Insights Into Bowhunters:

Their Attitudes, Motivations, And Economics

Bowhunting In The U.S.

> A Market Study <

Produced By:

Acknowledgements

This project was a collaborative effort between Responsive Management of Harrisonburg, Virginia, and Southwick Associates of Fernandina Beach, Florida, and Alexandria, Virginia, for the Archery Manufacturers and Merchants Organization (AMO) of Gainesville, Florida. The primary authors were Mark Damian Duda and Rob Southwick, with co-authorship provided by Jason Weiss and assistance by Mario Teisl. The authors wish to thank the many who provided invaluable assistance, including Dick Lattimer, Pat Wiseman-Snider and Doug Engh of AMO, our editor Mike Strandlund, and layout and printing director Brett Link. This project was funded via a Federal Aid in Wildlife Restoration grant. These funds come from the Federal Excise Tax bowhunters pay on the archery equipment they purchase. The authors also want to thank the project officer, Sylvia Cabrera, of the U.S. Fish and Wildlife Service for her help and guidance. Despite the countless people who assisted in this project, the authors remain solely responsible for all content herein.

"This publication was funded through a Wildlife Restoration Grant from the U.S. Fish and Wildlife Service, Division of Federal Aid. Grant Agreement No. 14-48-98210-98-G049." The views and conclusions contained in this document are those of the authors and should not be interpreted as representative of the opinions or policies of the U.S. government.

WILDLIFE RESTORATION

Contents

Introduction

Bowhunting Today

While overall hunting participation in the United States has declined since the early 1980s, bowhunting has enjoyed a significant increase. This affords industry, wildlife agencies, and organizations involved with bowhunting a unique opportunity. Social and demographic analysis of bowhunting can facilitate focused marketing plans and specific marketing strategies aimed toward this healthy niche.

This report summarizes the recent information gathered on bowhunting in the United States. It provides information about bowhunting participants, trends, satisfactions and dissatisfactions, and suggests management and marketing options. This report is intended for use by the bowhunting industry, public agencies, and non-governmental organizations concerned with bowhunting.

In this report the terms "bowhunting" and "archery" are synonymous, and include longbow, recurve bow, compound bow, and crossbow equipment. There are some differences between crossbow and other types of bowhunting and within the various types of archery equipment, but those data have not been separated.

In order to assess bowhunting in the United States, it is necessary to have a base of knowledge about the current status of the sport. It is also necessary to know the characteristics of participants in archery hunting, and how they are different from other types of hunters. Finally, it is necessary to have some preliminary options for marketing, management, recruitment, retention and other aspects of customer service for the bowhunting public.

This report focuses on bowhunting in order to facilitate industry, agencies and organizations involved with that sport to better understand social, cultural, and demographic factors impacting the sport. It discusses satisfactions, dissatisfactions, motivations, trends, and other social factors in bowhunting. This will give a picture of the bowhunter in the United States that will enable wildlife agencies and organizations to tailor their programs to best meet the needs of the bowhunting public.

This report is a synthesis collected for the Archery Manufacturers and Merchants Organization (AMO) by Responsive Management and Southwick Associates. The primary literature used is cited at the end. These data were collected using both qualitative techniques (focus groups) and quantitative techniques (computer-assisted telephone surveys). A complete description of these techniques can be found in those reports and elsewhere.

Some comments from the focus groups appear in italics in the report.

Chapter 1

A Profile Of The Bowhunter

- More hunters are turning to bowhunting.
- The typical active bowhunter is a white male in his 20s or 30s with comparatively higher income and education than hunters in general.
- Bowhunters tend to be more enthusiastic and active than hunters in general.
- They usually hunt near home, often alone, and report very high levels of satisfaction with bowhunting.
- Challenge and being close to nature are the two major motivations and satisfactions for bowhunters.
- Time constraint is the major factor in decreased activity among bowhunters.
- 94 percent of bowhunters use compound bows.
- Bowhunters feel their sport is very safe.

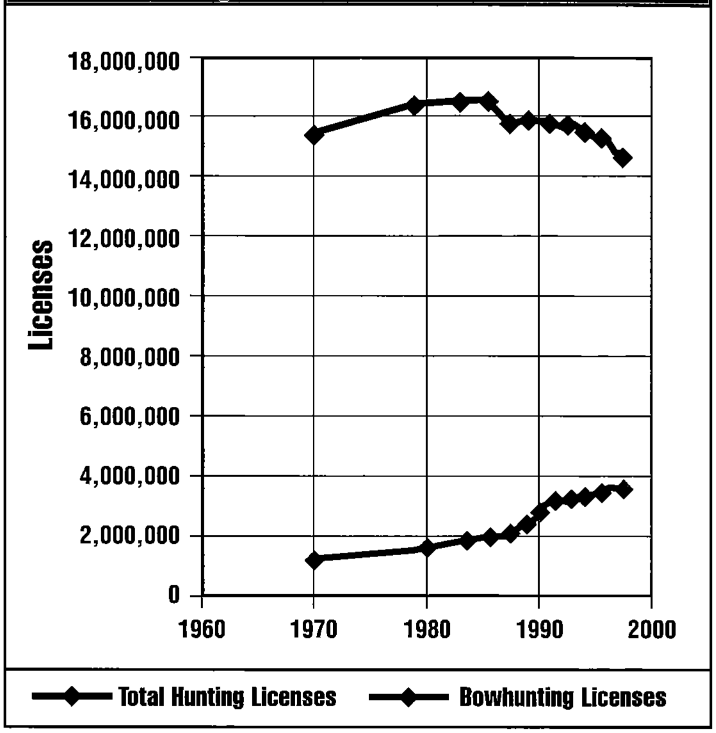
[Bowhunting] comes to be more the hunt instead of the kill. When I go out there, find the sign and figure out where they are coming from and when they are going to be there, I hang the stand and if everything works out just right, I am done. That's over with. I feel satisfied already. The kill is just part of the game. I've watched fawns suckling on their mother, fawns playing, jumping over top of each other. It's unbelievable stuff you get to see out there. And you really only get to see it bowhunting. If you're pheasant hunting you don't get to see it because you're walking; if you're duck hunting you're off there in the marsh...And the adrenaline rush that you get from bowhunting compared to gun hunting because it takes so much longer for that animal to come in.

