Report on Bowhunting

One Style of a Broadhead Arrow

This report summarizes twenty-four studies on bowhunting from across the country. The facts in these studies show clearly that bowhunting is inhumane and wasteful. The possibility of a deer being impaled by a broadhead arrow and then dying instantaneously is extremely slight.

Wounding and crippling losses are inevitable.
Every one of these studies has concluded that for every deer legally killed by bowhunters, at least one or more is struck by a broadhead arrow, wounded, and not recovered. The studies indicate an average bowhunting wounding rate of 54%, with the shots per kill averaging 14. We believe that these numbers are conservative.

The Wounding Cover-up

Bowhunting journals make it clear that they do not want bowhunters speaking to anyone about wounding. Their editorials even suggest that bowhunters should underestimate their losses:

- **Bowhunter Magazine**
  An article entitled "Bow Wounding Losses THE BIG MYTH" by David Samuel states: *It is disquieting to know that we probably wound one deer for every animal harvested.* Samuel also states: *The only reason I can think of is that bowhunting is difficult, more so than gun hunting. Some non-thinking bowhunters apparently feel it's better to say that they at least hit a deer than admit they didn't harvest one. That's really dumb logic and every time someone says they wound a deer to anyone else, even a bowhunter friend, it gives the wrong message to anyone who is listening.*

- **Western Bowhunter Sept. 1991**
  A guest editorial – "Responsible hunting Starts With You!" by Larry D. Jones states: *Don't talk to anyone about wounding animals, especially in public places or among non-hunters.* Jones also states, *If you videotape your hunts, don't show bloody kill scenes, rough handling of animals and animals struggling, kicking or quivering as they go down, to non-hunters or anti-hunters. No one including myself, enjoys seeing animals suffer.*

- **Archery World March/April 1988**
  An article entitled "Hit or Miss" by Glenn Hegeland states: *Why do so many bowhunters think just hitting an animal with an arrow is the pinnacle of success? I heard a guy the other night brag that "I hit four tonight." Then he sort of mumbled in his soup that he couldn't find any of them.*

- **Bowhunter 1989 Big Game Issue**
  An article entitled "A Call for Accuracy" by Dwight Schuh states: *Our sport can't stand forever in the face of growing hatred. Archers must work to counteract that sentiment and build bowhunting in a positive light. The first step should be obvious.* ***Don't brag about hitting and losing animals.*** He goes on to say, *There's nothing honorable about hitting and losing an animal; it just means you screwed up. Don't brag about it. Just shut up.*

The Wounding Problem

Adrian Benke, a Texan and still active firearms hunter laid down his bow in 1969 after he had shot 31 deer with arrows. Of these 31 animals Benke states in his book, **The Bowhunting Alternative** (published 1989): *I'd killed just seven and later found the carcasses of four others.* He continues to say: *I then declared bowhunting a farce and quit the sport.* Since the early 1970's, Benke has done extensive research and in-depth studies on bowhunting.

According to Benke, *Archery wounding is the most denied problem in bowhunting and the most ignored problem in wildlife science.* He cites empirical studies and hunter surveys that consistently indicate that bowhunters wound at least as many animals as they kill.

In a major study done in 1989 by Glen Boydston and Horace Gore, wildlife biologists at the Texas Parks and Wildlife Department, they compared data on archery and gun wounding losses gathered at four wildlife management areas in Texas from 1972 through 1985. During this period, archers bagged 128 deer and wounded and failed to retrieve 130 others, for a crippling loss exceeding 50%—revealing that for every deer legally killed and recovered by a bowhunter, at least one or more deer were wounded and left to die in a slow and painful manner. Gun hunters killed 2,266 deer and wounded 150 others for a crippling loss of 7%. Thus, only 1 out of every 14 deer shot with guns was not retrieved.

In bowhunting, wounding and crippling losses are inevitable.

The Texas study also states:

- Bowhunting is an extremely demanding, exacting sport. A hunter must be within 30 or so yards of a deer, draw and release an arrow undetected, and hit the vital areas of the animal.

