

Life in the Wild

VETERINARY
ASSOCIATION
for
WILDLIFE
MANAGEMENT



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“ It requires very little knowledge to care passionately about animals.
It requires a great deal of understanding to care properly for them. ”

Animal Welfare – Limping towards Eden by John Webster
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INTRODUCTION

This paper highlights the differences between the *life of wild mammals* and the *life of domestic animals*, whether they are companion or farmed animals. People who either care for, or care about, animals need to understand why life in the wild bears little resemblance to that of domestic life. So the aim of the paper is to create an understanding of what these differences mean in terms of how wild animals live and survive in the wild, the pressures they are under and how they should be considered in ways that do not apply to domestic animals.

SUMMARY

- There are behavioural, physiological and anatomical differences between wild and domesticated animals, which render the latter ill-adapted for life in the wild. (1.1.1)
- The difference between wild and domestic animals may be illustrated by their response to capture and restraint. (1.1.3)
- Numerous misconceptions surround the state in which wild animals live. Wild animals are, in general, in harmony with themselves and with their environment. (1.2.1)
- Alertness or fear in wild animals, the ability to anticipate, understand and learn to avoid danger once experienced (associative learning) are crucial to their survival. (1.2.2)
- Wild animals are by evolution adapted to hunting and being hunted. (1.2.3)
- Wild animals face degrees of stress, including within their own species, but to imagine this pressure in human terms or that of a domestic animal would be wrong. (1.2.5)
- Wild animals almost certainly lack the complex brain and mental abilities necessary to experience fear and the concept of death as a human would. (1.2.6)
- Death in the wild, in the absence of predators and without man's intervention is variously protracted pain, sepsis, gangrene, starvation, hypothermia, inability to feed, inability to hold territory, for days probably weeks before death finally supervenes. (1.3.1)
- There is no ownership of, or legal duty of care for, wild animals, unlike domestic animals. However, mankind has a responsibility to manage the countryside that it has created, including its wildlife populations. (2.1.1)
- There is an evident difference between wild and domestic animals when considering biodiversity and conservation. Sustainable and healthy wild life populations will not result from a "hands-off" approach. (2.2.2)
- There is a need to manage and/or control the populations of certain species by various means to address over-population, to ensure healthy populations, to control disease, to protect habitat and to limit damage to crops and livestock. (2.2.2)
- The legal culling methods include shooting, trapping and gassing and poisoning for certain species. (2.2.3)

- Sustainable and healthy populations will best be achieved by control methods that selectively remove the old, weak, injured and diseased individuals. The evolutionary or natural way to reveal the weakness, injury or simply old age of the individual, is by way of pursuit – a natural process that has been undertaken by wolves and other predators for millennia. (2.2.6)
- Diseased wild animals can have an adverse effect on their own species as well as threatening other wild and domestic species, including humans. Disease in domestic animals is likely to be noticed and its effect on other animals will be limited or non-existent. (2.2.6)
- Government has the ultimate responsibility to ensure that disease in wildlife is controlled, though farmers, gamekeepers and huntsmen are, in effect, unpaid “eyes and ears” in the countryside. (2.2.7)
- Potential man made threats to biodiversity also need to be recognised. For example the current vogue for the reintroduction of species formerly present in Britain needs to be carefully assessed before being permitted. (2.2.8)
- A second potential man made threat to biodiversity is preferential legislation. (2.2.9)
- The threat to wildlife habitat from industrial farming is being addressed by financial incentives via stewardship schemes. However, there is no logic in providing habitat for vulnerable species unless populations of predators can be managed. (2.2.10)

