Eagles stand accused of killing lambs. But seeing an eagle at a lamb carcass is not sufficient evidence to pass judgment on him. To prosecute the guilty party, we need all the available evidence to prevent innocent parties, without trial, being sentenced to death. During this trial we shall be presenting some evidence which demonstrates that most of these lambs were dead before the eagle arrived on the scene of the crime. Eagles are scavengers, unlike the stealthy caracal or jackal, they will stand on a dead lamb in full view of people, a fact that sometimes wrongly leads to prosecution. Eagles often scavenge on the afterbirth of ewes during the lambing season and sit and wait for her to finish lambing. In this document we would like to show you how to conduct an investigation on your farm to find out who the guilty party was. In the unlikely event that an eagle is implicated, at the end of this guide you will also find some tips on how to minimize these losses without having to resort to capital punishment. This individual still has a very important role in the community and the death penalty will leave a big empty space in the ecology of your farm.

As in any trial, certain lines of evidence carry more weight than others. Biologists often quote the low percentage of lamb bones in eagle prey remains. But they have no way of knowing whether the eagles killed or scavenged these lambs. The best evidence of lamb-killing comes from carcass inspections in the camps where ewes are lambing. Examinations are often the most reliable method of finding out how the lamb actually died. Studies in South Africa show that all predators (including dogs, caracals and jackals) rarely account for more than ten percent of lambs born.

As much as 15 percent of lambs born, however, usually die non-violently. The biggest killer of lambs, as most farmers know, is the lack of bonding between the lamb and its mother, and subsequent starvation and exposure. If the lamb carcass is relatively fresh (the best way to ensure this is to search the lambing camps early each morning), then the cause of death can usually be determined by a simple post-mortem examination which involves skinning the lamb, preferably from the top of the neck down.

These are the signs to look for:

**INNOCENT UNTIL PROVEN GUILTY**
DID THE LAMB DIE BEFORE OR AFTER BIRTH?
Many lambs die before or during their birth and are dead on arrival. If the hooves still have soft membranes underneath, this indicates that the lamb has not stood up and walked around. If the lamb hasn’t breathed, the lungs will be a deep scarlet colour rather than light pink and spongy. For the more serious investigator, look for a blood clot at the end of the blood vessel serving the umbilicus — absence of the clot indicates that the lamb was stillborn. A lamb that suffered during birth would be covered in bright yellow myconium and possibly died during or shortly after birth.

Was the lamb healthy, did it drink before death?
A healthy lamb will have solid white fat attached to the heart and kidneys. This fat looks red and jelly-like in a starving lamb. Heart fat is metabolized first. Other signs that indicate starvation are: the absence of milk or curd in the stomach; and the absence of white fluid (called chyle) in the lymph vessels draining the intestine, sometimes very difficult to notice. Predators often seek out weak individuals and this is an important element in natural selection. A deserted lamb becomes slow and sickly. This can trigger the predation response. But the solution to this problem lies in preventing desertion rather than removing the predator. If you know what to look for it is possible to tell whether a lamb killed by a predator would have died anyway.

Was the lamb killed by a predator?
Blood stains and bruising around the wounds are the most important signs to look for in your investigations. At death, blood ceases to flow. So if a lamb was fed on by a predator after it died, there will be no signs of bloody wounds.

If it was a predator, which one?
Besides actually seeing an eagle at a lamb, there are other signs indicating that an eagle has fed at the carcass. You may find feathers or droppings around the carcass. Eagles often pluck out large quantities of fur or wool (it is important to note however, that caracals and leopards will sometimes pull out tufts of belly fur with their teeth). With their beaks, birds neatly peck out the meat from between the bones, leaving the carcass well cleaned. Only the ends of the ribs may be clipped off. These signs show that an eagle may have fed on the lamb, but they do NOT indicate that the eagle killed the lamb.

Eagles kill with their mighty talons. Lambs can either be killed by a strike to the head or, more usually, by the crushing grip of the talons on the neck and upper back. It is essential to skin these areas. If the eagle was the culprit you will find IRREGULARLY spaced punctures to the skin, and maybe to the skull. These punctures will be surrounded by MASSIVE bruising under the skin which is caused by the immense grip of the talons.

