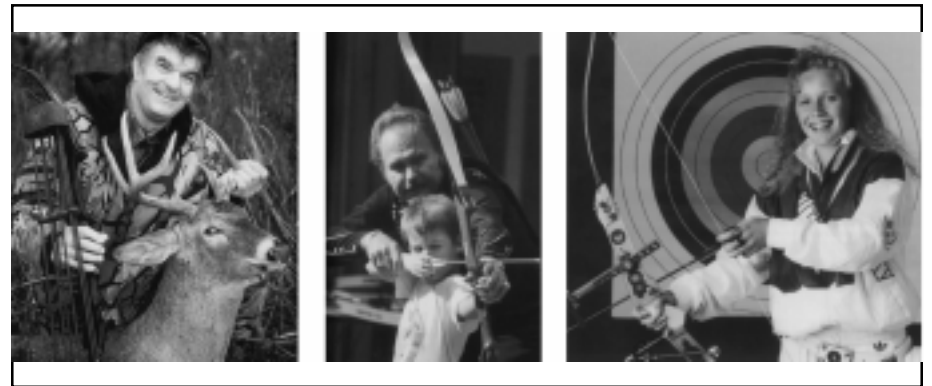


the facts about

bow hunting & target archery



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**Archery Manufacturers and
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the facts about

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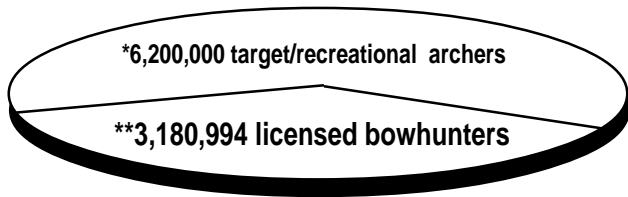
Popular And Growing Recreation

BOWHUNTERS & TARGET ARCHERS

Bowhunting is the fastest growing form of hunting in all fifty states, according to the Wall Street Journal. In 1997, the latest year for which statistics are available, the number of bowhunting licenses sold in the United States topped 3 million. This represents an 11% increase in license sales over 1995.

Practically speaking, bowhunting is a major archery activity in the United States.

9,300,000 total archers in U.S.

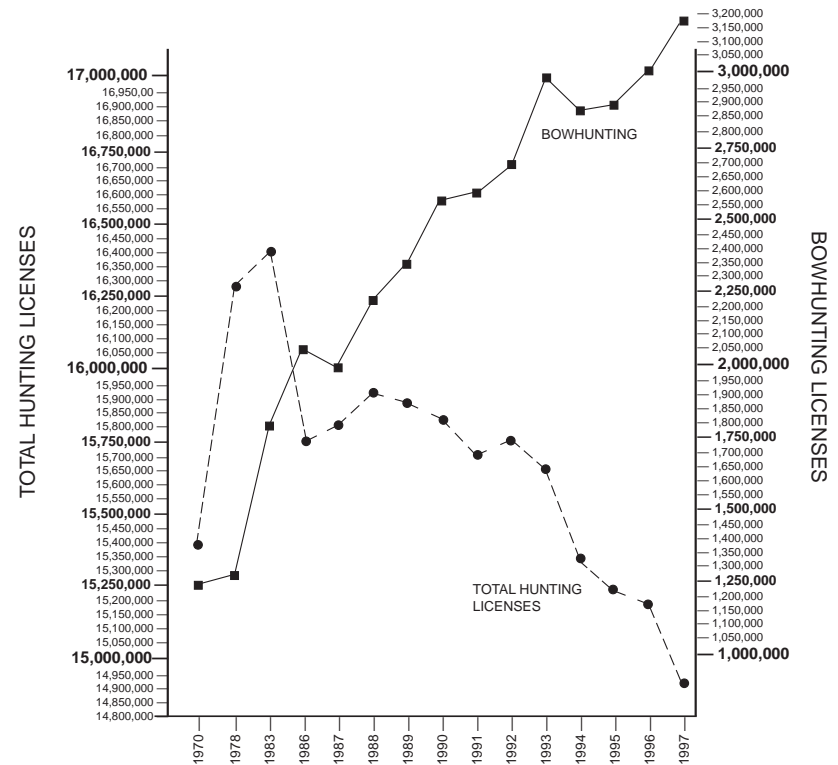


Strong Growth Trend:

- The number of archers is increasing 5-8% a year from 1988-1997.
- Bowhunting license sales have increased in 42 states, with 19 states reporting 30% or greater growth in bowhunting license sales since 1988.

The growth of bowhunting is even more impressive when considered against the backdrop of hunting in general. Over the same period, the number of overall hunters has been flat to declining, with 19 states reporting increases and 31 states reporting decreases.

It is important to note that the actual number of hunters is actually higher than the number of licenses sold in a single year. An individual hunter may not have the opportunity to hunt in a given year for economic or personal reasons but will certainly hunt in the future. License sales also do not reflect senior citizens, the disabled, military service personnel or those who hunt on private land. Given these factors, the National Shooting Sports Foundation estimates that there are actually 19 million hunters in the United States today.



*Source National Sporting Goods Association, 1996 Survey,
 **Source ARCHERY BUSINESS-State and Provincial Game Departments and/or bowhunting associations contacted directly for this survey. Figures from some western states indicate total archery permits sold for all species. Some agencies have no method of accounting for bowhunters and numbers are their estimates.

anchorpoint

Over 9 million adults participate in some form of archery annually. Bowhunting accounts for nearly 3.2 million. Bowhunting and other forms of archery are becoming more popular every year.

Demographics

Profile of a Typical Bowhunter

Sex: Male

Bowhunting is predominantly a man's sport. 95% of the participants are male, as compared to 93% male for gun hunters. This may be partly due to the greater physical strength required to use a hunting bow. However, while today's bowhunters are almost all men, the number of women participating in archery and gun hunting is growing at a phenomenal rate.

Of the U.S. population 16 years and older, 13% of the males, and 1% of the females enjoyed hunting in 1996. Of the 14 million participants who hunted in 1996, 91% were male and 9% were female.

- 4.9% increase in women's participation in gun hunting from 1985 to 1996.
- Archery is among the fastest growing sports among American women, increasing 129% from 1989 to 1993.
- Archery has been designated an "emerging sport" for women by the NCAA, encouraging even greater participation at the college level.

Average Age: 35.9 years old

Approximately 79.8% of bowhunters are between the ages of 25 and 54, younger than average age of all hunters which is 42.6 years. However, the average age of a beginning bowhunter is 21.7, and the rate of increase among younger hunters bodes well for the future of the sport.

Percentage of U.S. Population who hunted by age in 1996:

- 16 to 17 9%
- 18-24 7%
- 25-34 8%
- 35-44 9%
- 45-54 8%
- 55-64 6%
- 65+ 3%

Hunting Experience: 14.2 years

Surveyed bowhunters said they hunted big game for 24.8 days in 1996, and have on average 14.2 years experience bowhunting. 58.5% said they either learned on their own, or through a friend. 79.5% said they hunted with a firearm prior to starting bowhunting.

Technology Driven

49.9% of all hunters owned a personal home computer in 1997.

Marital Status: Married

Three-quarters of bowhunters are married, with an average household of three or more people.

Education: 60% have at least some college

Compared to the US population as a whole, bowhunters in general are well-educated with a total of 60% of at least some college education

- 41% have completed 12 years of school with no additional education (30% US population).
- 60% have at least some college, with 22% having a degree or advanced degree. (25.6% US population.)

Income & Employment: \$41,776+ average

Most bowhunters are employed full-time in professional, managerial or technical positions. Compared to the US population as a whole, they are affluent, with an average household income of \$41,776.

