunted with exceptional companions. My son had accompanied me and shared my joy. I had hunted in one of the truly wild, unfenced areas of Africa, on foot, in the fairest of fair chase hunts, for an animal I had tried for without success on five previous occasions. I had killed the old, lone bull cleanly with one shot. What more could I ask for? What could be better than this?

Rather stop now I thought and go out on a high note that I will remember fondly forever, rather than carry on and risk being forced to stop on an ignominious one.

Two years has passed. I have not hunted again. I have sold all my rifles. Do I regret my decision? Not yet. I am at peace. I remember my hunting days with great satisfaction and pleasure.

In retrospect, I believe now, just as much as I did then, that hunting is the cornerstone of conservation on the African continent and, if I have played a microscopic role in the continuum of this praiseworthy effort, I am happy and content that I have done so and will continue to do so albeit in other ways. And even happier that I have not sullied this memory by hunting too long.

*For more about Peter Flack, his books, articles and blog, please go to [www.peterflack.co.za](http://www.peterflack.co.za)*
Keeping It Real With Lion In Niassa

by Derek Carstens

Let's start with the first requirement of a successful lion hunt. You quickly need to master the art of both the "tsetse roll" and the "tsetse swot". These are the only ways of permanently annihilating those unpleasant creatures that will drive you mad, whilst meandering in the October heat of Mozambique's bush country. The "roll" being characterized by connecting with the tsetse as it alights on your wrist, neck, arm or any other exposed flesh, and rolling it with the palm of your hand, till you hear the distinctive "crack" of its armor plating succumbing. Then and only then can you be confident that it has been permanently dispatched. The "swot" occurs when sitting with a steel sprung swotter in the Cruiser cabin and hitting them with force, effectively turning the cabin into a tsetse cemetery.

Then and only then should you venture out to take on the lions. Having got that all-important piece of advice out the way, let's now talk a little about the hunt itself and how it came to be.
Firstly, it was never on the agenda. Our trip to Kamboko camp, in Northern Mozambique’s magnificent 4 million-hectare Niassa Reserve, was planned around Livingstone’s eland and hard boss dagga boys. For this we had allowed 10 hunting days.

As things turned out, the hunting Gods smiled on me. By the end of day 4 two great dagga boys were in the salt, as well an exceptional eland bull. So, what to do? Not long before the mind starts wondering about "what if?" As in, "what if we phone the Outfitter" and see what he may be prepared to add to the list of late season possibilities.

Well, as if to prove that your thoughts do in fact become your actions, it was not long before we were on the blower and suffice it says that an attractive proposition to do with a lion and another buffalo materialized. While I was still mulling it over Pete, in his refreshingly candid style, reminded me that after turning 65 there weren't that many marbles left in the jar.

So best I accept and get on with it. It seemed like a good opportunity to bring the fair chase, on-foot, in-the-wild-experience to life. Whether successful or not, ultimately it is about the hunt.

Since the dye was cast, we spent the afternoon on a great photographic drive all the way down the Lugenda river border. We toasted the sunset with a proper G&T, had a memorable meal of eland tail stew (cooked by our camp chef who could teach Jamie Oliver a thing or two), washed down by the elegant sufficiency of the fruit of the vine. Conversation largely revolved around Pete's success with his eland earlier in the day, and plans about my lion hunt due to commence the following morning.

Day one found us traveling to Coutada camp on the far Eastern border of the concession, about an hour’s drive from Kamboko camp. We checked with the camp staff as to whether they had heard any lions calling in the night. Indeed, they confirmed that roars had been heard in a north easterly direction. Excellent!

Before long we were at the river. On seeing some old spoor of two male lions in the road, we alighted. With a .300H&H and .416 for comfort we walked for 5kms upriver in search of fresher tracks.

Paul (my PH) confirmed that two males did operate in the area and in fact last year they had encountered them whilst feeding on a young elephant that the lions had killed.
Get the picture: two large males, one blonde and the other black maned, specialized in hunting buff and young elephants. Clearly not juveniles; both well over the minimum shooting age of 6 years.

Whilst the river revealed little in the way of fresh tracks, it was alive with other signs of life. There were basking spots where a croc had lain, the calcified remains of some poor victim, drag marks of a leopard kill, a kaleidoscope of butterflies, iridescent blue and red dragon flies, and fishing snares placed in the throat of the stream to trap barbell and anything else aquatic.