- The broadhead must cut major blood vessels, thoracic organs, or the neurological center to cause a quick death. Under most hunting conditions it is generally difficult to shoot a razor-sharp broadhead into a vital area (an absolute must for bowhunting proficiency). <u>Almost all abdominally shot deer die a slow death from peritonitis.</u>

- If there is a relatively low exit wound in the thoracic hit, most bleeding is internal, which results in poor blood trails. The deer runs off and dies a slow death in the woods days or even weeks later.

- Many bowhunters are novices; they lack experience and knowledge in stalking, shooting, and tracking. Experienced bowhunters wound more deer than novices, because they get in more shots and have more of an opportunity to wound. (Novice archers usually miss animals entirely.)

The Texas study provided evidence that, on average, 21 shots were made for every deer killed, or about 10 shorts per deer hit.

In addition, the potential for bowhunting inaccuracy is enormous. Benke's book cites several studies documenting that the best bowhunters wound more animals than the worst. Even the most skilled bowhunter has to admit that a direct hit to the heart in a hunting situation would be extremely unlikely. Even then, the chance the animal would be rendered unconscious immediately is almost zero.

Shot placement is, for all practical purposes, random.

The Texas study is not unique:

- In a 1983 study of wounding loss in Iowa, H.L. Gladfelter, confirms Benke's contention and reports that *crippling is not correctable by increased training or field experience and is a by-product of the sport*.

- In 1989, during a bowhunt at Mason Neck National Wildlife Refuge, bowhunters killed 8 deer and left 9 deer wounded.

- At Rock Cut State Park in Illinois in 1988, bowhunters killed 53 deer and left at least 42 others injured in the woods.

- During the 1985 archery season at Walter Buck Wildlife Management Area in Texas, 101 bowhunters launched 86 arrows and seriously wounded 11 deer without killing a single animal. The ratio of those struck, killed, and recovered to those hit but not recovered is alarming.

- A 1983 (unpublished) Minnesota study stated that for every 100 deer legally killed, 116 were lost.

- In a survey conducted at the Chincoteague National Wildlife Refuge, bowhunters averaged 15 arrows per kill and wounded 52% of the deer that were hit.

- Rob Wegner, author of **Deer & Deer Hunting, Book 3** cited observations from records by Deer Search, Inc., an organization that has leashed dogs to recover wounded deer for 14 years. Some of the observations are:

  - ✓ *4. Chest hits in which an arrow penetrates only one lung present very difficult tracking problems.*

  - ✓ *5. High lung shots are difficult to track even with a dog, especially if no exit wound exists. But this situation varies with the dog's abilities and experience…*

  - ✓ *7. Deer die from "peritonitis hits" in the lower intestines. Some of these deer take several days to die while other move about for only twenty-four hours after being hit…*

  - ✓ *13. Deer wounded with broadheads are much more difficult to trail with leashed dogs than deer hit with bullets, although this generalization greatly depends on the type of hit…*

- ✓ *15. The entire lung area does not necessarily represent a reliably lethal target zone for bowhunters. The fact that many of us have dropped deer quickly with broadhead {sic}* <u>*does not*</u> *alter this fact. More research on this topic would lead to better explanations and revisions.*

- Westcott's and Payton's **Investigations of Reliability of Self Reported Deer Wounding Rates and Bow Hunter Responses to Information on Wounding.** In this Michigan research project on bowhunting and bowhunter attitudes, it was found that archers released 9.1 arrows per deer killed, with hits that *tended to be scattered all over the deer.* (The wounding rate was 50%. Like Deer Search, Inc. and Benke's observations, this research <u>documents</u> the fact that many deer shot through the chest are wounded and lost. Most disturbing was the callous attitude in the rating of bowhunter satisfaction. Those who <u>wounded</u> animals rated the quality of their hunts far higher than those who missed or released no arrows at deer.)

- In Benke's book a letter written from bowhunter Fred Bear, a man whose reputation was epic, states: *I would guess that at the minimum, two deer are hit to get one. I personally know many bowhunters whose average is much worse…*

More often than not, poorly hit deer are lost.