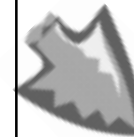
- 73% of bowhunting households earn more than the US median income of \$30,000 a year, while nearly 40% earn more than \$50,000 per year

Archery Participation: 31% active archers

Bowhunters are also active in other forms of bow and arrow sports

- 18.7% active in target/field archery
- 17.3% 3-D shoots
- 10.3% Bowhunting club member
- 7.2% Indoor/outdoor archery league

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A typical bowhunter is a man in his mid-thirties to early forties and is well educated, and is an experienced hunter. He is married, works full-time and earns a higher than average wage.

Behavior

The Complete Sportsman

OTHER ACTIVITIES

The bowhunter is an avid outdoorsman. When he is not bowhunting, he may hunt with a gun, fish or even go bowfishing. Various forms of target archery are also popular.

Among the many other activities you are likely to find a bowhunter participating in are boating, camping, swimming, photography, hiking, biking, golf, traps & skeet and jogging.

EDUCATION AND MEMBERSHIP AFFILIATIONS

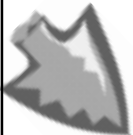
Studies find many bowhunters favor standardized bowhunter education. Since its creation in 1979, The National Bowhunter Education Foundation has educated over 500,000 bowhunters in ethics, treestand safety, shot placement, etc. Now offered in all 50 states, 10 Canadian provinces, Mexico, and 17 countries in Europe and Africa, their program reaches 75,000 bowhunting students annually.

According to NBEF studies, graduates of a standardized bowhunting course are more accurate and spend a greater amount of time in the field than non-graduates.

- Graduates average a 25% success rate over a two-year period, compared to 11.4% for non-graduates.
- Graduates spend 16-20 days bowhunting per year, compared to 11-15 days for non-graduates.
- Over one-third of active bowhunters have completed a bowhunter education course.

One quarter of bowhunters are involved in a bowhunting organization. These groups provide not only a social network for bowhunters, but the opportunity to learn and develop better archery skills.

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The typical bowhunter is a "multi-season hunter" who hunts with both gun and bow. He spends 28 days in hunting and preparation. He spends generously on equipment, and participates in other forms of archery and other outdoor activities as a member of a bowhunting club or league.

The Multi-Season Hunter

Nationally, over 80% of bowhunters hunted with firearms in addition to the bow in the past 2 years. This shows that hunters are all-around outdoorsmen, who seek to maximize their time in the woods with whatever activities are available to them at the time. Multi-Season bowhunters are active in all types of hunting, and spend on average 25 days in the field per year. According to a magazine survey:

of 100% who hunt big game:

- 83.3% hunt whitetail deer
- 9% hunt bear
- 5.5% hunt elk
- 2.7% hunt mule deer

While big game is by far the most popular activity among bowhunters, small game is also pursued by a significant number.

- Small game is hunted for 1.3 days per year
- Turkey is hunted for 2 days per year

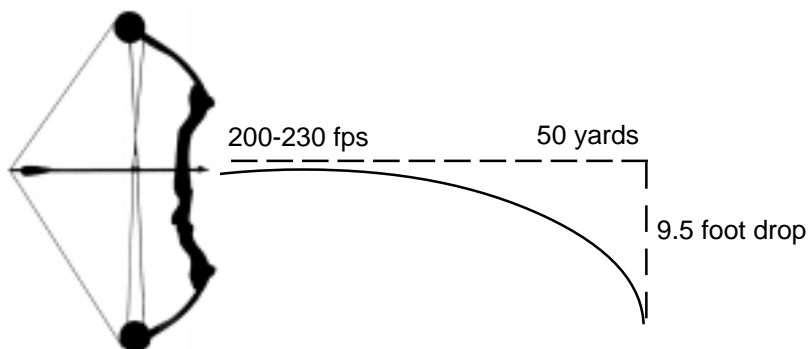
Experience

A survey of "active" archers (those who subscribe to an archery magazine or have bought archery equipment in the last year) found that over 30% had more than three years experience bowhunting and 53% had ten or more years experience. Bowhunters also report that 50% have increased their bowhunting activity in the last five years.

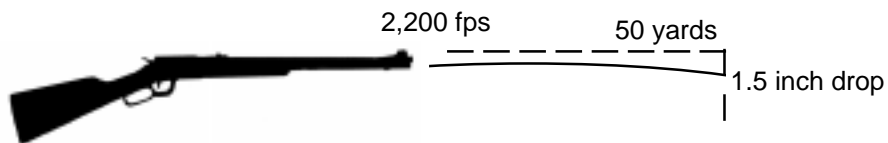
This would seem to show that once a person gets hooked on bowhunting, they stay hooked. It stands to reason that as the bowhunter's years of experience grow, so does his skill and, subsequently, his success and pleasure in the sport.

BOW SPEED AND RANGE

The majority of bowhunters use a compound bow. A compound bow uses wheels or cams to reduce the draw weight of the bow at full draw. And, while new materials and designs have increased arrow speeds over the years, arrow speeds do not begin to compare to bullets.



- The average compound bow shoots an arrow 200 to 230 feet per second at AMO Standards (540 grain arrow at 60# at 30")
- In comparison, a 30-30 caliber rifle shoots a bullet 2,200 feet per second.



Another important difference between archery equipment and firearms is the trajectory of flight. While a shot arrow may appear to fly on straight line, it follows a distinctly rounded trajectory. A bullet flies on a much flatter course. The trajectory of the arrow limits the range of the bow and its accuracy to a distance of approximately 50-60 yards.

- A 540-grain arrow shot at 200 feet per second drops 9.5 feet at 50 yards.
- A 170-grain 30-30 caliber rifle bullet drops 1.5 inches in 50 yards.

Technique

Over 75% of bowhunters use a tree stand. (91% of all hunters use a tree stand at least occasionally.) The tree stand helps the bowhunter get within shooting range of game by placing him above the animal's line of sight. Bowhunters often wear camouflage clothing to reduce their visibility even more. Scent covering products may also be employed.

Bowhunting Activity

The bowhunter spends significantly more time in the field and in preparation than the average gun hunter. There are two probable reasons for this. First, bowhunting is a close-range hunting activity; factors such as tree stand placement are critical to success, as well as more time scouting and studying patterns of game behavior before the season begins.

Secondly, shooting a bow accurately requires practice and fine-tuning of the equipment. And, with the advent of 3-D archery tournaments, this practice has become a fun, competitive activity that is enjoyed in and of itself.

- The average archer spends 24.8 days involved in bowhunting in some way, as compared to 14 days average for all hunters
- To prepare for their bowhunting experience, they annually make 3.6 trips to a public range, and 11.7 trips to a private range to practice and set up their equipment
- The active archer spends twice as much time preparing to bowhunt as he does in actual bowhunting. Firearms hunters spend a greater percentage of their time in actual hunting.
- The average bowhunting trip is five days.

Equipment: Bowhunters Are Well Equipped

Bowhunters constantly invest in their equipment, often upgrading from season to season. On average, each bowhunter owns:

<u>ITEM</u>	<u>QTY</u>
- Bows	4.0
- Aluminum arrows	35.3
- Graphite/carbon arrows	18.4
- Arrow rests	3.7
- Pieces of camo clothing	6.1
- Treestands/Climbing Gear	3.5
- Pair boots	3.7

While most archers today own and use compound bows, in recent years, there has also been a resurgence of interest in the more primitive bows, such as recurves and longbows. The number of archers in the field with these bows still does not approach the number of compound bow shooters, but the primitive weapons continue to appeal to the imagination of the modern bowhunter. While bowhunters favor compound bows by a wide margin, they also hunt with different types of equipment dependent upon local regulations

- 76% Compound
- 6% Recurve
- 4.3% crossbow
- 2.1% longbow

ARROWS

Aluminum arrows are the choice of 95% of archers. Other arrow materials, such as carbon or wood, are used by 5% of archers.