There were distinctive sole treads of poachers together with evidence that they had been poisoning the water in their quest for elephant; elephant diggings in the sand (doubtless to avoid the contaminated water), beautiful little orange-throated bee eaters, yellow baboons peering from behind the foliage, and massive red mahogany trees that would keep a carpenter in business for years. Always impressive too was the sign of the floodwater high mark, littered with massive tree trunks, carelessly cast aside by the raging power of the Nicage in flood.

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Beautiful wild country, and somewhere two elephant-slaying lion. Sadly, more evidence too, that everywhere, but everywhere, elephant are under extreme threat. In fact, in my humble view, they are far more endangered than rhino. They cannot be ferried away to safe havens, ivory does not regrow and the demand for it seems to be insatiable. The poachers further exacerbated the problem, as by slaying the adults, they orphaned countless young who in turn became easy prey for the lions.

Mid-morning, we emerged from the river and after some diesel stalking for tracks, decided our best bet was to relocate to Coutada camp. It was, let's say a little more rustic than Kamboko, but clearly habitable and imbued with its own bush magic. It would place us in close proximity to the lions, assuming of course that they were still in the area.

And this of course is the first big challenge of hunting lion in this manner. It has to do with assessing the whereabouts of sound. Given that their roars carry for kilometers, the challenge is to both correctly place the general direction and then to basically guess at the how far away the roars are.

The second challenge is the lions’ mobility and the size of area that they patrol. A lion will think nothing of a 10 to 15 km overnight journey. Given that the area they patrol is vast, the problem is self-evident.

Both challenges dictate that your first priority is to get yourself into the general area dictated by available evidence. We bustled back to Kamboko to brief the camp manager to get Coutada camp stocked and rigged for two or three nights. He saw to it that we would want for nothing, especially a plentiful supply of the proven tsetse repelling combo of Gordon's Gin (since 1764), Schweppes Tonic (the quinine, you know), lemon and plenty of ice.

That evening Pete and I had cocktails under a massive baobab on the banks of the Lugenda, framed by a classic African sunset, reminiscing about past hunts and resolving to do "more of this in the future". The magic of the African bush coursed afresh through our aging veins.

By 4.30 the next morning Paul and the rest of the AAA team (so nick-named after the successes we had enjoyed earlier in the hunt) comprising of Jethro, Dulla and Patricio and yours truly were back in the area. The good news from the camp staff was that the lions had again been heard, twice, in the same general area as the night before - once at around 7pm and
again at about 3am. Worth noting, however, is that this type of information, obtained from locals, is more often than not incorrect, given their naive predilection to tell you what they think you want to hear, as opposed to what actually is the case. Occasionally fact will match fiction, and ever the optimists we opted for the latter on hearing the news.

The arduous process recommenced. Roads, rivers, gullies we scoured looking for sign. We were rewarded with the tracks of large single male, as well our two-some from the day before. Alas, they too were at least two days old. After sending at least 35 tsetse to an early grave we returned to our new camp at around 11am to have some lunch and a rest till early afternoon, when battle would recommence.

Of course, during all this time, one is thinking about the hunt itself. Gradually you realize that what you are experiencing is the unique, peaceful state of being almost at one with Nature itself. Absorbing every little detail, you are focused, fully involved and integrated into the environment. Notable is the complete absence of stress, as you quietly and methodically go about your task. The process of the hunt fully involves you and rewards you with a close-up of life in the wild that I never before had imagined. Every sense is alert. Whilst in no way stressed, one does feel exposed, which is why the eye becomes sharper, the hearing more acute and even the sense of smell heightened. You definitely feel very much alive.

Without getting too heavy about it, one is reminded of the elusive challenge of "living life in the moment" instead of chasing moments. It is the acceptance that "what will be will be" without always "wishing it to be". The whole hunt in fact is one long moment. Anything may or may not happen and by not forcing anything one happily accepts that "what will be will be", as you immerse yourself in the pedestrian pace of the day.
Doubtless if and when action comes it will be fast and furious, until then your surroundings dictate the pace of things. And animals in nature only really speed up when predating or seeking to avoid predation, or breeding or vying for the right to breed. For the rest it is a pretty languid affair.

And this is also true for hunting on foot. You go at Nature's pace. That includes feet up in the midday heat. There is the irony that the super predator Man could have a similarly paced way of life. But no—we choose instead to predate on one another in either a material or physical way—weird.