And deer aren't the only casualties:

- A 1988 report to the Montana Department of Fish, Wildlife, and Parks indicated that of 2,370 bowhunters who hit an elk with an arrow, only 49% actually retrieved their prey.

The Reason for So Much Wounding and Crippling

The difficulty in shooting arrows accurately offers a partial explanation for the high wounding and crippling loss. Unlike bullets, which fly in a more like linear path, arrows loop. As Benke says: *they rainbow.* Whereas a gun hunter takes dead aim at an animal, an archer must estimate the distance from the target and adjust the shot to compensate for the rainbow trajectory of the arrow.

Animals commonly *jump the string* on hearing the release of the arrow—they reflexively move some distance before the arrow reaches them from wherever they were at the time of the shot. According to experts, animals can completely evade an arrow at a distance of 15 to less than 20 yards, which means they can also partially evade the arrow and become wounded.

Considering that bowhunters often shoot from tree stands or position themselves on sloped terrains, they become anxious when an animal is finally within range. This is known among bowhunters as "buck fever."

Archery proficiency testing revealed:

- Benke summarizes a study by D. Sage in **Archery** magazine: *At 35 yards he found, a mere 2 1/2 yard error in range estimation was enough to cause a complete miss on a deer size target.*

- In **Bowhunter 1991: Big Game**, the article "Make a Difference" describes a moose hunt at Eielson AFB, Alaska. All potential hunters were asked to pass both a written test and a shooting competency test. The shooting test required only that an acceptably competent bowhunter place at least three of four arrows in the unmarked heart/lung area, *over 30 inches in diameter*, on a life-sized moose figure at 30 yards. All participants passed the written test, but only 5 out of 54 passed the simple shooting competency portion of the test. This figure is less than 10 percent (9.25%).

- In another testing situation, only 12% of 500 bowhunters were able to hit a 12" target in at least three out of five shots at a distance of 25 yards. This statistic shows that 88% of hunters tested could not produce an accuracy rate of 60%.

- In another instance, a group of wildlife professionals assembled a report protesting the use of drug-tipped arrows. Through their study, they were exposed to a number of bowhunting education courses and *observed only a small percentage (approximately 15%) of archers who have passed the shooting exercise. Passing this exercise (3 out of 5 arrows in the kill area of a deer target at 10-25 yards) is not required to complete the (IBEP) course.* This, 85% of the archers tested could not hit the vital area from a distance of 10 to 25 yards, 60% of the time.

When it comes to the real thing, where stress and terrain factors are present, the results are atrocious.

What Happens to the Animals?

Bowhunters contend that although crippling is undesirable, most wounded animals do not die agonizing deaths, but can quickly recover. They feel that the broadhead arrow inflicts clean wounds that heal quickly.

Bowhunters also like to suggest that a broadhead arrow is an efficient killing tool, with brand names such as the Ripper, Penetrator, and Terminator Doublecut.

"The exciting Warhead starts with its bone shattering Tri-Cut Tip … that explodes flesh and bone away so the three surgically sharp stainless blades can open a larger, more lethal entrance/exit hole." (From manufacturer's catalog)

The pretense seems to be that somehow animals develop hemophilia the instant they are struck; thus, they bleed to death: *Stop all body functions with incredible speed—within 30 seconds in most cases,* according to **The Complete Book of Bowhunting**.

Contrary to these claims, most crippled animals do not recover from their wounds; rather, they routinely contract peritonitis or a septic infection. Broadheads do not inflict clean wounds; they generally inflict dirty wounds. <u>The main cause of infection, according to Benke, is today's multi-bladed broadhead.</u> As these arrows penetrate an animal's body, numerous hairs are clipped, often caught in the slots of the arrow blades, and distributed throughout the wound channel. The external wound opening then becomes sealed due to clotting and dried blood-matted hair. The bacteria from the clipped hairs begin multiplying in the wound. The amount of bacterial infection emanating from the wound depends on the wound location. The animal's general health is also an important factor affecting the time period it takes for the animal to finally die.