BROADHEADS

The typical broadhead is equipped with 3 to 4 blades, which may be removable or permanently attached. The bowhunter must maintain the blades in razor-sharp condition to ensure a quick, clean kill.

QUIVER

A device for carrying arrows that can be mounted on the bow or worn on the belt and protects the arrows and the archer. Used by over 95% of archers.

BOWSIGHT

Approximately 60% of archers use a bowsight. Archers who do not use a sight are called “instinctive” shooters. In addition to the bowsight, some archers use a “peep sight” mounted on the bowstring.

STABILIZER

Used by 25% of bowhunters, a stabilizer is a weight that mounts on the front of the bow and absorbs the shock of the bowstring upon release, thereby improving accuracy.

OVERDRAW

An overdraw is a relatively new piece of archery equipment that allows the bowhunter to shoot a shorter arrow, thereby increasing arrow speed. An overdraw mounts on the bow handle and allows the arrow rest to be placed one to three inches in back of the bow handle. Because of safety concerns, some states limit the amount of overdraw extension permitted. Overdraws are used by approximately 16% of bowhunters.

RELEASE AID

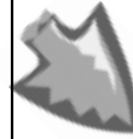
A release aid protects the archer’s fingers and reduces friction at the point of release. Some are simple coverings for the fingers that reduce friction and make shooting more comfortable for the archer. There are also release aids of more elaborate design that hold the bowstring on a steel pin and release the string by pushing a button. Release aids are used by nearly half of all archers.

OTHER ACCESSORIES

Many archers own a number of other accessories that enhance the convenience and enjoyment of bowhunting. Other bowhunting accessories might include:

- Treestand
- Fletching Tools
- Armguards
- Bowcase
- Scents
- Binoculars
- Knives and cutting tools

anchorpoint



Bowhunting is most popular in the north-central/northeast regions of the U. S. Bowhunters hunt various species of game throughout the season, practice relatively often, and own several types of bows and accessories. Compared to rifles, bows have limited range and speed, requiring closer contact with game, greatly increasing the thrill of bowhunting.

Attitudes

An Examination of Bowhunter Beliefs

WHY GET STARTED

Challenge

Challenging way to hunt” or “requires more skill” consistently top the list of reasons why people take up bowhunting. Even hunters who hunt exclusively with a gun acknowledge that hunting with a bow requires more skill. Some bowhunters say that hunting with a gun had “gotten too easy.”

Opportunity

The second most cited reason is that bowhunting expands the opportunity to hunt or simply to be in the woods. Along these same lines, many bowhunters feel that the bow season offers a better opportunity to enjoy the pleasures of nature because the woods are less crowded and the seasons fall at a more pleasant time of year.

Solitude

Another common thread running through descriptions of bowhunting is peace and solitude. Many hunters feel it is a more private experience. Because there are fewer participants, the woods are less crowded and hunters feel less pressure for success.

Gun hunters And Bowhunters: Commonalities and Differences

Hunters of all types have in common a love of the outdoors. “Outdoors” and “being in the woods” consistently appear as the major appeal of any form of hunting. However, there are differences in the way the two forms of hunting are conducted and the pleasures associated with each. Gun hunting is more likely to take place in groups. For this reason, “companionship” is often cited as an attraction. Related to this, there is the element of “competition” between hunters. Also, gun hunters have a greater expectation for bagging a deer.

Bowhunters, by contrast, tend to hunt alone. They enjoy the personal challenge of developing good bowhunting skills, but are less likely to view this as a competition with other hunters. And, bowhunters are less concerned with whether or not they are successful in taking game. They are satisfied by simply seeing game and getting a shot, even if they are not successful. The experience of being in the woods is their primary reward.

In general, gun hunters admire bowhunters. In surveys, words used by gun hunters to describe bowhunters include:

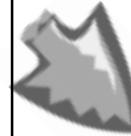
- dedicated
- woodsman
- patient
- sportsman
- skillful
- willing to practice

Negative Attitudes Towards Bowhunting: While many view the challenge of bowhunting in a positive light, for some it is simply too daunting. And, while the peace and solitude of the bow season appeals to some, it is merely isolation for others. Reasons given for not bowhunting include:

- requires too much physical strength
- too solitary
- requires too much patience
- requires more knowledge of quarry to be successful

Of course, 80% of bowhunters also hunt during gun season and so are able to enjoy the unique pleasures of both worlds.

anchorpoint



Most bowhunters are already hunting with a gun when they take up the bow. They are initially attracted to the sport because it promises a greater challenge than hunting with a gun. “More time in the woods” is a close second in listing the attractions of bowhunting. And, compared to gun hunting, bowhunting is considered more peaceful and relaxing.

“States” of Bowhunting

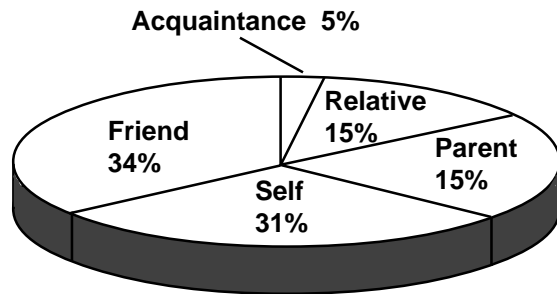
Seasons and Restrictions

Hunting is a family tradition. Many hunters learned their skills from their fathers. In addition, hunting is a rite of passage into adulthood for many youngsters. Bowhunting, however, is less closely associated with the family.

- 34% of bowhunters started because of a friend’s or co-worker’s influence.
- 15% started because of a parent or other family member.

Perhaps the more recent emergence of bowhunting explains this difference. It is highly likely, however, that today’s generation of bowhunters will pass on the sport to their children, creating a new family tradition.

Who Gets Bowhunters Started?



Once a person has been introduced to archery, the presence of a friend or peer support group in the first three years is critical to their continued participation. Without a teacher it is very difficult for the new archer to acquire sufficient skills and confidence to be successful at bowhunting.

This highlights the important role local bowhunting clubs and archery leagues can play in recruiting and retaining new participants. The development of 3-D archery tournaments has certainly helped new archers in learning the shooting and hunting skills that are needed for success in the field.

A State By State Sampling

Seasons and restrictions of various kinds are established by State Fish and Game Departments for the purpose of maintaining and managing the number of big game animals. In addition, as a valuable resource, big game must be allocated between the different types of hunting.

Bowhunting seasons are generally twice as long as gun seasons. This is because the harvest rate, or success rate, for bowhunters is much lower than for guns.

Bowhunting seasons typically start in September or early October. In many states the bow season is split into two parts with a gun-only season in the middle.

- Seasons vary from 17 days to 124 days.
- The average bowhunting season is 70 days long.