Hunters are increasingly attracted to bowhunting. In the 1970s, bowhunting accounted for less than 8 percent of all license sales; by the late 1990s, bowhunting license sales were about 21 percent of total license sales. In addition, most bowhunters, as compared to other hunters, report that their hunting activity has increased or remained the same.

...I started hunting around 6 or 7 years old. A good friend of mine got me into archery and bowhunting when I was 13...

Table 1

Bowhunting Licenses and General Licenses



Almost all new bowhunters come from the larger ranks of gun hunters and almost none come from non-hunter ranks. Bowhunting participation is a part of hunting in general. Decisions to facilitate bowhunting need to be made with the larger context of hunting in general considered, and not viewed as a separate issue.

Demographics

I think it's also like a progression with hunters, too. They start out with easier stuff to kill and as you get better with that, then you get more challenging with the skill, and you keep building your skill up and I think you just kind of transcend into archery...If you're going to bowhunt, it's a lot of practice. I shoot all summer, almost every day in the summer, and you have to put that time in to shoot. It's just not like a gun: you go out, you sight it in. You have to know that bow, you have to know how it shoots. You have to know that if it's raining, it's going to shoot a little different in the rain. When it's cold, it's going to shoot a little different. You have to know that bow. . . You've got more responsible hunters during bow season than you do during gun season. I think there are more veterans out there when you're *bowhunting...I wanted to spend more time in the woods, and in gun season, there are so many people in the woods. In bow season, you're relatively out there by yourself. You don't have slugs whistling through the woods...I don't get as much reward out of killing something with a rifle. So I get a bigger adrenaline rush trying to harvest something with [a bow]. As I've gotten older, I've become more conservation-minded.*

Many generalizations about hunters apply also to bowhunters—the differences are in the details. Bowhunters tend to be very positive about the attributes of archery that attract them and will likely hold strong and well-developed opinions that can be used in marketing and management.

According to the 1999 AMO Bowhunting Participation Survey, bowhunters in the United States are white males. A very small minority is African-American, or Asian (>1 percent). A slightly larger minority (<2 percent) is American Indian or Alaskan native. This is comparable to those bowhunters who consider themselves to be Hispanic or Latino (>3 percent). As to this last figure, it is important to remember that "Hispanic" refers to an ethnic group, not a race. However, because this demographic is so small, no generalizations can be made about it at this time. For the American Southwest and some parts of the Southeast, this may be an incomplete picture and further research is needed.

It is also important to note that these figures do not differ greatly from the demographics of inactive bowhunters, or gun hunters. Hunting of all types in the United States is a recreational activity of white males almost exclusively. The figures for bowhunting probably only reflect the fact that bowhunters are a subset of hunters.

Much has been made of recent trends that indicate an increase in female hunters in the United States. This increase has been, it appears, in the non-bowhunting segment. At this time very few females (>1 percent) bowhunt. This compares with a relatively larger number (<2 percent) of female inactive bowhunters, and even larger (<10 percent) female gun hunters. However, the percentage of female hunters in the United States remains very small and there is some information that the recent trend is down. Marketing and management for female bowhunters is a specialized niche and should be treated as such.

Age, Income & Education

Bowhunters tend to fall in the middle of the age distribution among hunters in the United States. Fewer bowhunters (<4 percent) are under the age of 18 than gun hunters (>8 percent) and fewer bowhunters (<5 percent) are over the age of 60 than gun hunters (15 percent). At all age groups over 40, there are more inactive bowhunters than active bowhunters. This may suggest that dropout is related to age in bowhunting, and if so, is an important consideration. Most bowhunters are less than 50 years of age and over 19 years of age.

In terms of income, bowhunters do not differ greatly from inactive bowhunters or gun hunters. Most (<30 percent) have household incomes over $30,000 per year; many (<26 percent) have more than $50,000, and a large number (<17 percent) have household incomes greater than $75,000 per year. A smaller number (<15 percent) have household incomes less than $30,000, and even fewer (<9 percent) earn less than $20,000 per year. These figures seem to place bowhunters in the upper portion of mean household income, but not by any means at the highest levels. It is fair to say that the majority of bowhunters have middle-income lifestyles and that marketing and management needs to consider this when making decisions about bowhunting.

Bowhunters have high education levels. Over half of active bowhunters (53 percent) have more than 12 years of education. For inactive bowhunters, 67 percent have more than 12 years of education. The reason for the higher education level among inactive bowhunters is not known at this time, though many reasons could be speculated. This is an issue worth further investigation.