Death eventually results one to two agonizing weeks later.

In order for an animal to bleed to death, its blood-clotting system must be overwhelmed. To overwhelm this system, the broadhead must penetrate the heart or sever one or more major blood vessels. If these are not lacerated, an animal cannot bleed to death—the body's natural blood-clotting system sees to that.

Benke estimates that 20% to 30% of deer struck by arrows die from hemorrhaging and that 10% sustain wounds that probably heal, leaving 60% to 65% of the deer to die from infections.

Benke asserts: *the average time in which broadheads cause death must be measured in weeks or days rather than in seconds, minutes, or even hours.*

Sadly, it is not only the crippled animals who suffer, but those hit and retrieved successfully as well. According to experts *clean* kills are a rarity. While the deer who are hit and retrieved successfully are not fortunate, they fare better than those who have been wounded and left to suffer.

A comment from an experienced bowhunter who writes in **Fins & Feathers** magazine (March 1987) assumes that the elapsed time between the initial wounding of an animal and the animal's final death is exceedingly long—even if the hit occurs in *vital* (heart or lung) areas.

The rule of thumb for bowhunters has long been that they should wait 30 to 45 minutes on heart and lung hits, an hour or more on a suspected liver hit, 8 to12 hours on paunch hits, and follow immediately on hindquarter and other muscle-only hits to keep the wound open and bleeding.

Bowhunting literature serves as its own indictment. The book **Bowhunting for White-tails** says: *It's important to give them (the deer) time to stiffen and die - 20 minutes at a minimum, 30 minutes even better... just hang back and have a smoke.*

There is absolutely no sure way to kill a deer instantly with a bow!

The broadhead arrow is notorious for its inherent inefficiency and singular capacity to cripple, wound, inflict pain, and prolong the suffering of animals.

All 50 states have banned the .22 caliber rifle for big-game hunting because of its inadequate killing power. Given that .22 rifles are far superior to compound bows in terms of killing capability, one can infer that states have failed to institute and implement responsible and consistent hunting regulations.

A Veterinarian's Perspective on Bowhunting

According to Steve Nusbaum MA, DVM, if the damage to the vital area is less than severe, and if an arrow nicks an auricle rather than cuts through both ventricles, the blessing of shock-induced analgesia (a deadening or absence of the sense of pain without loss of consciousness) to set in can take a long time.

Consider the physiology of the deer who dies by suffocation, choking on its own blood, or the deer who dies after an arrow penetrates the diaphragm. The presence of a highly sophisticated nervous system in deer certainly suggests that their nervous systems perform the same functions as human nervous systems. The presence of the same neurochemicals in deer as in humans similarly shows that they feel pain as we do.

In recent years there has been a major shift in the way the scientific community understands the mental life of animals, particularly mammals. Presently, researchers in a variety of animal-related disciplines generally agree that in addition to being sentient, mammals are consciously aware and have feelings and emotions; even though they are more rudimentary than those of humans.

Mammals, including deer, are presently understood by scientists to have the capacity to think. Numerous studies indicate that the mental harm that is done to an animal placed in a stressful situation may be more injurious than that done to a person in a similar situation because the animal's mind, in varying degrees, focuses more on the immediate than the distant. Thus, an animal, unlike a person, is less aware that the present anxiety it is experiencing may be temporary.

Not only does bowhunting cause real physical pain and suffering, the deer's mental suffering is just as real, and in its own way, may be just as painful.

Bowhunting as a Deer Management Tool

The use of bowhunting as a method to control deer population densities is ineffective:

- In a February 1988 report on bowhunting at Rock Cut State Park in Illinois, Department of Conservation biologist Tom Beissel, states: …*this report recognizes that bowhunting has never been an effective tool for deer control…*

- In Texas, which has more deer than any other state, Parks and Wildlife biologist Horace Gore comments: *You cannot call bowhunting a population control measure, it is a recreational pursuit.* In fact, he adds: *We do not advocate bowhunting when the objective is controlling the population.*

- According to John Parker, Area Wildlife Manager for the Minnesota Department of Natural Resources, only 3 deer were killed from the 29 bow permits issued in the 1989 bow hunt in the Minnesota River Valley Area.

