HUMAN HUNTING DESTROYS OUR ENVIRONMENT

By Peter Muller, Vice President, C.A.S.H. - Committee to Abolish Sport Hunting
Board Member Wildlife Watch, Inc.
Contact: peter@wildwatch.org
http://www.all-creatures.org/cash

Isn't hunting part of nature? Don't animals living in a natural environment hunt for food? Isn't it natural for humans also to hunt to obtain food?

In nature, predation is a healthy and normal relationship among species. Species that are in a predator-prey relationship have evolved together in the same ecosystem; both species benefit from that relationship. Over time, evolving in the same ecosystem, the predator species and the prey species have developed structural and behavioral adaptations that allow them to be healthy predators and healthy prey animals.

Just a few examples: Prey species usually are very fecund; they tend to have large litters and short gestation periods. Rodents – rats, mice, cavies are typical prey species and are among the most rapidly reproducing species among mammals. For example, lemmings can have litters of about six offspring every three weeks. This is nature's way of assuring that the species will survive even though many may succumb to predation. Mammals that have no natural predators reproduce much slower by having small litters (often one only birth per pregnancy) and long gestation periods. Elephants, who have no natural predators, typically give birth to one calf after a 22-month gestation period.

The structure of the eye among prey species tend to be well-suited for peripheral vision; their eyes are on the side of the head and can be rotated to be alert to a predator approaching from any direction. Among predators the eyes are in the front of the head; the eyes can focus stereoscopically to allow the predator to assess the right distance to overtake its prey. If we look at birds for example, we see these different eye structures between the raptors such as owls, hawks, and eagles as contrasted with the passerines, examples of which are sparrows, starlings, and orioles. As an aside, even though predators tend to have well developed stereoscopic vision –a well-developed stereoscopic vision is not necessarily an indication that a species is a predator. For example, many primates have excellent stereoscopic vision, which they need for brachiating (swinging from branch to branch in a rain forest.

The ability to move and survive on their own shortly after birth (precocial) is again markedly more developed among the prey species than among species that have no predators. The various species have evolved these adaptations so they can all live and thrive in their ecosystem.

A natural predator will take some of the prey species but not so many as to endanger eradicating its entire prey base. Among species that have co-evolved it is estimated that no predator species takes more than about 10 percent of the population of its prey base. The success rate for a predator attempting to take a prey animal is also relatively low; typically it is between 10 and 20 percent.

Predation, in nature, benefits both the predator and the prey species. The predator species, and incidentally scavenging species, benefit by having their food needs met by predation. The prey species, however, also benefits. Since predators are typically only able to capture bottom 10 or 20% of the prey animals in terms of general fitness; they get the slowest, least alert, of that species. Predation removes infected and diseased individuals, thereby reducing risk of further contagion and spread of parasites. Predation also removes congenitally weak animals, preventing them from breeding. This improves the gene pools of the prey species. The prey species is healthier and genetically improved by having predators.

The entire ecosystem benefits from this kind of continuing interspecies interaction. This is natural predation and it promotes biodiversity – it encourages the evolution of variations of species and subspecies through adaptations of both the predator and the prey species.

Hunting by humans operates perversely. The kill ratio at a around hundred feet with a semi-automatic weapon and scope is much greater than 10% to 20%.. The animal, no matter how well adapted to escape natural predation (healthy, alert, smart, quick, etc.) has virtually no way to escape death once it is in the cross hairs of a scope mounted on a rifle.

Nature's adaptive structures and behaviors that have evolved during millions of years simply count for naught when man is the hunter.

Most deer, for example, would not perceive a rifle hunter as a predator or a source of danger from the distance at which deer can be shot with a big game rifle (about 200 feet to 400 yards depending on the terrain). A wolf at that distance, even though detected, would be totally ignored. Even the much smaller range of bow-hunter (about 50-75 feet) is barely of concern to deer. Deer may start to keep an eye on a hunter at that distance, but the evasion instinct doesn't kick in until it's too late.