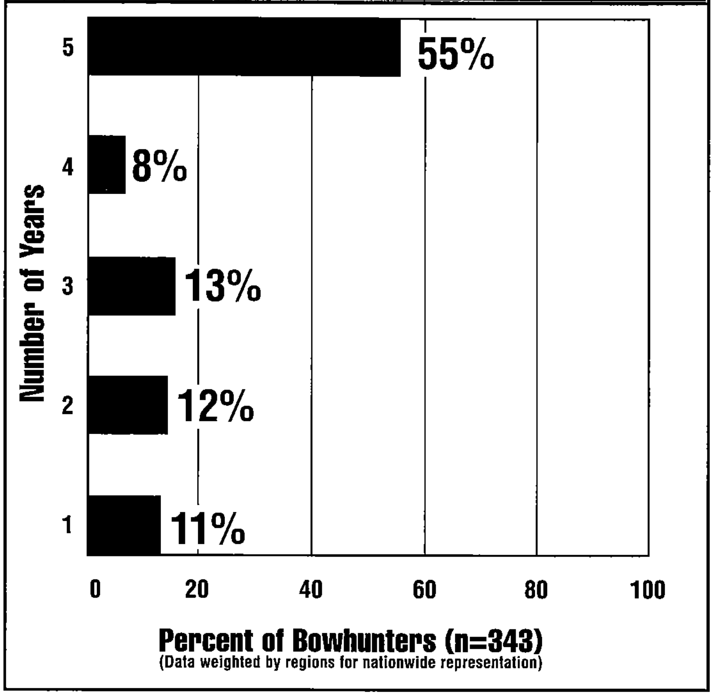
Activity

Over one-third of all active hunters in the United States hunt with a bow at least once every two years. Of the remaining two thirds, about one quarter have bowhunted in the past. These hunters who have "given up" bowhunting offer the same reasons—such as time constraints and lack of hunting partners—seen for the decline in hunting participation in general. This indicates that there may be a significant number of inactive hunters who could be recruited into bowhunting if the reasons for dissatisfaction and desertion were better understood.

Bowhunters tend to show high levels of activity. More

Table 2

Of the Past 5 years, How Many Years Did You Hunt with a Bow?
(Active Bowhunters) ($\bar{x}$=3.84 years)



than half have hunted every year in the past five years. The participation rate in the remaining half varies widely. Most bowhunters report that their hunting activity has increased or remained the same in recent years. The remaining group (21 percent) reports a decline in bowhunting activity.

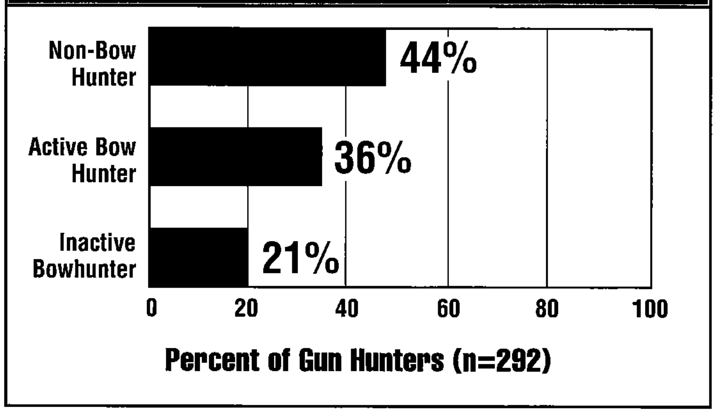
Bowhunters hunt with a bow an average of 19 days a year. The range is from one day to more than 60 days. The majority of bowhunters (39 percent) bowhunt from one to 10 days per year; however, a significant number bowhunt more than 10 days per year. Most bowhunters also report hunting with firearms, increasing their total hunting activ-

Table 3

	Bowhunters	Gun Hunters
Age (average)	37.2	41.9
% Male	95.6%	90.0%
Avg. Income	$36,447	$35,043
Married	70.9%	70.9%
Caucasian	96.7%	93.8%
African-American	0.9%	2.8%
Hispanic	2.2%	2.5%
Served In Military	1.7%	1.2%

Table 4

Breakdown of Bowhunting Activity by Gun Hunters Who Have Hunted Within the Past Two Years



ity. This level of activity indicates that bowhunters fall into the avid level of interest in hunting.

Species Pursued

I learn a lot about [deer] that I never knew before. When they walked out and I shot them [with a gun] I never saw them interact or feed at this tree... I've watched [deer while bowhunting and I] see tons of things that I never saw before.

Deer are the preferred game of bowhunters. Nearly all bowhunters hunt at least one day per year for deer. 80 percent of all bowhunters also hunt with firearms for deer and other big game. In general, bowhunting tends to be directed at big game. This observation is important in terms of understanding participation. Hunters are, in general, introduced to hunting with small game or waterfowl and move on to big game hunting later. Thus, they are already prepared in terms of hunting experience and basic skills when they take up bowhunting.

It is interesting to note that elk, a major big game animal in the western United States, is not, as yet, a major factor in bowhunting (13 percent). This may be a regional variation as bowhunters generally do not tend to travel far to hunt (most bowhunters live east of the Mississippi), and elk hunting among active bowhunters appears to be about the same level as mule deer hunting, also primarily a western species.