Afternoon action commenced at 3:30pm after a jolt of coffee to raise one from an afternoon slumber. By 4pm we were back on the far side of the Nicage coming against the wind, in the opposite direction of our hike the day before.

Before long the river sand revealed to us the pug marks of a large single male lion, which had passed through in the night. Not long thereafter the smaller tracks of a lioness. So big tick—lion were definitely around and operating in our immediate vicinity. Seemed we were correct in affording the camp staff the benefit of the doubt.

The presence of the female however brought the third challenge of hunting on foot to the fore. Namely that of being able to identify a shootable male in the narrow window of time that would inevitably be the case, should the opportunity arise. Problem being the earlier mentioned fact that males had to over 6 years old to be eligible. Should an animal be shot that is below this threshold, the PH is subjected to a healthy fine and the Outfitter forfeits a quota lion the following season. Definitely something to be avoided at all costs.

Here are some of the pointers your PH will use in trying to gauge the animal correctly within a very narrow window of time: General body condition showing sign of gradual deterioration (e.g. backbone and hip protrusion); a big muscular body which is usually that of a lion in his prime; if he has the look of a Mohican from the front i.e. has two bald patches above the ears, then typically he is underage; when the bald patches are filled out, it is an older animal; scarring on the face from territorial battles (the more, the older); very yellow teeth (need to be close enough to see!) are a further indication of aging; the nose must be at least 50% black (the less pink the better); in areas where there has been veld burning this pointer is flawed, as the lions
inevitably walk head down and the whole nose becomes blackened by the ash; younger males from behind reveal a single black scent-line down either leg from territory markings.

Add to this the lion's weakness for porcupine flesh, resulting in regular quill poisoning (i.e. with a face looking like a pin cushion) which affects body condition. You will see that a correct assessment is no walk in the park. So, if in doubt, don't shoot.

What you may ask is the reason for this? Well the explanation has to do with the health of the pride and the fact that typically your lions between 4-6 years old hold the pride together. Should one be shot and another male come in, the newcomer will immediately kill the cubs of his predecessor to procreate his genes.

As we trudged through the sand more secrets were revealed, like a paralyzed guinea fowl (was it poison?), a decomposing civet, remnants of poachers’ fires, leopard tracks, muddy warthog wallows, and fresh ant bear burrows. Majestic trees stood astride the river, challenging the next flood to dare uproot them.

All the while the sweat laden "saddle bags" grew under the armpits and salty rivulets started running down one's back, disproving forever the fallacy that hunting on foot is merely an acronym for stalking by diesel. 6 kilometers and two hours later we rendezvoused with our ever-reliant local version of Uber—Jethro and the Cruiser.

I awoke the next morning after a fitful slumber and heady dreams of lion fantasia in a bed drenched with sweat. The ever so gentle sound of soft rain on the tent canvas. Was this a good or not good thing? Well good in the sense that any tracks would be fresh. Good that lions tend to use the roads more in an effort to stay a little drier. Bad in the event of becoming too heavy and turning the roads into a muddy mush pit.

The rain eventually abated. By 8 am the Cruiser was slip sliding on roads that overnight had turned into slick, sticky mud trails, effectively eliminating all traction. This made driving quite challenging. We had to negotiate numerous dongas and river crossings with steep approaches and exits. The winch combined with some good old human horsepower proved its worth. The Cruiser did what Cruisers do best.

This morning turned out to be a long, diesel-powered search for tracks in the knowledge that fresh tracks would indeed be very fresh. Alas, despite dagga boys, sable, bushbuck, kudu, zebra,
grys buck, duiker and hartebeest providing evidence of their presence, nothing from the lions. Seems they must have heard the AAA team were in town and had decided to clear out! The afternoon passed relatively uneventfully as we searched in vain for fresh tracks.

7:30 the next morning we connected with the real thing. Here's how the saga unfolded.

We had started out on foot patrol down a new section of the river. Immediately we noticed unusual leopard activity. Pugmarks of a male and female were clearly in evidence. Before long we observed some lofty vulture activity.

That definitely got our attention, as we had long since come to the conclusion that one of the best ways of succeeding on foot, is to locate a natural kill. Our theory was about to be put to the test. Keeping an eye on the vultures we continued down river. Paul and Patricio scouted the right bank, Dulla and I the left.