Section 1 UNDERSTANDING LIFE IN THE WILD

1.1 *PHYSICAL AND BEHAVIOURAL DIFFERENCES*

- 1.1.1 Apart from the obvious behavioural differences between wild and domestic animals, there is also evidence of fundamental biological differences between the two. Thus there is in domestic animals, relative to their wild cousins, reduced adrenal gland size plus other endocrine changes, altered brain size and sense organ structure (Hemmer 1990, Belyaev and Trut 1975) and probably brain layout and function (Addison and Thomas 2009).
- 1.1.2 Comparison of similar species in contemporary Britain such as the dog and fox reveals the basis of these differences. The dog has undergone selection by humans over thousands of years to fit it for domestic life, in the absence of predators; the fox has undergone natural selection for infinitely longer to fit it for life in the wild, in the presence of predators (Thomas and Allen 2002).
- 1.1.3 The clear behavioural difference between wild and domestic animals may be illustrated by their response to capture and restraint. Thus, whereas domestic animals accept the confinement of a cage, for a wild animal it can be a cause of acute distress even physiological shock, particularly when approached by man (Wise 1999). For example domesticated rat breeds will tolerate being held in the hand while wild subjects will kill themselves by struggling (Hemmer 1990). Cage trapping therefore risks protracted and distressing incarceration for a wild animal with serious risk of self-mutilation in trying to escape. This fundamental behavioural difference seems not to be appreciated by persons who advocate cage trapping as a humane method of controlling wild animals.

1.2 *STRESS, FEAR AND SURVIVAL*

- 1.2.1 Numerous misconceptions surround the state in which wild animals live. On one hand there is an imagined woodland utopia, in which everything in nature lives in harmony. An opposite scenario is one in which animals are living in a state of constant anxiety, fleeing in dread from predators, including man. Neither description accurately portrays the reality of life in the wild. (note: 1)

- 1.2.2 Alertness or fear in wild animals, the ability to anticipate, understand and learn to avoid danger once experienced (associative learning) are crucial to their survival. Anti-predator behaviour in prey species such as elk (Laundré et al. 2001) and impala (Hunter and Skinner 1998) was found to be significantly greater in areas where carnivores had been reintroduced than in areas where they were absent. For example, the vigilance of elk increased steadily over five years as wolves re-colonised Yellowstone National Park (Laundré et al. 2001)
- 1.2.3 Wild animals are by evolution adapted to hunting and being hunted. What might be a devastating experience for a domestic animal or man is part of the pattern of normal life for the wild animal. Furthermore wild animals that evade pursuit rapidly return to normal activity. Indeed, one line of scientific thought is that because wild animals have no perception of their own death (see 1.2.6) and because selective predation is shaping in a demographic and/or evolutionary sense, escape from hunting or a predator can be biologically rewarding in itself (note: 2).
- 1.2.4 Alertness brings about a temporary physiological reaction to threat (known as the fight or flight response) in order that the animal can react quickly and strongly. However, it would be energy costly to be in this state all the time and it is a well accepted principle that evolution shapes behaviour to minimise energy use.
- 1.2.5 Wild animals face degrees of stress at various times, including within their own species, but to imagine this pressure in human terms or that of a domestic animal would be wrong (notes: 3, 4& 5). Unlike domestic animals, they have to find food, protection from elements and deal with predators. It is almost axiomatic that evolution has designed them to cope with all this without experiencing deleterious or chronic (persistent) stress.
- 1.2.6 Comparative neuroscience and comparative psychology combine in supporting the view that both wild and domestic animals lack the complex brain and mental abilities necessary to experience fear as a human would and the human concept of death. These require at least some elements considered unique to man. (A large body of peer-reviewed material supporting these conclusions, much very recent, is available at www.vet-wildlifemanagement.org.uk).
- 1.2.7 Though animals may investigate dying and dead members of their species, it is as something that is 'different', and thought to be a process in which conditions associated with sickness or death are learned (note: 6). This is very different to recognising death as a concept (note: 7). Thus during the tracking phase of a hunt a fox does not behave as if it perceives the possibility of ensuing death. Indeed, since it has never been caught before, it will 'expect' to escape (lack of associative learning) (note: 8).