Other species of big game hunted include wild turkey (12 percent), wild pig (10 percent), bear (7 percent), pronghorn (3 percent), moose (2 percent) and, javelina (1 percent). A small number of bowhunters also hunt for small game (12 percent), and bowfish (4 percent). At this time the trend in bowhunting for any of these species is not known. However, because a major reason for bowhunting is to extend the hunting opportunities, it can be expected that interest in hunting all game species with archery equipment is probably increasing.

While gun hunters hunt a wider variety of game, the species hunted are very similar. Deer of all species are the primary game in the United States for hunters of all types. Also, there are increases in big game hunting, while hunting for small game and waterfowl is declining.

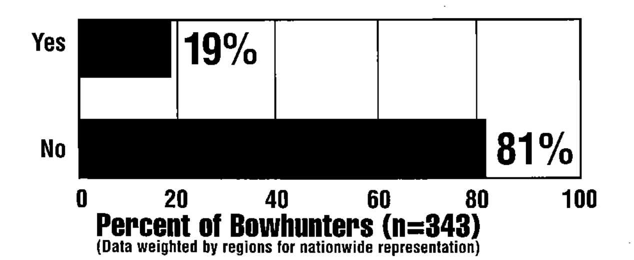
Behaviors

It's the relationships that people have with each other. Even though I hunt alone, I know a lot of people that wouldn't be out there if there weren't other people involved. It's not just the other person out there in the woods with you but it's also the support services back home.

As compared to common perceptions of gun hunters, bowhunters tend to be the only members of their family who bowhunt. Only a few (19 percent) bowhunters report that other members of their households also bowhunt. This follows the overall trend that bowhunters are more likely to hunt alone (23 percent) or with one other person (32 percent). The remaining bowhunters (45 percent) varied from hunting with two to more than five other partners. This solitary aspect of bowhunting differs from hunting in general, which tends to be a more social activity.

Table 5

Are there any other members living in your household who went Bowhunting during the past 12 months?
(Active Bowhunters)



The majority of bowhunters (89 percent) do not travel out of state to hunt. Typically, they travel less than 100 miles from their homes to hunt. Another interesting aspect of hunting location is private versus public land. According to the U.S. Fish & Wildlife Service, 47 percent of all hunters hunt on public land while 81 percent hunt on private land; 17 percent hunt on public land only, while 51 percent hunt on private land only. In contrast, 57 percent of active bowhunters hunt primarily on private land, and an additionally large group (21 percent) hunts on private and public lands at about equal rates. Thus, close to two-thirds of active bowhunters use private lands for their hunting activity. This implies a close relationship of bowhunting to landowner relations.

This relationship of bowhunting and access to private lands is important. If landowners consider bowhunting more favorably than gun hunting, bowhunting may be an avenue for access to those lands.

Motivations & Satisfactions

To me, when a deer is standing there within 20 yards of me, I know I can kill him and I let the majority of them walk...It's just a challenge and once I master that maybe I'll start trying to go out and hunt something else, but for me it's that feeling of accomplishment once you beat the game you're after.

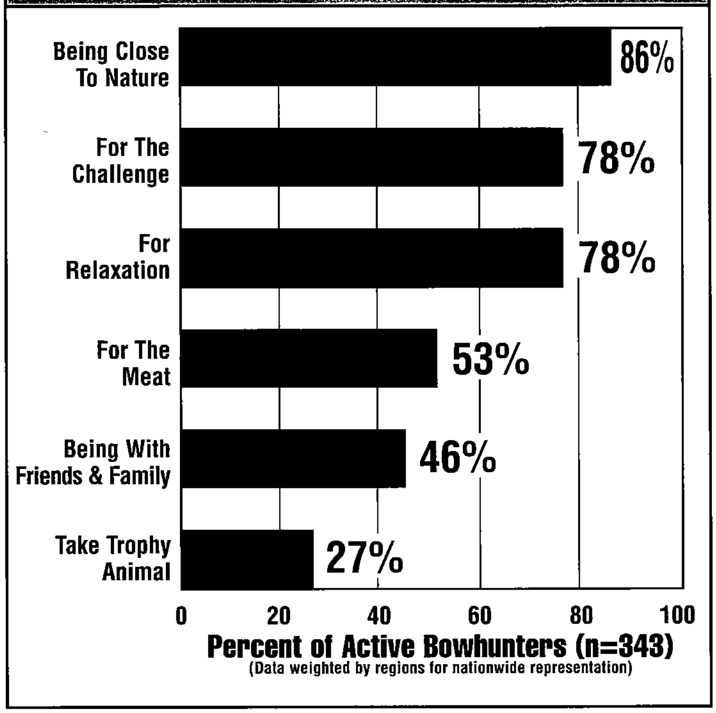
There are two issues in looking at why an individual hunts with a bow as opposed to a firearm: What motivates a person to take up bowhunting, and what rewards and satisfactions keep him interested. Both are important in understanding participation and enthusiasm.

Many bowhunters (58 percent) say that the challenge, specifically the skill required and increased difficulty of the hunt, was the major reason for taking up the sport. The aspect of challenge includes being able to get closer to game, the physical challenge, the increased need for ethical conduct, increased patience, mastering the equipment itself. All of these factors show that bowhunters have internal motivations that have made them choose bowhunting. This varies somewhat from the average rifle hunter, who is primarily motivated by social factors and secondarily by utilitarian factors of skill.