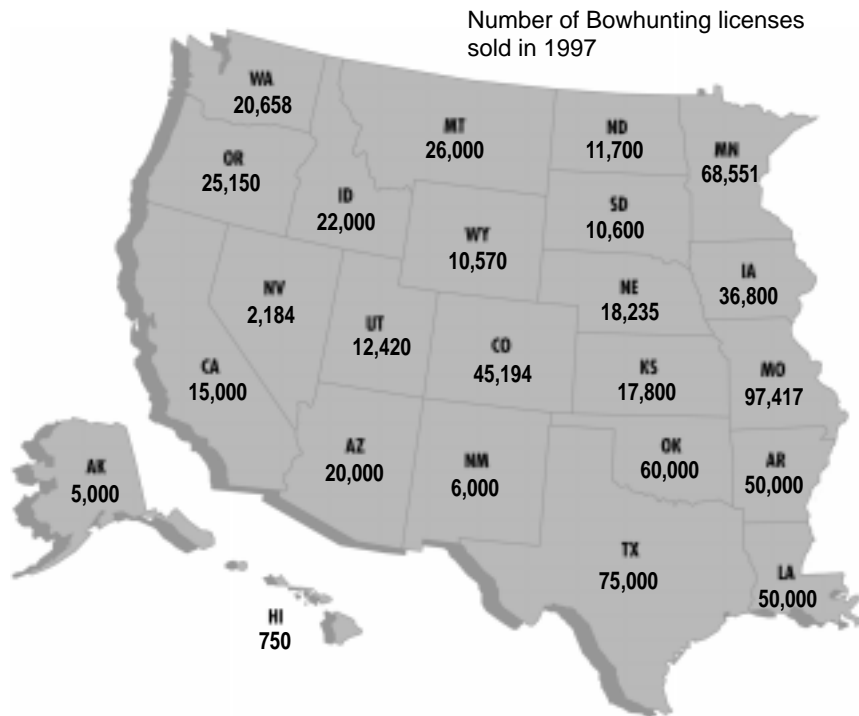
Some states are considering the implementation of “either/or” restrictions which would force hunters to choose between gun and bow seasons. Since most bowhunters also hunt with a firearm, this restriction is extremely unpopular with bowhunters.



Where They Hunt

Active bowhunters can travel over 350 miles annually in pursuit of their sport. 35% use a trailer or camper. 14% use a guide or outfitter. However, one of the benefits of bowhunting is that it can often be pursued close to home. Because of the comparatively short range of a bow, it is suitable to smaller tracts of land and areas where there may be populations nearby.

- 62% of bowhunters hunt in their home state.
- Over 82% hunt on private land.



Geography: Rural areas, North East/Central U.S.

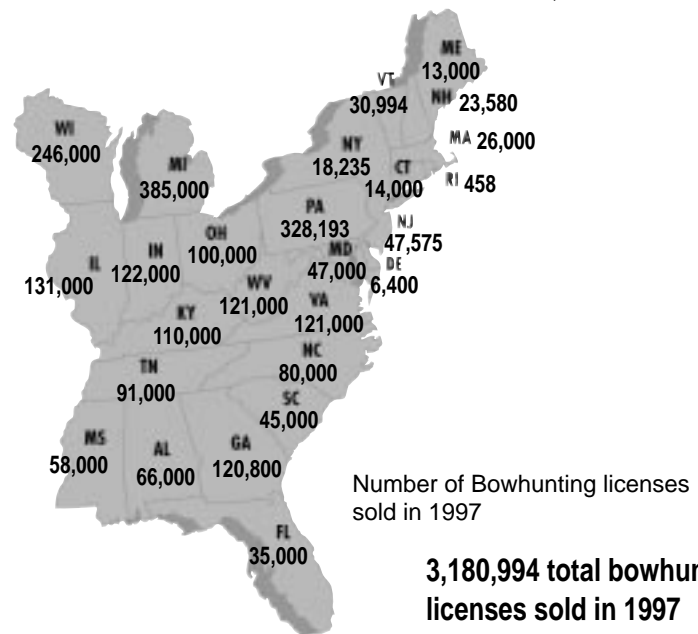
As would be expected, bowhunters tend to live in less populated areas. Since all forms of hunting take place in wilderness areas, it is not surprising that hunters are more likely to come from small towns and rural areas.

- 35% of bowhunters live in small towns and 38% live in rural areas.
- 12% live in cities and 15% live in suburbs..

Top 10 states in bowhunting license sales in 1997:

- The top 10 bowhunting states account for 58% of United States bowhunting license sales.

Rank	State	Lic. Sold
1.	Michigan	385,000
2.	Pennsylvania	328,193
3.	Wisconsin	246,000
4.	New York	170,000
5.	Illinois	131,000
6.	Indiana	122,000
7.	West Virginia	121,000
8.	Georgia	120,000
9.	Kentucky	110,000
10.	Ohio	100,000



The North East/Central region of the US has the most bowhunters by far. In fact, the states of Pennsylvania and Michigan have more bowhunters (713,193) than all of the states west of the Mississippi River (698,728). Several states in the South East and South Central also claim large numbers of bowhunters.

In many of the top bowhunting states, seasons are generous. Bowhunting is not allowed during gun season in 13 states. Bowhunting is the only form of hunting allowed in Rhode Island. Here is a sampling of 1998 bowhunting deer seasons:

- **Michigan:** October 1 -January 1
- **Pennsylvania:** October 4 - November 15 and December 26 - January 10
- **Georgia:** September 19 - October 23
- **New Jersey:** three seasons with various permits: September 12-October 30, October 31-December 31, January 1-30

Bag Limits:

Bag limits are set by fish and game departments for the purpose of controlling the herd size. Because archers in general have lower success rates than gun hunters, they enjoy more liberal bag limits. For whitetail deer, many states limit archers to one or two deer of either sex. However, in states such as Alabama bowhunters may take a deer a day (of either sex) over the 100+ day season. In more populous states such as New Jersey where deer herds have grown to nuisance proportions, hunters are being encouraged to take more female deer to help control deer populations.

Equipment Restrictions

States' restrictions on archery equipment are designed to maintain the essential "primitive" character of the sport while ensuring a humane and clean kill of game. Individual state wildlife agencies determine what bowhunting equipment is allowed and what is prohibited or restricted. It's always best to check local equipment regulations with the state agency prior to bowhunting in that state.

Common restrictions include:

Bow weight: Many states specify a minimum bow draw-weight of 40 pounds. The state of Virginia specifies a hunting bow must be capable of casting a broadhead arrow a minimum of 125 yards.

Full-draw holding devices: A full-draw holding device locks the bow into the "full draw" position until it is released by a trigger mechanism. This is not to be confused with a release aid, which is legal in most states, although restricted in some. Several states prohibit full-draw holding devices, while others allow them strictly for handicapped bowhunters.

Broadheads: A minimum broadhead diameter of 7/8" is required in many states. Many states also prohibit barbed or serrated broadheads. Poison-tipped and exploding arrows are expressly banned in most states. Many states also specify that broadheads must have at least 2 cutting surfaces.

Arrow weight and length: Minimum arrow weight of 100 grains and length of 24 to 28 inches are specified in many states.

Sights: Magnifying, light-projecting or laser sights (which project a spot of light on to the target) are prohibited in most states for bowhunting. Lighted sight pins are allowed in most states.

Crossbows: Crossbows are illegal during archery season in several states. They are legal for use by handicapped hunters in about half the states. They are legal during regular bowhunting season in 16 states. In other states they are legal only during the firearms season.

Other Techniques:

Hunting over bait is legal in 17 states and three Canadian provinces. It was recently made illegal in Minnesota and Missouri. Bait and hunting with dogs is a technique more associated with bear hunting. Hunting over bait has become controversial in recent years. A survey of Michigan bowhunters found that a majority would give up the right to hunt over bait if it would help preserve the future of the sport.

Safety Restrictions:

Florescent orange is required during firearms season in some states that permit archery hunting during that time. In general, however, because archery is a close-range sport there is less potential for shooting another hunter with an arrow. Thus, safety orange is not generally required during bow season. Further, because of the need for stealth in bowhunting, safety orange requirements are opposed by the vast majority of bowhunters.

Bowhunter Education:

Some states have mandatory hunter education and bowhunter education may be included in this. In North Dakota, a specific course in bowhunter education must be completed to purchase a bowhunting license.