- Larry Gillette, Wildlife Biologist for Hennepin Parks, acknowledges that bowhunters fail to retrieve a substantial number of deer they shoot and does not advise the use of archery hunting to control deer populations.

- The Eagan City Council decided in 1993 not to allow bowhunting. This was largely due to FATE's (Friends of Animals and Their Environment) efforts. An article in **Bowhunter's Hotline** (Sept. 1993) regarding Eagan's decision reported that the Mayor of Eagan had supported bowhunting in the past; however, his mind was changed about the sport due to the information provided by FATE. The Mayor of Eagan, Tom Egan was quoted in the article as saying: *FATE provided me with a lot of valuable information, and I have always supported bowhunting, but I no longer feel the rationale that it's an efficient management tool outweighs the safety and cruelty aspects.* Also, the Mayor was reported as saying: *I think if we set loose every bowhunter in Eagan, we still wouldn't reduce the deer population, and the city would be less safe.* He added: *It isn't feasible for every bowhunter to shoot and retrieve five deer. They might each shoot and wound five, but not shoot and recover five.*

The above listed items clearly show the inefficiencies and ineffectiveness of bowhunting as a population control method and deer management tool.

The Inescapable Conclusion

Those who indulge in the antiquated bow-and-arrow type of hunting knowingly commit each living creature they hit to lingering agony, and this is true whether the wound is eventually fatal or not. These animals endure prolong suffering before they collapse and die.

As this report has shown, the following facts about bowhunting are inescapable:

- Bowhunting is inhumane and wasteful.
- Bowhunters do not want to talk about the wounding issue and archery wounding is the most denied problem in bowhunting.
- Wounding and crippling losses are inevitable.
- Shot placement is, for all practical purposes, random due to the difficulty in shooting arrows accurately. There is absolutely no sure way to kill a deer instantly with a bow
- More often than not, poorly hit deer are lost and not recovered.
- The main cause of infection in the wound is today's multi-bladed broadhead arrow
- Almost all abdominally shot deer die a slow death from peritonitis with the average time of death measured in agonizing days or weeks rather than in minutes or hours.
- The use of bowhunting as a method to control deer population densities is ineffective. Bowhunting is not a population control measure; it is a recreational pursuit.

Humans are provided with the capacity to imagine for a variety of reasons. And we have the capacity to imagine empathetically for a singular reason—we can appreciate the pain of others without experiencing it firsthand. Balancing the needs of humans and animals is a difficult and complex task. If communities decide that deer herds must be managed, it is reprehensible to reduce the taking of animal life to a recreational activity for bowhunting enthusiasts. Instead, a truly humane solution must be found—whether that solution is to hire professional sharpshooters to observe the herd, taking the old and infirm, or to implement an immunocontraception program for the herd.

About the Author: This report was compiled by Linda Hatfield, a Minneapolis resident and current Executive Director of HOWL (Help Our Wolves Live). She has extensive experience with wildlife and wildlife issues, including working with the University of Minnesota Wildlife Rehabilitation Center and most recently The Raptor Center to rescue and release birds of prey, working with FATE (Friends of Animals and Their Environment) on hunting and deer management issues, and as a former lobbyist on wildlife issues with the Minnesota Legislature. She has testified about deer management issues and other wildlife issues in many communities and has served on many citizens' task forces.

Bowhunting Studies

1. In an unpublished report for the Minnesota Department of Natural Resources, Landwehr, T. J. (1983), surveyed 3,909 Minnesota bowhunters in 1982. The data from this study indicates a wounding rate of 53% in Minnesota. The study goes on to find that at a state-wide level nearly 6,500 Minnesota deer were shot by arrows and never retrieved in 1982.

2. Minnesota Department of Natural Resources Quarterly Progress Report from St. Croix, Jan. 15, 1947, 191 bowhunters killed 24 deer and left 6 carcasses. Wounding rate was 50% (61 shots per kill).