One reason I like bow season is it's warm and it's a beautiful time of year. The leaves have turned, the woods smell good and it's all fresh. It's just a good time of the year. . .If I get anything, fine; if I don't, I got to enjoy it. I got to enjoy the outdoors. . .We've all been in this natural world and all these walls around

Table 6

Items noted as "Very Important" reasons for hunting with a bow
(Active Bowhunters)



us...where is our evolution here? What's happening with the way we work in this world that supports us? I think bowhunting breaks down those barriers of you as a person and nature as a part of you.

Hunters in general are satisfied with their hunting experiences. Bowhunters show very high levels of satisfaction. A large majority (91 percent) is either very satisfied or satisfied with bowhunting experience in recent years. This high level of satisfaction indicates that there are few and/or minor negative factors to be overcome; management and marketing can concentrate on optimizing existing factors of satisfaction.

When specifically asked about satisfactions in bowhunting, being close to nature is even greater than the challenge (86 percent as compared to 78 percent). Another important factor is relaxation. A large number of bowhunters (78 percent) agree that being able to relax is an important satisfaction in the sport. Taken as a set, those factors—being close to nature, the challenge, and the ability to relax—comprise another individualistic aspect of bowhunting as compared to the social aspect of hunting in general.

There seems to be something about hunters in that they can really associate through sharing of their stories...There's just something about hunting or hunters and their ability to really appreciate the story that other hunters tell them, whether they kill it with a gun or a bow. They can appreciate that.

The social aspect of hunting—being with family and friends—was rated as high by 46 percent of bowhunters. While this is a high satisfaction, it is lower than that reported by active hunters in non-bowhunting surveys. Moreover, 11 percent reported that being with family and friends is unimportant—a high percentage compared to the response among total hunters.

Reading articles in magazines (56 percent) and seeing television shows (48 percent) about bowhunting were positive influences on the decision to begin archery hunting. Hunters mentioned crowding during firearm seasons (55 percent) and poor behavior of gun hunters (32 percent) as influencing their decision to take up bowhunting.

It is interesting to note that both inactive bowhunters and inactive hunters in general give the same major reason for resuming their sport: the request of a family member or friend to join them hunting. This familial or social aspect of hunting is very important, especially among inactive hunters of all types. Inactive bowhunters report that being asked by a friend to go hunting is the most likely factor to get them to return (38 percent). But again, this is lower than inactive gun hunters when asked the same question. This highlights the individualistic nature of the bowhunter, an important characteristic.

Discouraging Factors

[The worst thing about bowhunting] is if you wound an animal. I haven't wounded one in a long time, but I think that's about the worst thing. To wound a quality deer and knowing that it's going to die and you're not going to find it, that's probably the worst thing that I can imagine.

It is difficult to find negative factors in bowhunting participation. A large number (70 percent) of bowhunters flatly say that nothing detracts from their experiences. Much smaller groups report that such factors as weather (4 percent), poor behavior on the part of other hunters (3 percent), crowding or too many other hunters (3 percent), lack of skill or knowledge about hunting locations (1 percent), seasons or bag limit restrictions (1 percent) and lastly, fear of injury (1 percent) was reported as a reason for dissatisfaction with bowhunting.

Bowhunters report very few wounding losses, but when wounding does occur, it is considered a major dissatisfaction. Most bowhunters develop an "image" of their individual skill and abilities and tend to hunt within those limitations.

Dissatisfactions can be reasons for desertion or decreased activity. However, the data and literature indicate that specific dissatisfactions are not a major issue among active bowhunters. Thus a low desertion rate can be expected, due to single factors, and other complexes of factors may contribute. Because the challenge of bowhunting and the ability to extend hunting opportunities is a major satisfaction, it is reasonable to expect that anything that reduces challenge or the amount of time available for hunting will diminish satisfaction—and participation.

Among inactive bowhunters, time constraints such as work or the family, was the major factor for decreased activity or desertion. This closely follows the trend for other hunters. This "time" factor could be discounted, but it is likely to be a real consideration, and one for which there may be management and marketing options. For example, any effort to make bowhunting more accessible or more convenient, or to extend the opportunity for bowhunting, would answer the issue of time constraints.

There are no significant differences between inactive and active bowhunters with a few minor exceptions. Inactive bowhunters report all the same reasons for choosing archery as a manner of hunting, and report the same sorts of satisfactions. The major reason for a bowhunter's inactivity is the same found in inactive hunters in general: Time constraints of work and family keep them from hunting. Interestingly enough, inactive bowhunters report the same social and familial reasons as being a prime motivator for returning to bowhunting. Also, a significant number of inactive bowhunters (41 percent) say they are either likely or somewhat likely to go bowhunting in the near future.

The cost of equipment is not a major dissatisfaction among active bowhunters, nor a reason for desertion among inactive bowhunters. Obviously the cost of equipment is a factor with bowhunters, but there is little evidence to suggest it had a negative influence on participation.

Equipment Preferences

I go out and buy something once, I'm not going to buy it again until it either breaks or tears up. I've got several customers that come in every year and buy a new bow without fail because it's 15 feet per second faster; they buy it. . .

People who shoot tournaments are going to buy new bows because they feel like they have to be on the same competitive level as everybody else...

I've had the same bow for three years. I'm comfortable with it and I kill deer with it. . . I own three or four bows and I only hunt with one. . . .