License fees:

A license is required to hunt on public and private land in most states. Ten states do not require a special separate license for bowhunting. Bowhunting license fees for instate hunters range from \$13.00 (MI & MT) to \$44.90 (CA). The cost of hunting licenses has risen faster than inflation over the past fifteen years.

YEAR	RESIDENT AVERAGE (including fees/stamps)
1977	\$10.54
1980	\$13.66
1992	\$21.58
1997	\$25.25

However, surveys show that given a choice between higher license fees and shorter seasons, bowhunters would pay more rather than see seasons shortened.

The license costs shown above are for instate hunters. Out-of-state hunters pay much higher prices:

- **New York:** resident hunters are required to pay \$13 for a license and \$11 for a stamp; Lifetime resident hunting licenses are \$250; Out-of-state hunters pay \$100 for a deer-only license.
- **Michigan:** residents pay \$13 for a license and nonresidents pay \$120. Michigan gives special preferences on licenses for youth.
- **Texas:** a resident license costs \$26; nonresident license is \$250.

The license fees shown above are for deer, the most popular form of game. For other game, such as black bear and turkey, the price may be the same but is sometimes higher. In Alaska where there are many unusual and highly-prized game animals, license costs are significantly higher.

Harvest/Success Rates

The success rate for archery has been rising since the mid-to-late seventies. Much of this increase can be attributed to the introduction of the compound bow and other equipment advances, including the use of treestands. State fish and game departments have also played a role, by increasing the number of deer through sound management practices.

- From 1979 -1980, the average success rate increased from 5.3% to 11%
- Currently, 15% is the average success rate in states with high deer populations and 10% is the average in states with a lower number of deer. However, some states have success rates in excess of 30%.

However, success rates are still substantially lower than for firearms. A study by Langenau and Aho in 1983 found that "Although bowhunters are now taking substantially more deer...they are harvesting fewer deer [than gun hunters] in proportion to their investment of time and money." A survey of subscribers to a hunting magazine found that 62% had harvested a deer with a gun in the previous year while 28% reported success with the bow.

Bowhunters say that the most important factor influencing success is experience or knowledge. This opinion appears to be borne out by the correlation between years of experience and success:

- Montana bowhunters with one year experience had a 4% success rate in elk hunting. With 10 years experience the success rate rose to 10%.

Other factors that influence success rates are season length, bag limits, herd size and terrain. In Texas, for instance, where many parts of the state are open and sparsely planted there is not sufficient cover for bowhunting. States with a good mixture of woods and farm lands have the highest number of whitetails.

Issues in Bowhunting

Threats to the Future of Bowhunting

Where the Big Bucks Roam:

The Pope & Young Bowhunting Records of North American Whitetail Deer provides some insights into where the biggest bucks in North America roam, as well as some interesting facts:

- 5 of the current top-10 typical bucks were shot in Iowa, including numbers 2, 6, 8-10.
- 6 of the top-10 nontypical bucks were taken in Kansas, including numbers 2-5.
- Wisconsin leads the nation in typical entries in the Pope & Young records with 2,523. It's followed by Illinois (2,131), Iowa (1,178), and Minnesota (1,089)
- Illinois tops the nontypical entry list with 160, followed by Wisconsin (116), Iowa (103) and Kansas (100).



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Bowhunting is a sport regulated by the states. Season lengths vary from about 2 weeks to 5 months. Many states place restrictions on equipment, including minimum draw weight, arrow weight and broadhead size. The success rate for bowhunters is 15% nationally, but ranges from less than 10% to over 30%.

Either/Or Seasons?:

Some states have considered implementing “either/or” seasons that would force hunters to choose between gun hunting and bowhunting. As noted earlier, over three-quarters of bowhunters also hunt with a gun and are “opportunistic” hunters who seek to expand their outdoor experience in any way possible. In many states the proportion of bowhunters who hunt with a gun is much higher. Studies in New Jersey and Montana put the number of bowhunters who hunt both seasons at 92%.

It has also been shown that the two types of hunting offer distinctly different kinds of rewards. One of the rewards of gun hunting is the relatively high rate of success and thus, a good probability of providing venison. For many hunters, this role of providing meat for the family is one of the sport’s most fulfilling aspects. If the hunter is forced to choose between a sport which offers a high probability of providing meat for the family and a sport with a much lower probability, many will feel compelled to choose the more certain of the two, even if he may feel personally that this is a less sporting or less enjoyable form of hunting.

Inhumane form of killing?:

Some antihunting groups say that the bow and arrow is an inhumane form of killing. They claim that many animals are struck and not killed in a short period of time, but rather linger for many days, unretrieved by the hunter, eventually dying from infection to their wounds. This argument is a companion to the wounding rate controversy, discussed in more detail below. Neither argument is based on facts.

The bow and arrow kill by hemorrhage and bullets kill by shock. However, scientific studies by Ludbrook & Tomkinson in 1985 on African big game animals show the immobilization time and time-to-death is comparable.

- 29.7 seconds was the average immobilization time for big game animals shot in the chest by a bow and the animals dropped within 100 meters of the strike.
- 22.3 seconds was the average immobilization time for a big game animal shot by a rifle. The animals shot by the 30/06 rifle dropped in an average of 70 meters of the strike.
- An 80-lb. draw-weight bow resulted in kill rates of 89 percent, comparable to rifles (92 percent).
- A direct heart hit brings death in 8-15 seconds.

A razor-sharp broadhead is the key to the bow and arrow's humane and speedy kill. The broadhead causes a clean wound, profuse bleeding and relatively little damage to surrounding tissue. A bullet, by contrast, inflicts much greater tissue damage which causes the blood vessels to contract which in turn reduces blood loss.

How to define “Wounding” loss:

Terminology: The first step in unraveling this issue is to define terms. A 1985 study by McCaffery established the following terminology:

- **Wounding:** an animal struck by a hunter with its fate unknown.
- **Wounding loss:** an animal dying from hunter-inflicted wounds and not recovered.
- **Abandoned kill:** an animal struck, found and left unretrieved in the field

The most reliable scientific studies to date have put the true wounding rate for bowhunting between 1% and 10%.

Nonlethal broadhead wounds:

Animal rights activists often substitute the word “cripling” for “wounding” in order to imply that any animal struck by an arrow is seriously injured and compromised. The evidence found in Ludbrook & Tomkinson/1985 and Georen /1990 suggests otherwise:

- Nonlethal broadhead wounds are clean, with little damage to surrounding tissue.
- Profuse bleeding caused by a broadhead has an “inner cleaning effect.”
- Nonlethal broadhead wounds normally heal quickly without complication.

Unreliable hunter estimates:

It is almost impossible to determine with complete accuracy the degree of wounding that takes place. Live deer do not offer themselves up readily as participants in scientific studies. Therefore, estimates of wounding have relied on hunters themselves reporting “hits” in post-season mail-back surveys. These surveys are the source of the notoriously high wounding rates that are often trumpeted by anti-hunters. However, they are “not factually supported,” according to McCaffery. Herron/1984 bolsters this view, stating “hunter reports are a poor estimate of wounding loss or unretrieved kills.” Too often, hunters report “hits” just to satisfy their own egos, not wanting to admit that they just plain “missed.”

Field searches:

There are several ways that biologists have attempted to determine the true extent of wounding and wounding loss behind the exaggerated claims. These include field searches and examination of deer carcasses at tagging stations, as well as deer found dead in ground searches. These studies reveal that actual wounding rates are extremely low.

- In New Jersey, only 1.6% of deer harvested by gun were found to have arrow wounds (14 of 958).
- Of 1,200 whitetail deer collected and examined in the Southeast United States in 1976, 0.5% showed signs of previous arrow wounding and 7.6% showed signs of some previous injury. The study concluded that “long-term suffering resultant to traumatic injury probably affects very few whitetail deer.”

