SILENT KILLER ADDS TO GRIM WILDLIFE DECLINE

One especially vicious killer of wildlife, pollution, is mostly invisible: chemical toxins that enter the food chain

Top: **poisoned birds from Busia**

Pictures by: **Martin Odino**

All across East Africa, wildlife populations are suffering. The issues surrounding human-wildlife conflict are many and complex. Given the recent drought and competition for pasture and water resources, this competition is becoming especially intense.

In discussing the loss of species, conservationists often use the acronym H-I-P-P-O to summarise the major threats that are: Habitat loss and destruction, Invasive species, Poaching, Pollution and Overharvesting.

Everyone is familiar with the gruesome images of wildlife that has been poached in snares or hacked for trophies. But there are some 'silent killers' of wildlife out there that are reaping a very grim harvest.

One especially vicious killer of wildlife, pollution, is mostly invisible: chemical toxins that enter the food chain. Most poisons enter natural habitats inadvertently as a by-product of human activities such as industry and agriculture. However, there is a growing trend that is causing alarm among conservationists and scientists in the region. Reports from all across East Africa point to the deliberate use of a chemical pesticide to poison wildlife. The victims of this pesticide are wide, including tens of lions every year, rare and endangered fish, lorry loads of water birds in irrigation schemes, thousands of birds of prey and other scavengers including vultures and untold damage to honeybees and other useful insects.

The main chemical being used to poison wildlife in the region is in a class of toxins known as carbamates. The chemical compound itself is called carbofuran and it is marketed in East Africa as a product called 'Furadan'.

Following a meeting of scientists and stakeholders held by the conservation organisation Wildlife Direct in April 2008, and widespread media coverage of the problem, including a segment on the US news show 'CBS 60 minutes', the American company that manufactures Furadan, FMC (Food, Machinery and Chemical Cooperation), agreed to withdraw it from the market and claim to be buying it back from all outlets.

Some members of Kenyan parliament, alarmed by the facts, initiated a discussion in parliament to ban the product, however, the Pest Control Products Board remain adamant that no basis for a ban exists.

The fact that carbofuran has been deemed a risk in the EU and US should be enough to ban its use. At the April meeting, Dr Richard Leakey noted: "If Furadan is too dangerous for Americans and Europeans, we have no business using it in Kenya".

In May the U.S. Environmental Protection Agency (EPA) revoked all tolerances of carbofuran in food products stating:

"EPA has concluded that dietary, worker, and ecological risks are unacceptable for all uses of carbofuran. All products containing carbofuran generally cause unreasonable adverse effects on humans and the environment and do not meet safety standards, and therefore are ineligible for re-registration."

This effectively bans the use of carbofuran in US agriculture from December 2009. Carbofuran remains totally banned in the EU. In light of the US decision, Canada is now considering banning carbofuran. In a Nairobi meeting with the Wildlife Direct Poison Task Force, senior FMC Directors argued that the EPA facts were incorrect and that they would challenge the decision. They also revealed that the patent for Furadan had expired, opening the door for other manufacturers to supply the poison. A quick internet search reveals that carbofuran is already in production at over 20 companies in China, Pakistan and India.

As of August 2009, Furadan was still widely available from stores in some towns such as Eldoret, Rongai, Kiserian, Nakuru and Narok. However, in Nanyuki and Naro Moru, it appears to have disappeared from shelves. Few shopkeepers are aware of the buyback and at least one indicated that a local supplier was still selling Furadan to retailers in Western Kenya. In most Agro-vets visited by our contacts the product was being hidden behind the counter and sold to 'trusted' buyers only. Reports from Uganda and Rwanda reveal that no buyback is in place as promised by FMC, and Furadan is widely available there. It is even sold and widely used in the areas right up to and surrounding the mountain gorillas.

Scientists working for Living with Lions state that Furadan could tip Kenya's tiny lion population over the edge into extinction. They argue that the rapid solution to this crisis is a complete and total ban on carbofuran. This will mean that the cheapest and most readily available poison being misused in the region will simply disappear as an option and it will buy time for the bigger issues of conflict to be addressed.

Conservationists strongly believe that this is a first and vital step to halting the decline of wildlife from poisoning. However, the core issues of human-wildlife conflict especially outside of protected areas requires a paradigm shift in management of both wildlife and livestock, as well as habitats, both inside and outside protected areas. Lions will always be a threat to pastoralists until they can earn an economic value from them.

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LIONS

'Lions are on the brink of extinction' and 'Lions may disappear from East Africa within our lifetime' are two of the statements that have been widely used at recent gatherings of conservationists, and by the director of the Kenya Wildlife Service, when recently launching a major lion conservation event, the Pride of Kenya. It is the crisis with lions being poisoned that has really brought this issue to the forefront. All across the region lions are disappearing. And one of the major killers of lions is deliberate poisoning. Laurence Frank and colleagues working in the greater Laikipia ecosystem estimate that over 70 lions have been killed over the past few years using Furadan.

