

killing” motivated just by the fact that wherever the carnivores hunt their natural prey (which are abundant throughout Norway) they cannot fail to encounter sheep. The extreme high losses appear to be a consequence of the extensive nature of the husbandry and the wide dispersal of the sheep.

Compensation has succeeded in preventing most sheep farmers from losing too much money as a result of carnivore depredation, although bear depredation on ewes is hard to compensate as it is often the largest ewes and potentially most useful for breeding that are killed. However, many sheep farmers have simply quit because of the apparent lack of future in the industry or the psychological effect of losing the lives of so many animals. Furthermore, paying compensation has clearly not stimulated farmers to adopt carnivore compatible husbandry measures, as losses have steadily risen in line with increasing carnivore populations. In fact, there is a good deal of resistance to adopting new husbandry methods, even when financial assistance is provided. A husbandry system that allows around 30,000 sheep to be killed by carnivores each summer can clearly not continue without change, especially when considered from the point of view of animal welfare, even if it is fully compensated. There is therefore a clear need to find a way of moving the emphasis from paying compensation after depredation, to stimulating forms of husbandry that prevent depredation from occurring in the first place. The main problem here is that changes are likely to cost huge amounts of money as radical changes to the husbandry are required. These extra cost will be in addition to the large amounts that are already used to subsidise the industry.

The only useful bi-product of this system is the fact that data useful for monitoring carnivore populations are available. Although it is hard to use these data to say anything about details of carnivore population size, it is possible to use the documented kills to map changes in species specific distribution, and to use losses as a very rough indicator of population trend.

Saving the Central Asian Leopard in Turkmenistan

by

Victor Lukarevsky;

vlukarevski@newmail.ru or lukretsiy@dio.ru

With their powerful muscles and long, sharp teeth, big cats often seem terrible and even invincible. This strength is deceptive, however, as these animals depend on populations of other animals – often large ungulates – for food. When anthropogenic pressures such as herding drive down populations of wild ungulates, predators must prey on other animals, and domesticated animals become easy targets. Naturally, conflict arises between the interests of protecting the predators and preserving the local economy, especially in poverty-stricken rural regions where herding is the only means of sustenance. A successful conservation strategy must find a way to mitigate this conflict and interest the local population in conserving the predators.

As recently as the last century, one of such predators, the Central Asian leopard (*Panthera pardus tilianusciscaucasica*), was spread found throughout all of the mountains of Turkmenistan, southern Uzbekistan, and southwestern Tajikistan, as well as parts of the Caucasus. Although the former range of the leopard in these regions stretched for several million hectares, today such habitats are confined to less than 600,000 to 800,000 hectares. Almost all of the leopard’s habitat degraded quickly when they were subjected to overgrazing of domestic herds, timbering, fires, hunting, the introduction of agriculture, and in some cases even tourism.

Until the 1940s-1950s when a sharp decline began, the leopard group in the Western Kopetdagh Mountains existed at a relatively stable level. At the present time, however, the population is declining even as its basic sources of prey – urials (*Ovis vignei*), wild goats (*Capra aegagrus*), and wild boars (*Sus scofa*) – are also declining. At this rate, the leopard population will become fragmented and ultimately go extinct, as happened with the Caspian tiger (*Panthera tigris virgata*), which once lived in the tugai forests of Turkmenistan. The tugai were filled with the tiger’s favored prey, Bukhara deer (*Cervus elaphus bactrianus*) and wild boars, but when the tugai ecosystems collapsed under anthropogenic stresses, both the deer and boar declined.

The leopard demonstrates a more flexible behavior in response to human activities. Within a relatively brief period of time (from the 1930s to the 1970s) it

has adapted to life with human beings, which meant changing and expanding its food sources. Prey that once was secondary or accidental has become a new basis of the animals' diet. For example, in the Western Kopetdagh, two fundamental species for the leopard – the wild goat and the argali sheep – declined under human influence. First the wild boar, then the porcupine (*Hystrix* sp.) began to play an important role in the leopard's diet. Indeed, the cat's ability to survive as a population in less than optimal conditions is one of its defining traits.

But in the case of the leopard, the problem is not just diminishing habitat and food sources, but poaching, especially in retribution for killing livestock. Planning a strategy for protecting animals like the leopard must therefore take into account the life of people whom the animals encounter. The law on endangered species of Turkmenistan clearly states that punishment for killing protected species must be accompanied by an incentive to protect them. Simply declaring the animal a protected species can actually have an opposite and undesired effect, making the cats a target for poaching and a prize on the black market. Moreover, in densely populated regions where leopards regularly attack the very livestock people depend on for their livelihood, legal restrictions are ineffective due to the stronger influence of economic factors. Local communities often try to hide incidents of people killing leopards, and the agencies responsible for punishing such acts do not take serious initiative to investigate the incidents.

Taking these factors into account, an experiment organized with funding from the World Wide Fund for Nature (WWF) has developed a new approach to coexistence between the leopard and local populations. In 1999, I became the leader of a team intended to create a financial compensation plan for people who had lost livestock to leopards. Part of the reason I agreed to take on the project was because I was so impressed by the team WWF had composed, especially the fact that it included members of the local community. For me, the most unexpected aspect of our work was the attitude of local residents, who actively participated in planning a strategy for leopard conservation. Convinced of the importance of changing the status quo, they showed great energy and effectiveness in uniting the team.

We set out to do our work in a rural region of the Sumbar River Basin. It was a challenging location, a place where people truly live side by side with leopards. On the other hand, it was my home, where I felt the support of every mountain, a place where I knew

many people, and could recognize every leopard by sight.