Suddenly there it was—a game trail on the left revealed the drag marks of a crocodile. It had clearly ascended up the trail, out of the water, in search of something. Thirty paces later the veld revealed lion tracks, blood, bush pig hair and signs of a very recent struggle. You could literally still smell the dust and gore. Quite what had happened was anyone's guess, the only thing that was certain was that the bush pig had come off second best!

We immediately picked up the tracks of the lions dragging their kill and set out to follow them into the grassy veld. Before long, Paul and I branched off to check why a bunch of vultures were congregating on an old stump.

Shortly thereafter Dulla whistled us back to the drag marks. He had just seen the rear end of a lion walking away in the long grass. Hectic! "Easy now" I thought "just take it easy". Picking up the tracks in the still moist ground, we set off and after fifty paces got a visual on a young male and a full-grown female. A very quick visual, but enough to know that they were not eligible, but not a lot more. With the wind on our backs it was doubtful we would see them again. We went back to examine the kill.

When I tell you that that the bush pig had been consumed, I mean it had quite literally been hoovered. All that remained were small pieces of the jawbone, some guts and hair. Hooves, head bones, skin—the whole lot had been devoured. All this must have happened but twenty
minutes prior, at the same time as we found the original signs of the croc vs. lion struggle. The twosome had literally moved off from the kill as we came along their trail.

"So, it can be done" were my first words to Paul. I mean think about it. Here we were on day three of an unplanned lion hunt, working off flimsy local knowledge and we had made contact.

The contact however brought focus to bear on the fourth challenge of hunting this way. This relates directly to the speed with which things happen.

Clearly no time to fully adhere to my normal principles when taking a shot: be close; be comfortable; be confident. Time and circumstance would probably compromise the first two, but I quietly committed to myself only to shoot if I felt confident.

The fifth challenge also became apparent during the relatively short stalk. This has to do with the terrain. The moist ground had undoubtedly helped us, whereas it would have been a different story in dry, gravelly conditions interspersed with thick patches of grass.

With these thoughts in my mind it was back to camp with a spring in the step and a hunger in the tummy. With time running out on our impromptu hunt, and no fresh sign of a shootable male, we decided to move to an area on the Lugenda where a pride was known to operate.

Although we could not shoot a pride lion, we thought it would be worth seeing if a lone male was by any chance in the area.

Early afternoon, after heroically climbing an "inselberg " (like an island mountain hewn from granite) for the view a spectacular view of the concession, we found ourselves in dagga boy heaven. Thick riverine bush ran parallel to the river. Lion tracks and signs of waterbuck recently departed to the happy hunting grounds, courtesy of the lions, were aplenty. Alas, the cats were nowhere to be found either that afternoon or the following morning.

Walking that riverine bush was one of the more pulse quickening experiences of my life. With every darting bush buck, or chattering monkey, or grunting bush pig, or flushing francolin sounding like a nightmare about to unfold, I was happy to emerge from the claustrophobic foliage on to the wide river bank.

Before us unfolded a fitting end to the quest - a veritable vulture conference was taking place on a sand bank in the middle of the mighty Lugenda. There were already about fifty delegates
on the ground - I then watched another 50, as they emerged out of the blue like stacked planes at JFK. It seemed they would never stop coming. If what they say is true, that when all is well with the vultures then all I well with Nature, then all is indeed well in the Niassa.

After living life in the moment for four and a half memorable days, we took leave from our fair chase lion hunt. As we did so the question quite naturally arose—would I do it again? The answer in a nanosecond was YES. Just maybe a little more planning next time.

However, during the hunt and in the days since then, a deeper question has been prodding its way to the surface of my conscious. In the event my ever successfully tracking a shootable, wild lion to the point of having it in my scope—would I be able to pull the trigger? Or would I find myself in the same position as I did many years ago, when I had an Alaskan Brown in the cross hairs and found myself unable to do the deed. The animal, within his harsh and hostile environment evoked too much respect.