1.3 **DEATH IN THE WILD**

- 1.3.1 Death in the wild, in the absence of predators and without man's intervention is not a beautiful mist that gently descends; it is variously protracted pain, sepsis, gangrene, starvation, hypothermia, inability to feed, inability to hold territory, for days probably weeks before death finally supervenes. Clearly, this is not a situation that is either desirable or one that is faced by domestic animals.
- 1.3.2 Natural biological control, in the absence of predators, for over successful species that is "leaving it to nature" will not occur until lack of nutrition, due to overpopulation, and disease are so extreme as to suppress reproductive activity. This clearly does not represent a healthy and vigorous wild life species. Furthermore population levels at which this so called control might occur would see levels of predation and damage totally unacceptable to farmers and the overall balance of other wildlife.

Section 2 LIFE IN THE WILD – MAN’S INVOLVEMENT AND RESPONSIBILITIES

2.1. **DUTY OF CARE**

- 2.1.1 A person who owns or keeps a domestic animal has a legal duty of care to ensure its welfare (note: 9). There is no such ownership of, or legal duty for, wild animals. However, mankind has a responsibility to manage the countryside that it has created, including its wildlife populations.
- 2.1.2 Currently most animal welfare legislation concerned with cruelty to animals excludes animals living in the wild because they are not under human ownership. Laws that specifically refer to cruelty to wild animals generally only come into play when the animal is rendered or being rendered into the control of humans, for example live cage trapping. Certain species are protected under the Wildlife and Countryside Act 1981 and other laws, mainly for conservation reasons.
- 2.1.3 Whereas one might feel the need to relieve the suffering of an individual wild animal, there is no legal duty to do so. Moreover it would place a burden on many people, in particular farmers and landowners that would be unworkable and absurd, not least because wild animals cannot recognise land ownership boundaries.
- 2.1.4 Individuals or organisations that take wild animals into care for treatment and rehabilitation should seriously question their motives for doing so. The welfare of the wild animal is paramount, not the sentiments and feelings of the human intervener. When taking a wild animal into care consideration should be given to the impact on the wild population, the individual animal and the information that may be gained from such an action. (Meredith, 2010).

2.2 **BIODIVERSITY AND CONSERVATION**

- 2.2.1 Biodiversity may be defined as *“The richness and diversity of species of animals, plants and organisms co-existing together within the natural order”*.
- 2.2.2 There is an evident difference between wild and domestic animals when considering biodiversity and conservation. In an environment such as the UK that is almost entirely managed by man (note: 10), sustainable and healthy wild life populations will not result from a “hands-off” approach. There is a need to manage and/or control the populations of certain species, usually by culling, but sometimes by other means such as dispersal or fencing, to:
- reduce numbers of over-successful species that have no natural predators other than man;
 - ensure the overall health of populations;
 - control disease of both wild and domesticated animals;
 - promote and protect habitat;
 - limit damage to property, crops and farm livestock.
- 2.2.3 The legal methods for culling of wild animals include shooting, trapping (including live cage trapping) and gassing and poisoning for certain species. Artificial control of fertility is currently not a realistic or arguably desirable method of population control for wild mammals.
- 2.2.4 None of these methods is singly adequate or suitable for all circumstances, nor are they selective or without adverse welfare consequences. In the man-made countryside, control of an over-successful species is best achieved by a combination of legal methods undertaken by farmers, gamekeepers, landowners, naturalists and huntsmen, with their divergent interests using the appropriate methods of control for their particular circumstances. Furthermore

restricting any of these methods puts pressure on the other methods that might have detrimental consequences to biodiversity.