I've never bought anything used. Most people go to archery shops because the people know what they're talking about. Some other places might have a better price, but nobody wants to deal with them because they don't know what they're talking about. It's important to educate the public to what they need to do and get all of them in the right direction versus going to a chain store and being able to buy a bow off the shelf. . .

There's nothing wrong with used equipment. In fact, if you know what you're doing, you can get some steals on used equipment. . .

If you are really into it, it's very expensive. I think some people do go a little overboard. They need all the high technology, but you can go out there and get a recurve bow. . .

It just depends on how much you want to spend. . .

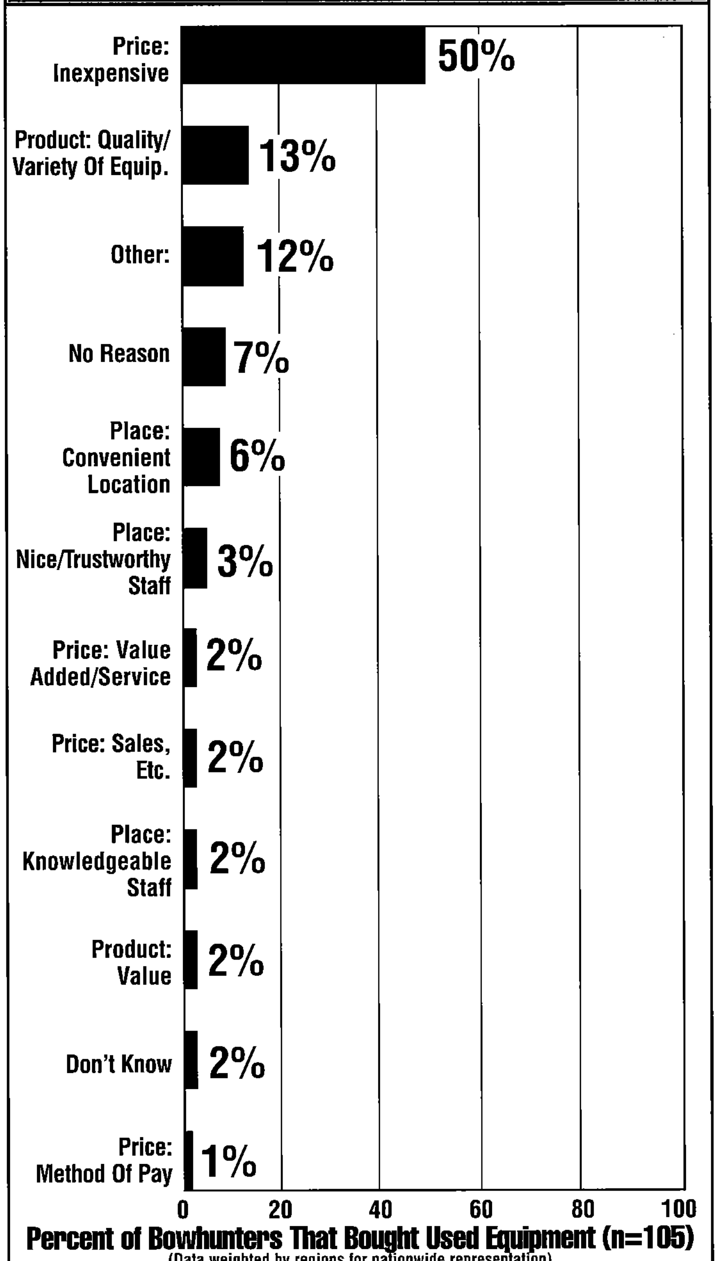
If you're going to go out and be proficient at it, you're going to have to get the best stuff.

In terms of equipment, the modern compound bow is used by the vast majority of archery hunters (94 percent). Recurve bows, longbows, and crossbows are also part of the equation, but the data are too small to measure differences at this time. Thus the statements and conclusions here can be considered to apply primarily to compound bows, but most likely apply to other types of archery equipment, with the possible exception of crossbows.

Active bowhunters tend to buy new equipment rather than used, and they tend to do so every six years or even longer. This tendency to keep hunting equipment is probably not much different from hunters in general and indicates a fair degree of intelligent shopping on the part of the bowhunter. Also, active bowhunters tend to buy their equipment from archery specialty stores (53 percent), sporting goods or hunting stores (38 percent). This leaves a small market (under 10 percent) for other sources at this time. The market for used equipment, whether bought directly or at second-hand sources such as pawnshops or archery shows, is also relatively small (9 percent).

Table 7

What is your main (most important) reason for buying your used bowhunting equipment
(Active Bowhunters Who Bought Used)



Bowhunters tend to buy new equipment and they tend to keep that equipment even when they make new purchases. This is probably typical of hunters in general: Once equipment is found to be satisfactory, there is a tendency to keep it "in the family." This is part of the social/familial aspect of hunting and probably not unique to bowhunting.

The major reason given for purchasing new, rather than used equipment, was quality and/or variety. Expense of equipment was unimportant to most bowhunters (85 percent), although a fairly high number (39 percent) felt is was a minor consideration. Given the tendency to purchase new equipment and to keep that equipment, this is not surprising. Bowhunters are probably more motivated by the attributes of the equipment than by the price. Given the reasons for bowhunting—challenge and nature experience—this makes sense and should be considered in management and marketing programs.