Having immersed a short time into the world of the lion, I suspect I may find myself in the same position, as I willingly put the rifle aside in acknowledgement of a predator far worthier than myself.
The Shangani Sanctuary Vulture Restaurant - What’s good for the vulture is good for the hyena - and much more

by Neil Wolhuter

In his 1987 book The World of Shooting, Peter Johnson described the Mhembwezi District of Matabeleland, Zimbabwe, 70 years ago, as a countryside dotted with settlements and villages surrounded by crops, their livestock herded by day and kraaled at night. Thanks to the crops, gamebirds flourished around these villages and, in the land between them, wildlife thrived undisturbed and unhindered, in harmony with humans. Man’s activities and Nature’s wellbeing seemed to be in balance …

Today, in many parts of Zimbabwe outside of the national parks and conservancies, wildlife has been poached and poisoned out of existence, while inside them projects tend to benefit wildlife at the expense of people. This is unsustainable for either wildlife or people; to succeed and survive, both must benefit. To this end, landowners Joshua Malinga and Jim Goddard are
leading the effort to restore a balance between natural and human activity on some 55,000 hectares (136,000 acres) of land in the Insiza District of Zimbabwe.

Their Shangani Sanctuary is near the village of Shangani, on the main road between Bulawayo and Gweru in Matabeleland. The vision for the sanctuary—plans call for it to nearly double in size—is a long-term, sustainable economic/environmental model based on livestock, crops and wildlife. To restore diversity and a pristine natural habitat, Shangani is taking a holistic approach to its entire ecosystem, from the quality of the soil to how its crops are grown and from local schools to wildlife management. Underlying this vision is the concept that, in the long run, what is good for one natural species must be good for all.

Among other programs, Shangani Sanctuary has developed an unusual way to try to reverse the decline of vultures. Regionally, the birds’ numbers are down significantly, and the Cape vulture colony at the Wabai Hills—the northernmost known roosting site of this species—has been abandoned since the mid-2000s. A new abattoir at Pezulu Ranches, a nearby commercial farm, supports Shangani’s vulture project with offal and offcuts that are free of poisons, chemicals and drugs. (The slaughtered animals are for human consumption.) And Jabulani Safaris, an eco-tourism company that operates within the sanctuary, puts out these scraps, as well as natural wildlife carcasses, for the vultures. Jabulani manager Daniel Mead said, “After consultation and guidance from [vulture conservation program] Vulpro, we have established a vulture ‘restaurant,’ feeding at least once a week depending on the slaughter schedule of the Pezulu Ranches.”

Mead and his staff have set up cameras to establish the numbers and species of vultures that frequent the site. To date, lappet-faced, white-backed, Cape and hooded vultures have all come to feed, with the white-backed dominating. “With the regular feeding, we have at least 100 vultures coming in when food is put out, and we’re monitoring this to see if we get increasing numbers with each successive feed.

“At night,” Mead added, “we have brown hyenas and bushpigs as regular visitors to the restaurant too.

“The next step for the Shangani Sanctuary Vulture Restaurant is to work with Vulpro in fitting tracking devices to Lappet-faced vultures in order to get an understanding of their range and nesting sites in relation to the restaurant. This is still in its infancy and we are starting the
process of consulting with Zimparks in order to obtain the necessary permits to allow us to capture and tag vultures."

Neil Wolhuter trained as both a PH and a lawyer; born in Bulawayo, he lived in Zimbabwe until 2001, when he relocated to South Africa. As a director of a company closely associated with a promoter of the Shangani Sanctuary, he was invited to join the Shangani team when the project was launched, in 2012.

The Value of Biometric Monitoring In The Management of European Ungulates

by Stefano Mattioli, PhD, University of Siena, Italy

Across Europe, biometric monitoring—that is, assessing physical parameters—is a common practice in the management of controlled hunting of ungulates (hoofed mammals) such as deer, moose, chamois, ibex, mouflon and wild boar. In most countries, successful hunters are required to bring their game to a check station, where the animals are weighed, measured and often evaluated for their condition and reproductive status. This biometric data can be useful for many purposes. First of all, a collection of data from a sufficiently wide set of measurements can produce a “morphometric characterization” of a population—the detailed description of its normal morphological and biometric features.

However, regardless of the “unionization” of Europe, hunting practices, rules and traditions across the continent continue to be quite different; this is true of biometric monitoring also. Researchers have on many occasions pointed out how valuable it would be to standardize the measurement of species’ body weight and size, as well as antlers, horns and mandibles.

If these combinations of physical characteristics are taken in a standardized way, with the same methods used by all researchers, it is possible to compare one population with others. In Scandinavia, countries have been discussing and sharing common methods of measuring ungulates, as codified in a booklet edited by Langvatn (1977), but such standardization of measurements is an elusive goal.
Recording body weight would seem to be simple, but some wildlife technicians weigh the entire animal; others record the dressed (eviscerated) weight—with or without the head or thoracic organs; and Scandinavian technicians measure the dressed weight without skin and legs. Similarly, the mandible length of red deer may be measured in three or four different ways. Standardization is, as noted, elusive.