- 2.2.5 Sustainable and healthy populations will best be achieved by control methods that selectively remove the old, weak, injured or diseased individuals, (as would have been done by wild predators), thereby promoting the health and vigour of the species (Mech and Peterson 2003, Packer et al. and notes: 11&12). However, shooting, trapping and poisoning although intrinsically uncertain and non-selective will nevertheless always be necessary to control over-successful species. Application of all methods as appropriate will be needed on a semi-continuous basis.
- 2.2.6 Diseased wild animals can have an adverse effect on their own species as well as threatening other species, including humans. "Predators have been shown to selectively remove prey with high parasite burdens (Packer et al. 2003, Mech et al. 2003) .The health of a domestic animal is likely to be noticed and its effect on other animals will be limited or non-existent. Whereas such care is a legal responsibility of its owner or keeper, wild animals do not benefit from similar care or attention. Observation can sometimes detect animals that need to be removed if the injury or disease is obvious, but the evolutionary or natural way to reveal the weakness, injury or simply old age of the individual is by way of pursuit – a natural process that has been undertaken by wolves and other predators for millennia. (Colvile, K., 2007).
- 2.2.7 Government has the ultimate responsibility to ensure that disease in wildlife is controlled. (DEFRA, Wildlife Health Strategy, England 2009) However, farmers, gamekeepers and huntsmen are, in effect, unpaid "eyes and ears" in the countryside. Biodiversity changes in animal and plant abundance are often noticed first by such people by virtue of their numbers, their widespread distribution and their commitment to wildlife management.
- 2.2.8 Potential man-made threats to biodiversity also need to be recognised. For example the current vogue for the reintroduction of species formerly present in Britain needs to be carefully assessed before being permitted. It is not sufficient justification to say they were in this country some hundreds of years ago. The danger from introducing or reintroducing a species which might become over-successful may be clearly recognised with the widespread success of the grey squirrel, the American mink and more recently the reintroduced or escaped wild boar represents a potential habitat and disease threat.
- 2.2.9 A second potential man made threat to biodiversity is preferential legislation. Examples are the Hunting Act 2004 and sections of badger protection legislation since 1973. The Hunting Act has rendered illegal the unique wildlife management tool that selectively removes sick, wounded and aged members of several wild species. The badger is a classic example of a population out of control through lack of management. It is not and never was an endangered species and is now having, because of well intentioned but misguided legislation, an ever increasing detrimental effect on vulnerable wildlife, farming and indeed the health and vigour of it own population.
- 2.2.10 The threat to wildlife habitat from industrial farming has now been recognised and is being addressed by financial incentives in the form of stewardship schemes to provide pockets or strips of uncultivated land. However, there is no logic in providing habitat for vulnerable species unless populations of predators can be managed.

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NOTES

1. "A wild animal's affective system has evolutionarily adapted in a way that 'matches' the states likely to occur in its ecological niche. So its affective system is likely to function optimally (or at least satisfactorily) in that environment".
J. Yeates, School of Veterinary Sciences, Bristol University.
2. "Fear is one of the most useful properties of the conscious mind because it is conducive to survival. Sentient animals are born curious because they need education to survive and acquire this education usually while under the protection of a parent or parents. They learn to discriminate between real and apparent dangers and, as they mature, become progressively cautious. Having lost the protection of a parent, they rely on their own sense of fear to direct their actions towards survival. When the gazelle learns that the charge of the leopard is truly frightening but once again, manages to escape, it may come to recognize fear as a constructive force that produces its own reward, not as a source of suffering."
Professor John Webster, *Animal Welfare – A Cool Eye towards Eden*, Wiley-Blackwell 1995
3. "Anxiety is a state of mind that is initiated and perpetuated with very little external assistance. Anxiety, one might think, is far closer to fear than is pleasure, but in brain terms, it could be the exact opposite. After all, pure fear, as pleasure, is very much in the here and now. Anxiety, on the other hand...depends on the ability to forsake the present moment and anticipate an uncomfortable future. It is hard to imagine that the rabbit in his burrow dwells on past times when it manages to escape a fox and is now worrying about whether a fox is going to pass that way once more."
Susan A. Greenfield, *The Private Life of the Brain*, Penguin Books 2000

4. *"It seems likely that the states of the brain that embody the intensity and duration of unpleasant feelings such as fear and pain, are closely regulated through evolutionary scrutiny because, for example, being either too fearful or not fearful enough would be detrimental to evolutionary fitness."*

Dr J.K. Kirkwood, Darwinian selection, selective breeding and the welfare of animals, Universities Federation for Animal Welfare International Symposium 2009

5. *"Being afraid is a short-term life-saver, but there is a long-term health cost, so the best evolutionary strategy is a compromise."*