Safety

Bowhunters consider hunting of all types as a safe activity, but they tend to feel bowhunting is safer. Ninety-seven percent of bowhunters feel bowhunting is safe compared to 83 percent of bowhunters who feel gun hunting is safe. In general these are higher figures than for non-hunters, inactive hunters, and active hunters in general. Bowhunters seem to feel that hunting overall is a safe activity, and data hold that view to be true. National Safety Council statistics show that most sports—including such "mild" activities as golf, bowling, and billiards—have accident rates much higher than hunting.

Given the enthusiasm many bowhunters display, this view that hunting is safe is not surprising. A substantial majority of bowhunters also hunt with firearms of all sorts (rifle=76 percent, shotgun=70 percent, muzzleloader=33 percent, other [including crossbow]=25 percent).

Bowhunters also take part in other outdoor recreation at a high level. Bowhunters go fishing (82 percent), camping (67 percent), hiking (55 percent) and wildlife viewing (65 percent). This high involvement is an avenue to management and marketing. Bowhunters are highly receptive to a wide variety of outdoor recreation activities and are important as avid users of natural resources-based recreation.

Most bowhunters (64 percent) feel that very few other bowhunters violate game laws. This differs from hunters and non-hunters in general who feel that violation rates are high among active hunters. A similar percentage of bowhunters feel that gun hunters routinely violate game laws. Because the challenge and opportunity for a more natural experience with bowhunting is a major motivator, it is not surprising that bowhunters tend to look more favorably on their sport than on gun hunting.

Views on Wildlife Management Efforts

Most active bowhunters (75 percent) feel that the state wildlife management agencies are making good or excellent efforts in providing bowhunting opportunities. A smaller number of active bowhunters (20 percent) feel that the state agency is only doing a fair or poor job. This roughly parallels the opinions of gun hunters.

Chapter 2

Bowhunter Recruitment and Retention

- **Good recruitment and retention are vital to the health of the sport and industry of bowhunting.**
- **Most bowhunters come from the ranks of gun hunters.**
- **Bowhunters tend to become less active in the sport as they grow older.**
- **Most who have deserted bowhunting would return if it were their only hunting option, or if invited bowhunting by a friend or family member.**
- **Gun hunters are the best source of future bowhunters.**
- **Increasing the activity of current bowhunters is one way to grow bowhunting.**
- **About half of non-bowhunting hunters (5 million) represent potential new bowhunters.**

[I started] with my daddy...I started hunting around 6 or 7 years old. A good friend of mine got me into archery and bowhunting when I was 13 years old.

My uncle introduced me to it...

Nobody in particular introduced me to bowhunting; I just took an interest in it.

I started bowhunting in 1979. My brother and I were out duck hunting and there was a guy that was bowhunting back there. He had shot a deer, so we helped him drag this deer home and that was what sparked me into trying to bowhunt.

I was taught to shoot by a very good archer [teacher].

I've been bowhunting probably for about 25 years [since age 27].

I just started hunting when I was 21 years old and I got interested in archery in college. It kind of just went from there. All I do is hunt with a bow.

I was probably 24 or 25. I did not grow up in a family that was outdoors at all, but I married into a family that was outdoors and they just lived on it and fished.

Recruitment and retention is a major concern in the hunting sports industry. The overall decline in hunting participation has social ramifications beyond mere license sales. Hunting is an important part of American culture and conservation.

How to take part in recruitment or retention efforts is a decision each business, wildlife agency and, organization needs to make within the context of their mission. For example, recruitment and retention does not necessarily imply new or more bowhunters; it may imply increasing the activity level of the existing pool of bowhunters. The information contained here can help not only in recruitment and retention, but can also be used to make policy decisions.

Where Bowhunters Come From

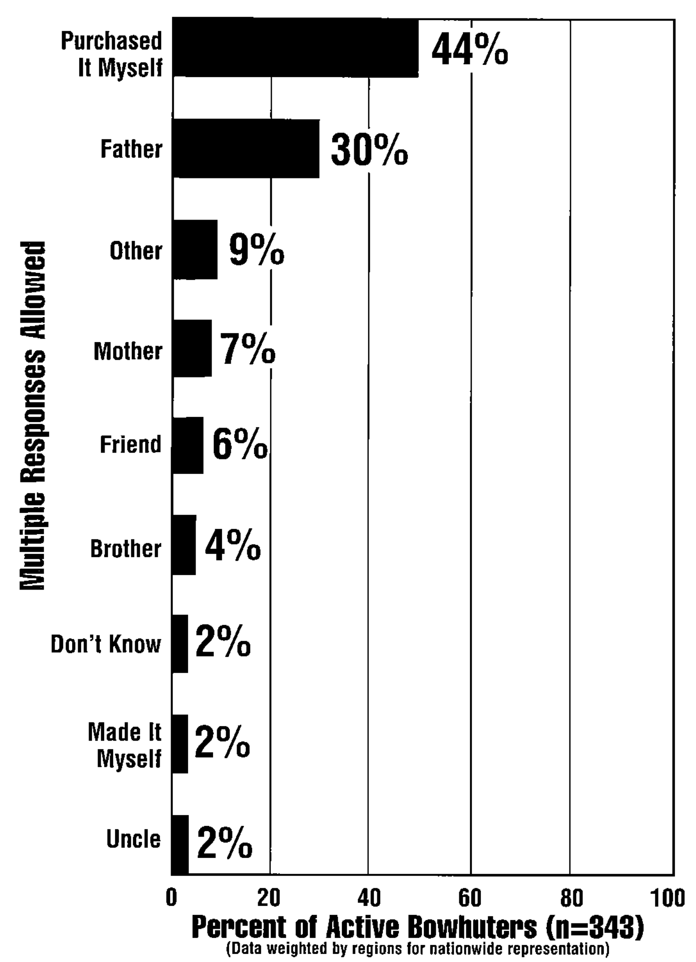
Bowhunters come almost without exception from the ranks of existing hunters. Most bowhunters (82 percent) have actively hunted with firearms prior to taking up bowhunting. There may be some minor direct recruitment into bowhunting, but there is no evidence that this is a significant number of bowhunters.

