



“SERVING THE HUNTER WHO TRAVELS”

“Hunting provides the principal incentive and revenue for conservation. Hence it is a force for conservation.”

Special To The Hunting Report World Conservation Force Bulletin

by John J. Jackson, III

● People And Predators – Can They Live Together? ●

By Hanlie Winterbach and Ruth Kamnitzer

The conflict between lions and people, not anti-hunting, is the core problem that caused the closure of lion hunting in Botswana this year. Conservation Force supports the top researchers in Botswana that are working on the solution. The following is a special report from a program we sent them to. - John J. Jackson, III

Large carnivores are in global decline. There is a new understanding that predators will only survive if the human-predator conflict can be resolved.

This is a summary of presentations given at the 8th International Theriological Congress held in Sun City, South Africa, on the people-predator conflict. While examples were from around the globe, the message was remarkably similar. Research is concentrating on better understanding what predisposes predators to man-eating and livestock theft and secondly on understanding how human behavior and livestock management practices render communities vulnerable to attacks from predators. Solutions can be found only by respecting local cultural and social values, and working with local communities to come up with pragmatic ways to limit conflict.

Like other large predators, tigers

face persecution in retaliation for livestock predation and suffer from habitat loss due to expanding Asian populations, and the tiger's propensity for man-eating creates a third very serious problem where tigers



and humans live in close proximity. In the Sundarban Mangrove Forests of Bangladesh more than 70,000 floating people work annually in the forests where approximately 325 tigers occur. Since 1956 an estimated

523 people, mostly woodcutters, honey and molluscs collectors and fishermen, have been killed by man-eater tigers. In December 2000, tigers killed seven people in only eight days. Human casualties were generally associated with male aggression during the mating period and female aggression during gestation and lactation, and this new understanding about what makes tigers more likely to attack may help to limit fatalities. At least 1,213 tigers were killed between 1956 and 1988, with an average annual killing of 30 tigers from 1974 to 1993, and nine in 1999-2000.

In the Russian Far East approximately 350 adult Amur tigers *Panthera tigris altaica* share habitat with approximately 4 million people living in or near tiger habitat. Survival of the tigers are thus closely linked to the people's tolerance for these predators. While man-eating

was exceedingly rare during the last 30 years in the area, it has increased markedly in the past 10 years, and predation on livestock remains problematic. Between 1970 and 2000, 28% of the attacks were on people while 72% were on domestic animals. Again understanding the mechanisms involved in human attack is important for a solution. Male tigers were involved in 71% of the attacks on people, most often because it was provoked and in most cases by poachers. Poaching and unreported killings were the major reasons for tiger mortalities estimated at up to 60 animals per year. Furthermore, human disturbance on Amur tigers influences both survival rates and the consumption of prey by the tigers. Survival of adult females and cubs was greatest in areas with

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no roads, and all adult female tigers survived their tenure in roadless areas, whereas all died or disappeared prematurely from those areas with primary roads. Tigers undisturbed at kills consumed more meat and spent more time at each kill than disturbed tigers. Abandonment of kills occurred in 63% of 24 instances when people disturbed the tigers, thus causing them to have to kill again.

Habitat loss for tigers is also a factor in their decline. Initial surveys in India indicate that although over 300,000 km² of potential tiger habitat exists in India, most of this area cannot support breeding populations. Therefore, tiger conservation essentially involves establishing and maintaining clusters of breeding female territories, comprising of between six and 30 breeding females

that may occupy 300-3,000 km² size habitat patches. These clusters are mostly confined within wildlife reserves that cover less than 2% of India's land area. Although they may be parts of larger meta-populations in many cases, these clusters are the only 'sources' for tigers that eventually perish in the surrounding 'sinks' of multiple-use landscapes.

Livestock depredation in lands surrounding protected areas is one of the most wide reaching and serious complaints against predators. A second case study from India illustrates how careful livestock management practices can be changed to minimize loss of domestic animals to predators. Snow leopards and wolves caused significant livestock losses to residents in the Hemis National Park, India. At least 50% of 79 households surveyed lost from 1 to 10% of their stock, mostly sheep and goats followed by yak-cattle and horses, to predators. This represented 492 domestic animals valued at US \$23,500 over a 14-month period. Snow leopards were responsible for 55% of the depredation incidents, and wolves for 31%. Fostering co-existence between predators and residents inside the park required a highly participatory and inclusive planning process to develop and implement action plans, which included substituting poorly constructed night corrals with predator-proof corrals and improving livestock guarding practices. Park residents were also offered economic incentives, which linked conservation to enhanced income generation from the existing tourism base.