Dr Jonathan Reynolds, Game and Wildlife Conservation Trust (personal communication 12th April 2011)

6. *"Finally, tracking also enables us to find an animal quickly, be it to collect samples or to observe behaviour at close range. Tracking a number of herds allowed a remarkable observation. Eleanor, the matriarch of a herd, was dying, perhaps as the result of a snake bite in her trunk. Other - unrelated - elephant cows not only tried to help her back up onto her feet, but came from considerable distances with their own herds for days after her death to visit the carcass. At first sight, it seemed as if they were paying their respects. In reality, they were probably visiting to assess mortal risks in the environment and to collect information about the changes in a familiar herd. After all, the death of a matriarch has crucial implications for the knowledge residing in a herd and thus on its collective behaviour. It will be fascinating to see how Eleanor's absence will affect the pattern of the tracks left behind by her old herd on the maps of the STE computers."*

Professor Fritz Vollrath, *Trunks, tracks and spiders' webs*, Oxford Today, Vol. 19 Number 2, Hilary 2007.

7. *"I do not question the observations of animals responding to dead group members what I question is their interpretation. Given the lack of evidence for self awareness as well as the opportunity to attribute mental states to others, my own hunch is that no animal will be found to have a system of beliefs about death."*

Professor Marc Hauser, *Wild Minds : What animals really think* Penguin Books 2001

8. *"They do not necessarily have an image of the hunt in advance but have the capacity to learn from experience and modify their behaviour accordingly. In the case of many prey animals in the presence of a predator, the immediate chasing predator, they take immediate action which is appropriate in response to the stress and constructive fear and then, having achieved their immediate gain - they may subsequently be hunted and harried but that is a separate issue - their behaviour appears to return to, shall we say, normal maintenance behaviour. From the interpretation of their behaviour, I believe they are learning by experience as they deal with the initial challenge. Threats come again and again and again and ultimately they may fail to cope, but the evidence of their behaviour is that they learn from experience and we do know that animals learn from experience..."*

They only experience death once. They do not learn from it. Their experience is that they will not get killed. From the time they are killed, they learn nothing."

Professor John Webster, DEFRA Hearing on Hunting with Dogs, Portcullis House, London, 2002

9. Under the Animal Welfare Act 2006, E+W an animal is a protected animal for the purposes of the Act if (a) it is of a kind which is commonly domesticated in the British Islands, (b) it is under the control of man whether on a permanent or temporary basis, or (c) **it is not living in a wild state.**

10. *"The increasing size of the human population has driven us to claim so much of the natural world that there is no longer any corner of our landscape that is not affected by our presence."*
Sir David Attenborough, *Silent Summer*, Cambridge University Press 2010

11. Following the re-introduction of wolves into Yellowstone Park, USA in 1995, elk numbers, which had previously grown to a disproportionate size, were reduced. Examination of elk bones at the site of wolf kills showed that the old, weak and injured animals were being taken. The remaining herd was smaller, but fitter and healthier.
BBC "Horizon" *Predators in your Backyard*, 8th March 2011.

12. *"If you can imagine the Serengeti without lions, what would happen? Well, the antelopes would take over... We're moving from healthy eco-systems where we have predators and prey, where the predators would eat the sick animals and keep the population healthy."*
Professor Villy Christensen, Program Director of the Nureus Program, University of British Columbia Fisheries Centre, Vancouver, British Columbia. (BBC Radio 4 "Today", 19th February 2011).

THE VETERINARY ASSOCIATION FOR WILDLIFE MANAGEMENT

The Veterinary Association for Wildlife Management (VAWM) was formed in May 2004 with the remit to provide a balanced veterinary opinion on a variety of subjects concerning the management and welfare of British wild animals.

Most of the 570 supporters of VAWM are general practitioners spread across England, Wales, Scotland and Ireland. Many have had years of clinical experience with all common species of domestic and wild animals. Some are academics with a wealth of research experience, five are veterinary professors and six are fellows of the Royal College of Pathologists, a collective authority that must be second to none in the current debates on the management and welfare of wildlife.