Hunters go after healthy big animals for trophies and meat. This leaves the diseased and congenitally weak animals to breed -–thereby degrading the gene pool and spreading disease. The hunted species becomes a degenerate and runty imitation of the real species that evolved in the habitat before human hunting.

Hunting by humans has never been akin to natural predation. Using modern technology makes matters worse, but even hunting by indigenous people, before the blessings of Western civilization were bestowed on them, was just as destructive only at a slower rate. The North American mammoth, the Patagonian giant sloth, the pygmy hippopotamus, the elephant bird of Madagascar are just some examples of animals that were hunted into extinction by indigenous hunters.

To see exactly how hunting is destructive to an ecosystem, let's look at a specific game animal. Probably the most widely hunted animal in North America is one of the common species of deer, the white-tailed deer.

Let's consider a naturally segmented area has sufficient browse to feed a deer herd of 400 animals. Wildlife biologists would describe this by saying that the biological carrying capacity of the area for deer is 400. Nature has adaptations in place to ensure that the carrying capacity that is appropriate for that species is not exceeded.

What would happen if the deer population increased to substantially over 400 in one year?

Let's say that with all normal control adaptations in place (including natural predators) the herd size reaches 500 healthy individuals. At the start of the next winter season, several adaptations would kick in to ensure a smaller amount of fawns the following year. If deer are hungry (not starving, but not well fed either), the sex drive of the bucks declines and the frequency of ovulation of the does decreases; the does become receptive less frequently than they would if plenty of browse is available. Since the browse is now insufficient to feed all 500 animals, a portion of the deer population would not reproduce during that season. With the normal die-off during the winter and the smaller than normal birth during the spring, the total population would be reduced to less that 500.

Within a few seasons the populations would again stabilize around the capacity of the territory. If the herd size dropped substantially below the carrying capacity (say to 300), other natural adaptations would kick in (for example, does who have lots of browse during the rut are more likely to have twins or triplets) to bring the population back up to the normal carrying capacity of 400. Many other adaptations, some simple and some fairly involved and not yet completely understood, are used by nature to maintain the population at the carrying capacity.

These adaptations with which the species have evolved have, are based on, conditions that have been true for millions of years. Human hunting totally destroys some of these assumed conditions.

Normally, left to their own devices, the sex ratio of male to female animals is about 50-50. Deer are born about evenly male and female. Most "sport" or "trophy" hunters prefer to take bucks rather than does. Almost all state game agencies mandate that during the regular hunting only bucks (antlered deer) and no does are shot. Under certain extreme conditions, where a deer population has totally mismanaged for years "doe permits" are issued in addition to the regular deer tags in a desperate attempt to mitigate the mess that the agencies have created over the years. This policy of shooting out bucks distorts the gender ratio of the population.

Let see what happens when that ratio changes from 50-50 ratio to 80-20 –leaving four times as many does as bucks. This is not at all uncommon. In Texas and the Southwest, in general, years of mismanagement have pushed the doe to buck ratio as high as 10:1 in some areas.

Let's look at two herds – one unhunted with the gender ratio intact at 50/50 and one hunted with the gender ration skewed to 80/20. Otherwise everything is the same; both herds live in an area where there is sufficient browse for 400 animals. Nature's adaptations that adjust the population to the browse will now miscalculate and cause an overpopulation for the hunted herd but leave the unhunted herd stable at 400 animals.

Based on 50-50 ratio, a herd of 400 will consist of 200 bucks and 200 does. Normal browse conditions signal to each doe to give birth to a single fawn. Assuming a winter die-off of 100 deer. The surviving herd would consist of 150-buck and 150 does. Each of the 150 does would give birth to 150 fawns. The herd sized, including the new 150 fawns is now 450. Fawns have about a 2/3 chance of surviving until the next fall because they are subject to more predation than adult deer; for example, coyotes will predate on fawns but rarely on fully grown deer. Other mortality rates are also higher for fawns that adult deer. At the next rut the herd is back to 400.