In South America, both the jaguar and puma often conflict with humans over domestic livestock. Most jaguars live outside of protected areas. Depredation on livestock may be influenced by various inter-related factors such as innate and learned behavior, the health and status of individual cats, division of space and resources among jaguar and puma, the abundance and distribution of natural prey and cattle husbandry practices. As jaguars are

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blamed for far more livestock deaths than they are responsible for, a fuller understanding of the contributing factors is necessary before attitudes towards these cats will change.

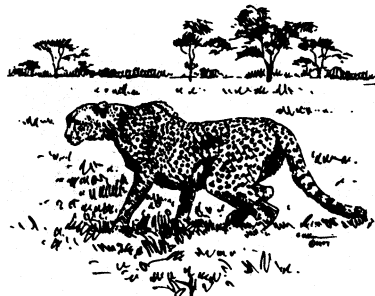
In Los Llanos Altos, Venezuela, the biomass of natural prey was found to be adequate to support the resident puma and jaguar populations without a subsidy of domestic livestock. The selective rather than opportunistic hunting by the cats reinforced this conclusion. However, the distribution of natural prey was far from uniform, and attacks on livestock still occurred. Puma were responsible for more attacks on livestock than jaguar, frequently in maternity pastures set in upland areas of relatively low prey availability.

Often it is the level of predation that dictates how tolerant locals are of predators. The agricultural lands surrounding the Emas National Park, Brazil, consist of grain and/or beef cattle production. Jaguars were found to be the least harmful to cattle, while pumas were blamed for most of the losses estimated at 0.8% of the average annual production. Both large cats together took little over 1% of the local beef cattle production with a range of 0.3-1.02%. Other predators included maned wolves *Chrysocyon brachyurus* which were blamed for raiding chicken coops, but were not considered to have any significant impact by most ranchers. In this case the attitudes of ranchers surrounding the park meant that livestock management practices were modified to reduce losses, and the park is able to exist in harmony with its neighbours.

With relatively large amounts of land under some form of wildlife protection, a wide variety of predator populations and strong pastoral traditions, eastern and southern Africa experience some of the most intense conflict over livestock. Still, the importance of wildlife – economically and culturally – means that there is hope for co-existence despite such conflict. Careful consideration must however be given to differing levels of ‘acceptable’ losses between

commercial ranchers and subsistence pastoralists, as well as ways they can be adequately compensated.

In Kenya the commercial ranches in the Laikipia District play a crucial role in preserving predators in that part of Kenya. Although many lions are killed annually after taking livestock, lions are still tolerated on the commercial ranches where abundant wild ungulates also occur. Lions mostly avoid the traditional communal lands as these areas are degraded from overstocking and wild ungulates are less common, and predators are also vulnerable to poisoning. Both commercial and communal ranchers make substantial investments in protecting their livestock from predators, by constructing stockades or house stock at night, and ensuring that herders accompa-



nied them during the day. Ranchers' attitudes to predators did not reflect the impact these predators had on livestock losses. Lions killed, on average, approximately one cow per year, yet most ranchers felt that lion numbers should be stabilised and even increased. Hyaenas on the other hand, kill substantially less livestock, certainly less than leopard and cheetah but ranchers felt their numbers should be decreased. Increased commercial value of predators through hunting or eco-tourism has the potential to influence ranchers' tolerance of predators on their land.

Ninety percent of the world's cheetah are found on commercial livestock or game ranches. In Namibia, where the largest free-ranging populations of cheetahs in the world occur, farmers have perceived

cheetahs as having a severe negative economic impact and approximately 10,000 of these animals have been legally killed since 1980. Attempts have been made to exclude cheetahs from conflict areas by fencing them out, but this was not an effective solution. It is believed, though, that co-existence can be achieved through effective livestock and game management techniques, and by giving cheetahs an economic value to farmers through trophy hunting and ecotourism. This will benefit not only the cheetahs, but also the communities sharing the farmlands.

In contrast to commercial ranchers, for pastoralists with small herds the loss of even one animal to predators is hard to bear. In such cases efforts may concentrate on prevention. It was found that various preda-

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tors have different depredation techniques and it varied also according to the type of stock being taken. Bomas constructed to incorporate these differences proved to be effective in safeguarding livestock against depredation. The effectiveness of watchdogs also varied greatly in different situations.