Birds rarely kill lambs. Eagles are less often implicated than crows or ravens. These smaller birds do not have powerful talons and can only peck at the soft body parts. If you find a carcass that has been opened at the eyes, mouth, umbilicus or anus then it is likely that one of the crow family has
fed here. Only if these wounds are surrounded by blood or bruising does it indicate that the crow actually killed the lamb. Vultures are messy feeders and leave long sinews of meat attached to the bones. They are not known to kill lambs. For more details on vultures consult the booklet Vultures and Farmers from the Endangered Wildlife Trust.

Research studies have shown that carnivores such as jackals, caracals and especially domestic dogs are the main culprits when it comes to lamb killing in southern Africa. In the Swartberg mountains caracals accounted for 93 percent of lambs killed and jackals the remainder. In the Drakensberg mountains domestic dogs accounted for 85 percent of lambs killed, jackals 13 percent and caracals the remainder. Eagles were not implicated at all in either of these studies. But eagles will often come down in broad daylight to feed on a lamb killed by these other predators, and this is why farmers so often think that the eagle was the culprit.

Various signs indicate where a carnivore has fed. Unlike eagles, carnivores have powerful teeth which can chew and shatter quite large bones. The carcasses of lambs eaten by jackals are well opened up, as shown here. Caracals, however, often feed from the rump. These predators are more capable of dragging their prey into cover, and will sometimes even try to bury it. You may find spoor at the scene, but remember that all these signs merely indicate that the animal has fed on the lamb, not necessarily killed it. Lambs killed by carnivores can easily be identified by skimming the carcass from the top of the neck and looking for the fatal bite wounds. These are usually found on the throat, but dogs are very messy killers and will bite all over the torso and limbs, leaving a lot of blood around. Wounds administered by carnivores are characterized by regularly spaced canine puncture marks. These are found in pairs on either side of the body part that was bitten. The distance between the punctures can give an indication of the species responsible (for more details consult the book Predators and Farmers from the Endangered Wildlife Trust). Blood and bruising around the bite wound indicate that the lamb was killed in this way, but the bruising is never as extensive as that from an eagle wound. If you, as judge, do find the eagles guilty, there are mitigating circumstances to consider that could help prevent further losses.

If predators are attracted to high densities of dead and dying lambs they may turn their attention to healthy lambs later on. To minimize losses, try to ensure that all carcasses and deserted lambs are moved away from the lambing camps. Concentrated lambing seasons make selection and management easier, and also enable you to have better control over losses due to predators. Supply sufficient food and protection from the elements. It is worthwhile to place a shepherd near the flock near the flock during the crucial 6 — 8 week lambing period (eagles seldom attack lambs older than ten days); and to conduct lambing in a manageable camp away from mountainous areas frequented by predators. Predators do need small mammals and birds to survive, they all play an important role in the well-being of your grazing. Try to conserve these smaller animals to stabilize predator counts. This will prevent large numbers of predators and eagles coming down to your lambing herds. A breeding pair of eagles on your farm will prevent other birds from coming in, because they will protect their breeding territory. Remember that eagles will only stay on your farm if there is sufficient natural prey.


Gin traps should be used with caution. Poison should only be used as subscribed and only for the purpose for which it was intended. These methods are often inhumane if used irresponsibly and would maim and kill large numbers of non-target mammals and birds. Poison virtually eradicated the magnificent and harmless Bateleur from South African farmland. You should aim problem animal control at the individual culprit rather than the species. The Birds of Prey Programme will give valuable advice on all methods of problem animal management. Selective methods such as toxic livestock protection collars, selective shooting and cage traps should be considered as first option.

Remember the important role that eagles play on the farm in terms of controlling pests and rabies. Eagles are as much a part of nature as the elements themselves. So try to tolerate them for the good that they do and work with nature to create a sound ecological balance on the farm.
This is a Black Eagle lunch bag showing the remains of the 200 — 300 dassies taken out by a pair of eagles each year.

All publications suggested in this guide are available from:

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THE COST OF PREDATION ON SMALL LIVESTOCK IN SOUTH AFRICA BY MEDIUM-SIZED PREDATORS
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