- New Jersey and Wisconsin found 11% and 9% wounding loss, respectively, using a combination of surveys and ground searches.
- Mortality of radio-collared deer in Montana revealed that 0.9% suffered wounding (hit, survived and died later of other causes) and 7% were classified as “wounding loss” from either firearms or archery. 45% of the deer mortality resulted from legal firearms hunting and 6% from legal bowhunting.
 - Mortality of radio-collared elk in the Montana Elkhorn Mountains showed 3.4% resulting from legal bowhunting and 2.6% from “wounding loss” attributed to bowhunting, as compared to 66.7% mortality from legal gun hunting and 3.4% from gun-related wounding loss. The Montana Department of Fish Wildlife & Parks thus concluded that the “effects of archery hunting on this population was insignificant.”
 - 24 of 29 states surveyed by the Wildlife Management Institute found that wounding losses for archery were less than or no greater than those for gun hunting.
 - The state of California estimates the bowhunting wounding rate (hit and survived) at 10% to 20% and the wounding loss at 1% to 5%.

As would be expected, poor weather and difficult terrain contribute to unretrieved kills. And, wounding losses are also higher during single sex seasons. This may be caused by hunters mis-identifying does and fawns.

Camp Ripley Study:

In an effort to answer the important question of wounding rates once and for all, the American Archery Council’s Professional Wildlife Management Committee undertook an intensive study of wounding rates of deer by bowhunters. Jay McAninch, Minnesota DNR, began working in 1991 with Wendy Krueger, DNR wildlife biologist, to devise a study of bowhunting at the National Guard’s Camp Ripley in central Minnesota. The results were written up by Ms. Kueger as her Master’s thesis under the guidance of Dr. Dave Samuel of West Virginia University.

The study would eventually cost more than \$250,000 and be paid for by contributions from AMO’s “Save Our Heritage” program as well as contributions from many other bowhunting groups and archery manufacturers. The study consisted of interviewing bowhunters each day of the hunt immediately after they had left the preserve. Bowhunters were surveyed on the deer they

hit and retrieved, deer hit but not retrieved, deer shot at but missed, and any wounded deer they might have seen while hunting.

A Minnesota State Highway Patrol helicopter was then used to videotape the 53,000 acres preserve with infrared heat-seeking video equipment so that researchers could locate downed and unrecovered deer in the woods. Interviews and surveys continued for four weekend-long hunts during the 2 years of bowhunting seasons, 1992 and 1993.



Photo by Jay McAninch

In summary, the researchers found that only 13% of the deer reportedly hit could not be accounted for by the end of the study. These deer might have died, suffered only a flesh wound and recovered, or represent two or more hits on the same deer.

The study taught researchers that bowhunting is an efficient and economical way of controlling deer populations. The growing trend towards efforts to use bowhunting to control urban deer suggests that others agree.

High Wounding Rates Vs. Reality:

“A Review of Bow Wounding Literature” compiled by Kenneth E. Mayer and Dr. David E. Samuel for the California Department of Fish and Game provides an excellent overview of all scientific studies and popular articles on the subject. They note that the claims of high wounding rates are easily disproved.

Puncture Wounds Common:

A 1987 study by the biologist Geist provides yet a broader view of the ability of deer to heal from puncture wounds of all sorts. After examining the inside of the hides of dead deer, elk and moose he determined that puncture wounds are a common occurrence, resulting from antlers, branches, fence posts and other natural hazards. Most bucks averaged 20 to 30 puncture wounds a year. The author concludes that puncture wounds are common and readily survivable.

Tree Stand Safety:

A majority of bowhunters hunt from a tree stand at least part of the time. Over 9 million deer hunters hunt from a tree stand at least occasionally. Tree stands come in many types: permanent stands that are made by the hunter using his own materials; manufactured stands that are permanently installed; and manufactured stands that can be moved from location to location.



Many hunters use more than one type of stand. All types have this in common: they can be dangerous if not used properly or checked frequently.

- The average height of a tree stand is 16.5 feet.
- One in three hunters reports having fallen from a tree stand.
- The average distance fallen from a tree stand is 11 feet.
- Half happened from the tree stand itself and the other half happened going to or getting out of the stand.
- About 3% of these falls resulted in serious, permanent injuries.

It appears that commercially made portable stands have resulted in the most injuries. However, it is important for hunters to check any type of tree stand, and the tree it is mounted on, frequently for structural damage or decay.

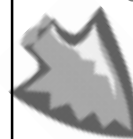
Safety belts can prevent many injuries. Approximately half of tree stand users wear them at all times. More use of safety belts would make bowhunting a safer sport and prevent needless suffering and tragedy.

Bowhunter ethics:

Bowhunters are generally the most committed and ethical of sportsmen. They have chosen a sport with a lower success rate for the challenge and enjoyment of the outdoors. However, as with any activity, there are a few who conduct themselves in a way which could harm the image of all bowhunters and the future of the sport.

Bowhunter education courses help inform the bowhunter of proper ethical behavior. Bowhunting organizations often take the responsibility of policing their own ranks for improper behavior. However, as a solitary sport, bowhunters must depend on their own sense of ethics to “do the right thing.”

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Bowhunting has been found to be an efficient method of controlling deer populations. Actual wounding loss is far less than is publicly perceived. Since the majority of bowhunters also hunt with a gun, they are generally opposed to “either/or” season restrictions.

Bowhunting Economics

Bowhunters have economic clout

Bowhunting has resulted in a boon for the national economy to the tune of \$13.2 billion annually in retail sales alone. Bowhunters spend money on equipment, clothing, hunting adventure outfitters, restaurants and hotels, and support 392,000 jobs nationwide as a result.

According to a 1997 AMO study, on average each bowhunter spent over \$4,000 on equipment, transportation and land to pursue bowhunting each year. Government coffers also benefit from bowhunting. Local and state sales taxes generated from bowhunters' original retail purchases account for \$592 million annually.

The number of bowhunters has increased 50% during the past 10 years. In 1997 alone, over 3.1 million bowhunters took to the woods, and along with their bows, they carried a great percentage of the U.S. economy with them:

BOWHUNTER ECONOMIC CLOUT

Retail Sales	\$13.2 Billion
"Multiplier Effects"	\$37.1 Billion
Salaries & Wages	\$9.4 Billion
Jobs Supported	392,000
State Sales Taxes	\$592 Million
State Income Tax Revenue	\$192 Million
Federal Income Tax Revenue	\$1.0 Billion

DEFINITIONS

Retail Sales

Expenditures made by bowhunters for goods and services purchased primarily for bowhunting purposes.

Total Multiplier Effect

This is the total of the many rounds of spending created by bowhunters' original retail purchases. Rounds of spending can include: 1) a bowhunter buys a bow + 2) a retailer buys new stock + 3) the wholesaler buys replacement stock + 4) the manufacturer purchases more graphite, plastic, wood, etc., to produce additional stock + 5) the employees of all these business spend their paychecks. Through this effect, the bowhunting industry benefits every other industry and person in the U.S. The effect is NOT the total of all sales, income and tax revenues reported in this study.

Salaries & Wages

These are generated as a result of all the rounds of spending created by bowhunters' original retail purchases. These are the total payroll and profits produced by the many firms affected by the bowhunting industry's output.

Jobs

The total jobs, full and part-time, supported in the economy as a result of the many rounds of spending created by bowhunters' original retail purchases.

Sales Tax

The sales tax revenues generated from bowhunters original retail purchases. This is a conservative estimate as it does not include sales tax revenues created by the many rounds of additional spending described above.