Based on an 80/20 gender ratio, a 100 animal winter die-off, and normal browse conditions there will 240 does and 60 bucks in the surviving herd. The 240 does will give birth to 240 fawns of which 160 will survive. At the next rut the herd size is now 460 instead of 400. That's a 15% increase over the normal her size. If we factor in additionally that in the hunted herd the multiple birth rate is much higher (34% as opposed to 18%) and that yearling does will go into estrus -- the rate of increase is even higher as is shown in the table below. A few successive seasons like that and the herd size approaches conditions where massive, catastrophic starvation and die-offs are inevitable.

Hunting is not the cure but the cause of overpopulation and starvation. Luke Dommer, the founder of the Committee to Abolish Sport Hunting, has proposed several times to various state wildlife agencies that if they are serious about using hunting as a population control tool in areas where the sex ratio is already badly distorted, they should institute a doe-only season. (Taking no bucks but only does until the ratio is again stabilized at 50:50). All agencies have rejected that proposal – thereby giving up any pretense of ecologically motivated sound wildlife management. They quite consciously and openly state that they are in business to provide the maximum number of live targets to hunters each year.

The state wildlife agencies encourage the destruction of the naturally evolved ecosystem by encouraging human hunting that balloons the population of the game species at the expense of the non-game species. Management techniques, in addition to sex-ratio distortion, include removal of natural predators (e.g. wolves, coyotes, panthers, bears) altering the natural habitat to provide additional browse for game species and destroying the habitat of non-game species (e.g. clear-cutting and/or burning areas and sowing them with oats for deer at the expense of rabbits, voles, various reptiles and amphibians – and many other non-games species.)

The activity of human hunting is not and never has been a sustainable, mutually beneficial, predator, prey relationship. Human hunting techniques, even the most primitive ones, are far too efficient to meet the conditions required of a natural predator-prey relationship. In modern times, with new technology, the efficiency becomes totally lopsided so as to cause instant habitat degeneration Add to this the conscious mismanagement of habitat to further degrade and obviate all natural corrective measures.

Using techniques such as sex-ratio distortion, habitat manipulation, the removal of natural predators and the introduction of exotic game species destroys biodiversity. The goal is to maximize the number of targets for human hunting, thereby destroying the naturally evolved ecosystems and putting them at the brink of total collapse.

The number of animals of game species (native and exotic) is maximized at the expense of all others. The naturally evolved adaptations that insure biodiversity are short-circuited.

The way that these ecosystems can recover is to prohibit human hunting and other forms of destruction of these animals. We should allow for the unfettered reintroduction and re-immigration of predators (which is occurring naturally) and stop the feeble attempts of "managing" the environment.. When it comes to managing the environment, our knowledge is inadequate to do an even passable job. Even given an ethically sound motivation, which the state agencies now lack, we simply don't know enough to do a better job than nature.

Rather than playing God, we 're acting more like the three stooges, when it comes to managing ecosystems. For the sake of life on earth, we must not allow the hunting and gun-manufacturing lobbies to continue to dictate wildlife management policies.

Population growth of deer herds
Unhunted herd with 1:1 gender ration vs. hunted herd with 4:1 gender ratio

		Unhunted Herd		Hunted Herd
Year 1 before hunt				
Bucks		200		80
Does		200		320
Total		400		400
Year 1 after hunt				
Bucks		200	25%	60
Does		200		320
Total		400		380
Year 2 before hunt				
Winter die off rate	25% `		25%	
Bucks die off		50		15
Does die off		50		80
Multiple birth rate	18%		34%	
Bucks after die off		150		45
Mature Does after die off		120		192
Yearling Does after die off	20%	30	20%	48
Fawns born		142		322
Total herd size		442		607
Fawn die-off rate	30%		30%	
Fawn die-off		42		96
Total herd size before hunt		399		510
Rate of Increase		-0.22%		27.53%