On the other hand, the ability of predator populations to withstand the retaliatory killings by farmers varies according to population demographics and the level of off-take. From 1997-2001, 65 lions were shot in the stock-ranching areas adjacent to the Kgalagadi Transfrontier Park, Botswana. Per year this amounts to 3.6% of the population estimated at 448 lions. A further 65 lions were translocated to wilderness areas by authorities. While pride sizes in the park are fairly large (average 10.3),

lions generally moved about in smaller sub-groups. Thus even if an entire sub-group was shot when they strayed into ranching areas, several breeding females still survived and the pride was able to recover. As long as a strong population remained in the protected core of the park, occasional shootings of lions emigrating into ranching areas was not felt to be harmful to the continued survival of the population. The ability of predator populations to sustain some off-take needs to be evaluated as the goodwill fostered by allowing farmers to shoot a percentage of habitual stock raiders can lead to a better relationship between people and parks to the overall benefit of predators.

In the United States, a very different strategy has been used. Coyote predation on domestic sheep is a continuous problem for farmers and

was reintroduced in Switzerland 30 years ago almost a century after its extinction, after ecological conditions for the lynx had improved considerably with the regeneration of forests and wild prey. However, hunters and breeders hate and poach lynx that prey upon roe deer, chamois and occasionally domestic sheep. Raids on livestock by lynx fluctuate yearly depending on lynx and roe



deer abundance. When wild prey densities are low lynx may turn to hunting sheep. However, even in peak years the losses of sheep due to lynx predation never exceeded 0.2-0.4% of the local stock and the controversy is emotional rather than economical. A system of compensation of damages caused by large predators already existed in Switzer-

land but was clearly insufficient to improve local acceptance of the Swiss wolf, and further measures were needed. To address the problem the Swiss government launched a management plan aiming for compromise; lynx remain legally protected, while individuals specialising in livestock can be shot.

Research around the globe points to the need for a holistic understanding of the mechanisms behind predator-human conflict, and tailor-made locally applicable solutions that concentrate of bringing conflict down to a manageable level. The situation is critical; either the conflict is resolved in an effort to reduce carnivore mortality, or we accept that people and carnivores cannot live together and limit predators to isolated fenced protected areas. Few methods presently used to control problem predators are target specific, resulting in the killing of non-target animals. Temporary relief of stock losses may be achieved in this way, but such practices are not long-term solutions.

A participatory approach to conservation, with a multisectoral approach and collaborative efforts between government, conservation agencies and local communities is vital to address the problems that arise from predator-human conflicts. A multi-pronged program, which includes improved livestock management, predator-proof corrals, better herding techniques as well as educating local people on predator conservation and changing ingrained biases where they exist, is necessary. The genuine involvement of local communities in devising, implementing and monitoring such solutions is vital for real and lasting resolution of this age-old problem.

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Our sincere thanks to Conservation Force for making it possible for us to attend the 8th International Theriological Congress through their sponsorship, enabling us to give a presentation on the Coordinated Lion Surveys of the Okavango Delta for 1998 and 1999.

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ranchers, especially when packs have to provide food for pups. Surgical sterilization, by tubal ligation or vasectomy, of coyote packs significantly reduced their predation on sheep: four out of nine sterile coyote packs killed a single lamb each, compared to seven out of 14 reproductive packs that killed between one and 13 lambs each. On average reproductive packs with pups killed sheep at six times the rate as did sterile packs. As sterile coyote packs maintained pair bonds, territory fidelity, size and overlap similarly to reproductive packs, but killed fewer lambs and sterilization could thus prove to be an effective management tool in this area.

Cultural and historical biases against predators can also occur even where actual losses are few. In Europe cultural biases against predators have been fostered by competition over wild game. Eurasian lynx

Conservation Force Sponsor

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the Conservation of Wildlife

MEMO

To: Jim Young, Print N Mail
From: Leonardo Mocci, The Hunting Report
Re: December 2001 Issue of Conservation Force Supplement
Date: November 20, 2001

Jim,

Here's the December 2001 issue of the Conservation Force Supplement to be inserted in The Hunting Report. Don't forget to insert John Jackson's picture on page 2. Please fax "blue lines" for approval A.S.A.P.

Print run is 4,800. Ship overs to us as usual.

Please call me if you have any questions.

Leonardo

P.S. Please make sure that John Jackson gets his 25 copies.