State & Federal Income Tax Revenues

The total income tax received by state and Federal governments as a result of the many rounds of spending generated by bowhunters' original retail purchases. These estimates have been adjusted to reflect state and federal standard tax deductions and incremental tax brackets.

Expenditures

According to a survey completed by Southwick & Associates, which has done similar surveys for the National Shooting Sports Foundation and the U. S. Department of Fish & Wildlife, bowhunting expenditures accounted for over \$13 Billion in 1997. This works out to an average of \$4,009 per bowhunter, as compared to \$1,582 average expenditure for all hunters

This higher per-capita expenditure figure for bowhunters can be explained several ways:

- Bowhunters require more "stealth technology" to get closer to game animals
- Bowhunters spend more time afield, and so spend more on food, lodging, and transportation
- Bowhunters are involved in hunting different types of game, and so spend money on equipment to be used during different seasons
- Bowfishing is growing in popularity, and is followed by increased purchasing of boats and motors

1997 BOWHUNTER SHOPPING LIST

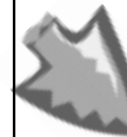
Based on the Southwick Survey, bowhunters spend a considerable amount of money on bowhunting equipment.. They also spend large amounts on support equipment—other items or services not normally associated with bowhunting, but purchased to be used during that activity.

<u>Item</u>	<u>Average Expense</u>
Food	131.68
Lodging	43.60
Public/Private Transportation	206.51
Guide	46.06
Land Access Fees	30.76
Equipment Rental	29.26
Hunt Clubs/Leases	85.51
Land	532.02
Shooting Ranges	21.22
Licenses/Permits	61.72
Bows	212.23
Crossbow	4.98
Bow Accessories	91.86
Finished Arrows	50.16
Arrow Components	11.45
Broadheads/Points	33.67
Arrow Accessories	6.97
Fletching Tools	4.74
Hand Tools	6.22
Quivers	10.26
Armguards	1.94
Bowpress	2.08
Bowcase	14.59
Chronograph	1.48
Bowfishing Gear	3.68
Treestands	85.14
Scents	21.18
Targets	42.05
Camping	39.82
Binoculars	50.05
Clothes/Apparel	144.05
Meat Processing/Taxidermy	81.94
Magazines	20.15

Memberships/Contributions	11.36
Equipment Repair/Maintenance	12.44
Coolers	6.11
Knives/Cutting Tools	21.27
Backpacks/Sacks	12.99
Videos/Instructional Materials	13.72
Misc. Equipment	36.52
Boats	74.72
Boat Motors/Accessories	110.76
Pick-Ups/Campers/Vans	1,024.29
All Terrain Vehicles	399.08
Cabins	90.81
Cameras/Film/Developing	27.36
<u>Video Camers/Tapes/Acc.</u>	<u>38.99</u>
TOTAL	\$4009.41



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The average bowhunter spends over \$4,000 per year pursuing their sport. This translates into over \$13.2 Billion in retail sales each year. Almost 400,000 people nationwide owe their jobs, at least in part, to bowhunting. The vast majority of bowhunters purchase their equipment from archery-related proshops.

the Archery Marketers

\$13.2 Billion in Sales and Growing

Where bows and accessories are purchased

Archers spend most of their bowhunting dollars in archery pro shops. However, a trade publication survey indicates that bowhunters also purchase through other means. This would indicate that bowhunters are well educated in product knowledge, and are willing to research the products they want to purchase.

- Archery pro shop: 76.3%
- Mail order: 53.7%
- Sporting goods retailer: 41.0%

What is an “Archery Retailer”?

Numbers vary according to each survey, but by best accounts there are more than 6,000 legitimate archery dealerships in the U.S. In terms of defining what is an archery dealership, the AMO Dealer Council formulated the following standards:

- Must have a resale tax certificate/license, and it must be current and available upon demand with supplier
- Must have a current business license as required, and be available on demand to supplier (FFL licenses do not qualify as a business license.
- Must have signage with a minimum of eight (8) square feet visible on operations building, or consistent with local ordinances.
- Must have posted regular business hours.
- Must be listed in Yellow Pages under related heading, i.e.: Sporting Goods, Archery, Indoor Range, etc.
- Must be conducting legal business according to local zoning laws

Archery retailers by type:

Archery retailers can be separated into four basic categories: archery pro shops (which account for about 67% of all archery retailers), general sporting goods retailers with archery departments (15%), and a small percentage of discount/department stores and mail order.

Archery Dealers By Total Sales Volume

A recent survey by a trade publication, revealed these sales figures. The figures include all sales, archery related or not, reported by archery dealers:

- Below \$10,000 year 36%
- \$10,000-\$25,000 10%
- \$25,000-\$50,000 9%
- \$50,000-\$100,000 9%
- \$100,000+ 36%

Longevity an archery dealer

Nation wide, about half of all new small businesses survive their first two years in business. Archery dealers are no exception. For the most part, archery dealers started in business because of their love of the sport, and learned their business techniques along the way. The longer an archery dealer stays in business, the more successful they become.

- 2 years or less 14%
- 3 to 5 years 23%
- 6 to 10 years 23%
- 15 years + 40%

Seasonality

The heaviest sales period for archery dealers occurs just before bowhunting season begins. However, with the rising popularity of target archery, bowfishing and spring turkey hunting, sales are now more constant throughout the year. On average, 60% of archers shoot in any given month.

Archery Participation % per month

January	48%	May	50%	September	86%
February	35%	June	56%	October	91%
March	38%	July	64%	November	73%
April	46%	August	74%	December	58%

The Importance of Archery Pro Shops:

While large discount chains have come to dominate almost all types of other retailing, pro shops are still the leading outlet for archery equipment. It would appear that archers place a value on the knowledge and personal attention of retail sales personnel.

Target Archery

Poised for Growth

Target Archery

In traditional target archery, archers shoot set numbers of arrows from set distances at round target faces. In the U.S., target archery is governed by the National Archery Association. The rules of international competition are established by F.I.T.A. (Federation Internationale De Tir a l'Arc). F.I.T.A. rules also dictate the equipment that can be used. Until recently, only recurve bows were allowed in F.I.T.A. sanctioned competition. In 1990, F.I.T.A. first allowed a classification for compounds and long bows in international competition. However, Olympic Archery competition will remain limited to the recurve, at least for the time being. Target archery can be shot on indoor or outdoor courses.

Field Archery

Field Archery reflects the bow and arrow's roots as an implement of hunting. Field archers walk an outdoor course, generally of 14 targets, shooting at a variety of distances at black and white, circular targets or animal targets with marked scoring areas. A round is made up of two units. Field Archery combines outdoor exercise with archery skill and friendly competition.

3-D Archery

The latest development in archery competition, 3-D archery has quickly become the most popular form of competitive shooting. In 3-D archery, the skills of the bow hunter are emphasized. Archers shoot from unmarked distances, in natural woodsy settings at realistic, 3-dimensional animal targets. The scoring areas are only faintly marked, so the scoring zones cannot be seen from the shooter's distance. The IBO (International Bowhunters Organization) has imposed standard rules and equipment classifications that have taken this sport to an international level. Many shoots offering purses as high as \$50,000 have increased shooter and spectator interest, alike.

According to the Wall Street Journal, "3-D shooting has gone through a phenomenal growth spurt and turned into a sport in its own right." More shooters participate in 3-D tournaments than any other kind. Considering that most archers enter the sport of archery from a bowhunting perspective, this is really not surprising.

Tournament Participation

Many archers participate in more than one kind of competitive event.

- 77% 3-D Archery
- 46% Field Archery
- 44% Target Archery

Women in Archery

While bowhunting is largely dominated by men, target archery is becoming more and more popular with women.