3. Minnesota Department of Natural Resources Quarterly Progress Report from St. Croix, Red Lake, and Cloquet, Jan. 15, 1948. St. Croix – 293 bowhunter killed only three deer out of a population of 500-600. Red Lake – 83 archers killed one deer and wounded another. Cloquet – 27 archers – no deer killed.

4. Minnesota Department of Natural Resources Quarterly Progress Report from Camp Ripley, Oct. 15, 1954, archers killed 43 deer. A large number of deer were reported as wounded by archers.

5. Minnesota Department of Natural Resources Quarterly Progress Report from Camp Ripley, Jan. 15, 1957, archers killed 96 deer. 30 deer were reported wounded.

6. Minnesota Department of Natural Resources Quarterly Progress Report from Camp Ripley, July 15, 1959, 11,086 archers killed 403 deer, 59.1% wounding rate. In questionnaires bowhunters reported firing 2,550 shots to kill 126 deer (40.9%) and wound 182 (59.1%). An average of 20.2 arrows was fired per kill.

7. Minnesota Department of Natural Resources Summaries of Wildlife Research Findings 1991, edited by Blair Joselyn, Camp Ripley Preliminary Results.
<u>1st Hunt</u> – Oct. 19th, 1,626 hunters, Oct. 20th 1,376 hunters: Hunters killed 119 deer. Hunters reported wounding and not retrieving 40 deer.
<u>2nd Hunt</u> – delayed until Nov. 30th, 591 hunters, Dec. 1st, 562 hunters: Hunters killed 100 deer. 12 reports of wounded deer.

8. A major study in Texas by Boydston, G.A. and Gore, H.G., (1987) collected data from 3,568 hunters over a thirteen year time period. The authors found a wounding rate of over 50% and found that more than 21 shots were needed per kill. The authors state that these numbers are conservative due to the fact that they are based on bowhunter reported surveys. This study concluded that shot placement is for all practical purposes random, that wounds clot quickly leaving poor blood trails, that poorly hit deer, more often than not, are lost, and that almost all abdominally shot deer die a slow death due to peritonitis.

9. A study by Aho, R.W. (1984) for the Michigan Department of Natural Resources indicates that bowhunting results in a 58% wounding rate.

10. Causey, M.K., Kennamer, J.E., Logan, J. and Chapman, J.I., (1978) indicated that bowhunting in both Alabama and South Carolina results in a 50% wounding rate.

11. In a survey of Georgia bowhunters, Croft, R.L. (1963), found wounding rates over 78%.

12. A study by Downing, R.L., (1972) found crippling rates of 50%. Crippling rate refers to unretrieved mortally wounded deer in Georgia.

13. Garland, L.E., (1972) indicates that bowhunting in Vermont has resulted in a wounding rate of 63%.

14. Gladfelter, H.L., Kiensler, J.M. and Koehler, K.J. (1983) found wounding rates of 49% for bowhunting in Iowa.

15. In a survey of archery hunters, Hansen, L.P. and Olson, G.S. (1989) found a wounding rate of 52% for Missouri.

16. Harron, J.S.C. (1984) found a 56% wounding rate for Wisconsin, as a three-year average.

17. Jackson, R.M., and Anderson R.K. (1982) determined wounding rates at 44% for Wisconsin.

18. Langenau, E.E. and Aho, R.W., (1983) found wounding rates of 55%, and 13.25 shots needed per kill in several Midwestern states.

19. In a study of South Dakota bowhunting, McPhillips, K.B. (1983) and McPhillips, K.B., Linder, R.L. and Wentz, W.A. (1985) determined wounding rates to be between 48% and 56%, and number of shots per kill to be 13.8.

20. In a study for the Missouri Department of Conservation, Sheriff, S., Haroldson, K., and Giessman, N. (1983) found wounding rates of 50%.

21. Stomer, F.A., Kirkpatrick. C.M., and Hoekstra, T.W. (1979) found wounding rates of 58% in Indiana.

22. Westcott, G. and Peyton, R.B. (1986) report wounding rates of 50% for Michigan.