![Correct way to measure hind leg length](image)

The correct way to measure the length of the hind leg of a roe deer. (A. De Marinis)

Certain measurements, such as weight, mandible length or hind-leg length, can be used to track changes in body size or condition over time. French scientists have often proposed using biometric surveys in place of animal censuses; mean hind-leg or mandible length for age classes and sexes are considered more meaningful than herd numbers in evaluating the condition of a species in order to develop management strategies (Zannèse et al., 2006; Morellet et al., 2007).

Body size and growth of ungulates tend to respond to fluctuations in food and climate. A sudden decrease in certain parameters, such as body weight or mandible length, can signal a critical moment for a population. Moreover, when such biometric data are related to data on age and reproduction (the occurrence and the number of corpora lutea in the ovaries or the
number of fetuses in the uteri of females), important life-history traits of a species can be investigated—for example, the threshold body weight for pregnancy and whether it is affected by age class, or if the litter size depends on the mother’s body weight and so forth.

Let me relate our experience with biometric surveys in Italy, in the northern Apennine hills and mountains near Bologna: in this area of 2,000 square kilometers (772 square miles) live 20,000 to 25,000 roe deer, 5,000 to 6,000 wild boar, 1,500 red deer and 1,200 fallow deer. Such consistency in the ungulate populations is a relatively recent phenomenon here, where native species were eradicated in the late 18th Century. Ungulates returned starting only from the middle of the 20th Century, thanks to reintroduction and introduction programs. As well, the abandonment of mountain areas by farmers and the consequent recovery of natural vegetation facilitated the increase and expansion of these species.

Active game management began in the Apennines only in 1990, with the first training courses for “selective hunters” and the first deer censuses. In 1993, the first experimental selective hunting took place. In 1995, we begin to collaborate with local hunters (there are now around 1,500 in the area) in gathering species census data and developing quotas, and the following year we involved some of them in biometric surveying. We prepared a 12-hour course and, by means of a final exam, we selected a number of trained hunters to carry out biometric examination of the deer and boar harvest.

The involvement of hunters in our surveying has proved to be very positive and, in 2000, the new laws on wildlife protection and hunting in the Emilia-Romagna administrative region incorporated biometric surveyors among the official figures involved in game management. To standardize our procedures of measurement on the national scale, the Italian Institute for Environmental Protection and Research published a handbook (Mattioli & De Marinis, 2009).

Now, every year, around 200 highly trained hunters in 10 check stations across the province examine and measure about 2,400 roe deer, 200 fallow deer and 440 red deer. By the end of the hunting season, all trophies of male roe, fallow and red deer have been weighed and a committee of the CIC—the International Council for Game and Wildlife Conservation—evaluates the best ones. Then, each May, the trophies are shown in the traditional provincial exhibition.
A biologist assesses all harvested animals for age, measures their skulls and mandibles, computerizes this data and performs the statistical analysis. Our monitoring must accurately represent whole populations; this is why, for example, we measure and weigh the antlers of all young and adult males, not just the medal-scoring trophies. We are also interested to see whether the medal-trophy specimens are superior in most of their physical features and how frequently they appear in the population.

Through close collaboration between selective hunters, biometric surveyors and biologists, over 22 years we have collected data on 41,000 roe deer, 2,800 fallow deer and 5,000 red deer, and our knowledge of the ungulates of the northern Apennines has grown tremendously. Collected data permitted, for example, the morphometric characterization of local roe deer (Mattioli, 2003; Mattioli & Spada, 2009), which has shown them to be among the largest in Europe. Adult Apennine roebucks have a mean pre-rut whole body weight of 29.6 kg (65.26 lbs) with a maximum recorded of 39.8 kg (87.74 lbs). Mild winters, broadleaf forests and both open pastures and cultivated fields make the Apennines highly suitable not only for roe, but also for red deer; adult stags can reach 330 kg (728 lbs) in pre-rut live weight and 12.4 kg (27.34 lbs). We are now studying the effects of climatic variation and habitat quality on body size and growth of red deer.

Close cooperation between hunters and researchers has proven to be extremely valuable for scientific management of wild game species and habitat.

References


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by Gerhard R Damm

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