- 23% of participants at competitive events are women
- Upwards of 50% of professional shooters at many events are women

Between 1989 and 1990, participation in archery by women increased an amazing 120%, according to the National Sporting Goods Association. This was the greatest increase for any sport. To compare, the next greatest increase for any sport was seen in hunting (42.9%) and scuba diving (40%).

In response to this increase in interest, archery has been designated by the NCAA as an "emerging sport" for women, making colleges with archery programs eligible for scholarship money. This support on the collegiate level will help spur even greater numbers of women to take up the bow.



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Target archery has long enjoyed great popularity as a backyard family sport. It's fun, safe, relatively inexpensive and easy to excel at, with some practice. In addition, archery is one of the few sports that can be enjoyed for a lifetime. Now with the introduction of new types of target shooting, such as 3-D participation in competitive events is rising sharply.

the Future

Factors Supporting the Growth Trend in Bowhunting

Factors Contributing To Growth

Bowhunting license sales are growing at 6% to 10 % a year. Three-quarters of state game departments report growth in bowhunting. There are a number of positive factors contributing to this growth:

Safety:

Bowhunting is a very safe sport, resulting in only one death on average per year. As a comparison, hunting with firearms results in an average of 172 deaths per year. Bee stings kill 40 people per year and 86 die from lightning strikes. One potential safety concern related to bowhunting is the use of tree stands, which are used by a majority of bowhunters and have caused numerous injuries (see Issues in bowhunting section.)

Inconspicuousness:

Decker and Enck note in their 1993 study that “wildlife recreation activities that can be pursued with less real or perceived hazard or visual and auditory annoyance to nonparticipants have special attractiveness to participants and nonparticipants.” Bowhunting as an activity is largely silent and invisible. Bowhunters go to great lengths to make their equipment as quiet as possible and wear camouflage clothing to conceal their presence. Also, bowhunters tend to hunt alone rather than in groups. Gun hunters, by contrast, are readily identified in their bright orange outfits. And, groups of hunters armed with guns may appear threatening to non-hunters.

Smaller hunting areas:

As shopping malls and housing developments spring up in what was once undisturbed wilderness, available hunting land has been chopped up into ever smaller parcels. In such areas, non-hunters, pets and livestock could be at risk from firearms hunting. In addition, people in surrounding areas may be disturbed by the sound of gunfire, even if the actual risk is minimal. Thus, bowhunting is increasingly the only legal form of hunting in areas that are interspersed with development.

Bowhunting has in fact become a necessity in some areas, as in the case described by McDowell, Burke and Lund for the New Jersey Division of Fish, Game and Wildlife. In Princeton Township, NJ, hunting with firearms was banned in 1972. By 1992, this 17-square mile community was experiencing over 200 deer/auto collisions a year and significant property damage. Bowhunting and limited shotgun hunting has been reinstated to help control deer population. As the authors state in this 1993 paper: “bowhunting can be an effective deer management tool...especially in suburban and other environments where firearm hunting is not considered a viable option.”

Closer to home:

Because of the reasons noted above, bowhunting can be pursued in areas that are in close proximity to development. This increases the convenience and reduces the expense of bowhunting, which should help to maintain high levels of participation, even during economic downturns.

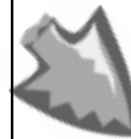
Easier access to private land:

Private land owners are becoming more wary of opening their land to hunters of any type. However, bowhunters may find it easier to gain permission to hunt on private land because of the relative safety and unobtrusiveness of the sport.

Seasons less crowded, earlier:

It has been estimated that 1,000,000 acres a year are lost through habitat destruction. This places the remaining acreage under heavy competition from various forms of outdoor recreation. Many gun hunters have complained that public hunting areas are becoming too crowded to enjoy during the firearms season. Bowhunting seasons are less crowded and generally occur earlier in the year, when the weather is more pleasant and deer more plentiful. Also, because bowhunting is quiet and camouflaged, the perception of other hunters nearby is reduced even more. In short, for many participants, bowhunting offers a feeling of being at one with nature.

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Bowhunting is the fastest growing form of hunting. The relative safety and unobtrusiveness of bowhunting when compared to gun hunting are two factors supporting this growth. Also, bowhunting is well-suited to hunting on smaller tracts of land and in more developed areas. However, several issues threaten the future of bowhunting. Mistaken notions from anti-hunters that bowhunting is inhumane, coupled with the destruction of game habitat and refusal of private-land owners to give access to hunters of all kinds.

History of Archery

**Bowhunting and Archery from
Prehistory to the Present**

Prehistory:

35,000-15,000 B.C.

The spear-thrower, a forerunner to the bow and arrow, is invented. The spear thrower, also known as an “atlatl” was a launching device that extended the thrower’s arm, increasing the spear’s velocity and distance. The spear-thrower increased the prehistoric man’s hunting range from 10 to 15 yards to 20 or 30 yards—a major advance in hunting technology of the time.

15,000 B.C.-8,000 B.C.

The bow and arrow is invented. The Encyclopedia Britannica terms the invention of the bow and arrow one of the three most important discoveries in history. It was certainly the leading innovation of the Stone Age.

Evidence of the earliest bows is not available in fossil form because bows were made of wood and quickly deteriorated. The earliest fossil record of bows dates to 6,000 B.C. in Scandinavia.

From these earliest attempts, the knowledge of making and hunting with a bow spread around the world. The first bow probably came to North America with the migration over the land bridge from Siberia. Native Americans have depended on the bow throughout their history.

Modern Era:

1300’s:

King Edward III requires all men and boys to become proficient in archery, in the course of defending England. The penalty for not learning archery was a stiff fine or imprisonment. From this developed the competitive “sporting” side of archery, as archers would gather on holidays to challenge each other’s shooting skills.

1600’s:

Invention and widespread use of guns makes the bow obsolete as a weapon of war. Expert archers formed clubs and held tournaments as a way of carrying on their pleasure in archery. The oldest of these competitions is the Ancient Corton Silver Arrow Contest held continuously in Yorkshire since 1673, except for the years of World War I and II.

1700’s:

The sport of archery again falls from widespread practice. However, the popularity is revived by founding of the Toxophilite Society, by Ashton Lever.

1787:

Women are first admitted into The Royal British Bowmen Society, initially to spectate and later to compete.

Late 1800’s:

The sport of archery is revived in America following the Civil War. Confederate soldiers, prohibited by law from owning firearms, rekindle bowhunting as a way to hunt on the frontier. Brothers Will and Maurice Thompson wrote articles about their experiences and an interest in archery was also rekindled.

1879:

The National Archery Association is founded and holds its first tournament in Chicago. Will Thompson is crowned first American Champion Archer. Thompson goes on to win the highest honor four more times.

1911:

Ishi, North America’s last primitive Native American, wanders into the corral of a slaughterhouse near Oroville, California. Ishi was the last lone survivor of his tribe, the Yana, and in effect, the last survivor of the stone age.

Ishi was taken to live at the University of California Museum in San Francisco. Here he taught the lost art of primitive bow making to Dr. Saxton Pope and Art Young. Pope and Young went on to bowhunt in North America and Africa and promoted their exploits through films and books.

1927:

Fred Bear, a young craftsman working as a pattern-maker in Detroit, sees the Art Young film, “Bowhunting In Alaska.” Bear later invented many of the processes and equipment necessary in making today’s modern bows. Bear, among others, also promoted the first archery seasons, and became a world-famous bowhunter.

1961:

The Pope & Young Club is formed as the official record-keeping body of the sport of bowhunting. The highest award bestowed by the club is named after Ishi, to whom the modern sport of bowhunting owes a great debt.

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