After a series of impassioned discussions and debates we agreed upon a strategy. Our plan involved compensating local ranchers with live animals, in essence materially replacing any animal killed by a leopard. As we moved forward with plans to form a flock of sheep for this purpose, we ran into a number of crucial questions: how would the flock be organized? Who would manage it? How would cases of leopard attacks be analyzed? Who would determine the amount of compensation necessary?

Using the money WWF provided, we bought 196 sheep, which subsequently became the property of the Catena Ecoclub. The wisdom of this strategy lay not only in involving local people directly in its planning and realization, but also in the far-sighted use of financial resources. Regardless of the initial generosity of a donor, sooner or later the money will dry up. Ideally a change in the local economy and in people's attitudes would make the need for continued funding unnecessary. But such a change could not be relied on in the brief two to three years our grant was to last. Thus we needed to find a sustainable way to manage the funding. Under proper management, a flock of sheep is capable of reproducing and growing in size virtually on its own. A flock of 650-700 sheep would grow on its own and cover the cost of paying shepherds and veterinarians. Expanding the flock also provides the opportunity to offer the same service to neighboring regions that have similar conflicts between people and nature.

Our next step was to involve the local community in a broader sense. We invited 40 of the most respected and influential ranchers in the region to take part in a seminar, where we explained our idea and asked for help in implementing it. In response, several ranchers voiced their desire to insure their herds against leopard attacks, and a council was elected to manage the newly formed flock for one year. We also decided that eventually the flock – and the responsibilities that accompanied it – would become the property of a soon-to-be-formed Kara-Kala Ranchers' Society.

The council chose two experts to investigate cases of supposed leopard attacks. Ranchers who lost livestock were given a set period of time to register the attack with one of the experts, who would determine not only whether or not it was indeed a leopard who had killed the animal, but also whether the rancher's herd was being properly managed at the time. For example, if the herd had been left unattended for a long period of time, or if it was grazing in a zapov-

ednik (nature reserve), the rancher might not receive compensation. On the basis of the expert's recommendations, the council would decide how many, if any sheep would be given to the rancher.

Within the first four months of the experiment the experts reviewed nine cases of suspected leopard attack; the council subsequently handed over 27 sheep as compensation in six of these cases.

Naturally, this project can have significantly broader success if aimed at a wider audience, involving schoolchildren, border guards, and ultimately all levels of the population. Informational poster displays stand in all of the local councils to educate the community about the progress of the project. Future plans include creating computer classes for schoolchildren to learn to use computers at the same time that they receive instruction in sustainable land use and the importance of preserving the natural heritage of their region. It is our hope that with time, a two-pronged strategy that incorporates both education and economic incentives for leopard protection will support the long-term survival of the species.

South African Cheetah Compensation Fund

by

Deon Cilliers; <mailto:ncmp@dewildt.org.za>

The National Cheetah Management Program (NCMP) in South Africa is a conservation program aimed at the conservation of the wild cheetah as well as its habitat by means of integrated conservation, education and management plans. The NCMP has various short term objectives that would be utilised to reach the long term objectives of the program.

One of the short term objectives is the establishment and management of a compensation scheme. This is not the traditional type of compensation scheme where land users are compensated for losses. The NCMP believes that this is impractical in the current South African situation and farms are far apart and such a scheme will definitely be abused due to the fact that it would be very difficult to verify actual losses claimed for.

The NCMP has thus gone out from the viewpoint that predation is a natural ecological process and that farmers must accept that they will endure a certain percentage of losses to cattle and game ranching animals due to predation. The NCMP does acknowledge the fact that certain small scale farming activi-

ties as well as game ranching with rare and endangered species may not be compatible with the presence of predators such as cheetah.

Land users in South Africa may not at this stage utilise wild cheetah for commercial purposes due to this species uncertain population status. This has had the effect that land users see cheetah as worthless animals, that are a liability to have. They do not tolerate them as part of the natural ecosystem due to the fact that game ranching is a multi million Rand industry. Game Ranchers have had to purchase their game populations on auctions and this has cost them a lot of money. Game Ranches are in most cases relatively small and cannot afford to have too many predators resident.

Domestic stock farmers in SA are legally allowed to destroy cheetah that cause damage to their stock. They may even destroy these cheetah if they are found to be in the vicinity of the domestic stock animals. Once again, due to the fact that cheetah were seen to be worthless, domestic stock farmers simply shot these predators on sight. Other methods are gin trap, poison and shooting from helicopters. It is not known how many cheetah are shot per year. Official records are clearly not accurate as Conservation Authorities only have less than 10 incidents for the past three years on records. Interviews with farmers have indicated that this shootings are much higher, unofficial reports are between 70 and 100 for 2001 and 2001.

The NCMP's Cheetah Compensation Scheme started two years ago and has tried to change this attitude. The NCMP is not against the management of predator populations. At this stage farmers have done this using lethal methods. The NCMP believes that excess cheetah or perceived "problem" cheetah should be banked into protected areas rather than to simply destroy them. The NCMP also believes that land users should be stimulated to see cheetahs as assets and not liabilities.

The Compensation Scheme thus compensates farmers for excess and or perceived "problem" cheetah that have been captured alive using methods approved by the NCMP. This mainly includes the use of trap cages. Cheetahs are only captured legally after permits have been issued by the conservation authorities or with their permission. The landowner gets compensated a fixed donation for the live cheetah. Such compensation only gets paid after the Provincial Conservation Authority has been satisfied that the cheetah was captured legally. Currently an amount of R 10,000 (US\$ 1,000) per cheetah is paid to the land owner, which is a lot for South African