Kenya's lion population is estimated at just over 2000, and recent reports indicate that somewhere between 100-200 lions are being killed annually mainly by poisoning (although deaths from spearing are also important). If this trend continues unabated, lions will vanish from Kenya in less than 20 years, if not sooner! Monitoring of lion deaths by the KWS indicates that around 38% of lions killed are poisoned with carobofuran. This is a very dire statistic given the central role played by lions in the pride and heritage of Kenyans, their value to the tourism industry and their important role in maintaining ecological dynamics on the savannahs.

BEES

All pesticides are harmful to honeybees to some extent. Honeybees are insects after all, and pesticides are designed to kill insects. Honeybees and other bees, all of them useful and important pollinators, are very susceptible to carbamates, which include carbofuran. Toxicity of pesticides to honeybees has been rated by the FAO. In this rating, each pesticide was determined to have a 'LD50 score', which is a figure that captures the lethality of the pesticide to honeybees. The lower the LD50 score, the more toxic the pesticide is to honeybees. DDT, one of the most potent poisons ever developed in the history of synthetic pesticides, has a score of 5.44. Carbofuran has a score of 0.149. Therefore, carbofuran is more than 36-times more toxic to honeybees than DDT! Ironically, carbofuran has been widely touted, and marketed as, a 'better' alternative to DDT.

In the current global crisis surrounding honeybees, scientists have identified one cause of their decline as the widespread use of chemical pesticides. These work twofold against bees as they are both highly toxic as well as making them become disoriented and unable to find their way back to their hives. Another aspect of honeybees' accumulating pesticides is that these can find their way into their honey when they gather nectar and pollen from crops or areas that have been treated. This then puts the consumers of that honey, including both the young bee larvae and humans, in danger.

VULTURES AND OTHER BIRDS

Birds are being poisoned both deliberately and indirectly by carbofuran in Kenya. In Western Kenya, fieldwork by Martin Odino has revealed a widespread practice of lacing baits with Furadan. Birds feed on the baits and end up being killed, plucked and sold for food locally. A wide range of species are targeted including ducks, Open-billed storks, doves and pigeons. Indirect poisoning of large flocks of birds, including migratory waterfowl, has been documented from some of the irrigation schemes. On several occasions entire lorry-loads of poisoned birds have been collected. Rice is one of the crops in Kenya where carbofuran is applied, even though in the US this chemical is not approved for use on rice.

One group of birds, the vultures, have suffered very heavily from the use of Furadan to lace carcasses. The vultures are not the intended victims of this practice, but a tragic part of the 'collateral damage' exacted by Furadan being used to poison attributed predators of livestock. Studies by Munir Virani of the Peregrine Fund and Simon Thomsett, have revealed widespread poisoning of vultures across most of the habitats that they frequent.

Some vulture species, such as the Egyptian Vulture, have virtually disappeared and will soon be locally extinct if swift action is not taken. Many vultures wander widely in search of food, and therefore are particularly vulnerable to the effects of poisoning. Even populations that nest or live predominantly within the safer confines of protected areas range outside these habitats for hundreds of miles and can feed on carcasses that have been laced with poisons.

FISH

One area that is little studied as of yet is the prevalence of pesticide fishing in East Africa. Fishing with poisons is being carried out on Lake Victoria and other water bodies. While only a minority of unscrupulous fishermen engage in this practice, the results of pesticide fishing cause localised die-offs of pretty much all aquatic life: big saleable fish, small indigenous fish such as cichlids and invertebrates such as dragonflies.

A study comparing dragonfly diversity between pesticide-fished and other sites showed that dragonflies are highly susceptible to this practice and all but disappear from areas that are routinely pesticide-fished. Only two species of dragonfly can be found in areas that are pesticide fished. One, the Globe Skimmer, is a tramp species that wanders in, and the other, the Banded Groundling, breeds in very shallow sheltered reedy areas that are likely less affected by the poisons. In contrast areas that are not fished using pesticides have a high diversity and abundance of dragonflies. What other long-term effects and the potential for these pesticide-fished fish entering the human food chain remain to be investigated.

EAWLS SEEKS SUPPORT FUNDS TO FIGHT FURADAN AND DANGEROUS CHEMICALS

The East African Wild Life Society is deeply worried about the effects of Furadan and is seeking funds to reinforce its advocacy against use of the drug.

As a first step, the Society held a press conference in Nairobi on October 1, 2009 to highlight the damage the pesticide causes the environment and the threat it poses to humans.

EAWLS is keen to support activities against use of Furadan and any other chemical threatening biodiversity in the region. We are looking for support, including funds to, among other things:

a) Conduct a survey to identify where Furadan is used and its impact
b) Produce advocacy materials, such as a video documentary and policy briefs
c) Air the documentary and circulate policy briefs to policy and decision makers
d) Publish articles in journals, the media and newsletters to raise pubic opposition
e) Lobby to ban the product in Kenya and stop its manufacture world-wide.

Any support is welcome.

Contact EAWLS at info@awildlife.org