Bowhunters seem to have about 12 years of experience in firearms hunting, primarily with the family, before they take up archery hunting. Most bowhunters have used a bow by the time they are in their late teens, but do not take up bowhunting until their early 20s. Thus, bowhunters tend to have used archery equipment by the time they are 17 years of age, but not to have hunted with it. These are, for the most part, active gun hunters. By the time they are 23, these gun hunters tend to take up bowhunting. While their father is the most likely person to teach them how to use archery equipment (27 percent), their introduction to bowhunting is not within the family.

On average, bowhunters have hunted with firearms for 12 years before bowhunting, although they are introduced to archery equipment earlier than that. Hunting in general is a skill-intensive sport. Thus bowhunters come into the sport with high levels of knowledge, information, and skill. These are high-level consumers who already know much of what they need to know to purchase equipment and make

Table 8

From whom did you get your first bow?
(Active Bowhunters)



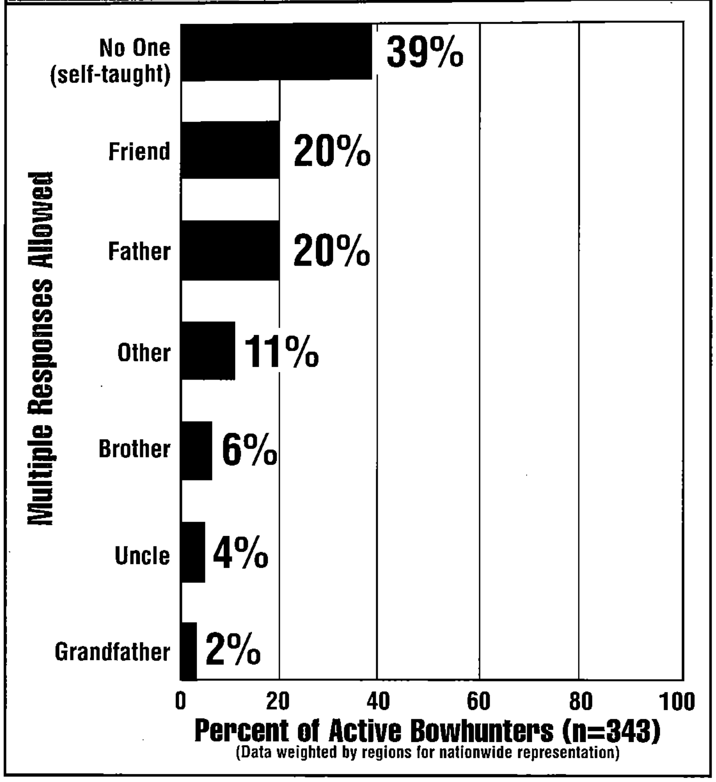
decisions about their hunting.

Bowhunters, as contrasted with hunters in general, are usually not introduced to bowhunting by their family members. More bowhunters report learning to bowhunt on their own than by any other way (39 percent). Those taught by their fathers (20 percent) are equivalent to those taught by friends. Nearly all bowhunters use archery equipment in a non-hunting situation prior to bowhunting. Most bowhunters (83 percent) feel that having friends involved in bowhunting was an important factor in their initiation. This peer influence is important in recruitment issues.

Many bowhunters (44 percent) purchase their first bow by themselves; 30 percent receive their first bow as a gift from their father. The remaining bowhunters (32 percent) got their first bow from friends or other sources. How this compares to firearms it is not known, but these figures do illustrate the interesting fact that bowhunting is not as closely tied to family as gun hunting.

Table 9

Who first showed you how to hunt with a bow?
(Active Bowhunters)



It is interesting to note that many bowhunters report that bowhunting attracted them because it was an opportunity to do more hunting. Many bowhunters (84 percent) feel that "extended" seasons are an important reason to bowhunt. These bowhunters felt that bowhunting allowed them more hunting opportunity, which implies that they are still active gun hunters. Also, a large number of bowhunters (82 percent) feel that the early bowhunting seasons are important. The influence of family members is important to 53 percent. Taken together, this indicates that bowhunters are most likely to be recruited out of the avid end of the spectrum of hunters.

Age & Inactivity

At this stage, the major factor in retention is age. Bowhunters seem to drop out of active bowhunting as they grow older. The percentage of inactive bowhunters increases with age. Also, there are fewer young inactive bowhunters than young active bowhunters. However, this is an observation and does not reflect any cause-and-effect relationship. More information is needed about the effects of age on bowhunting participation. But, it is fair to say at this point that active bowhunters are in the lower age groups and marketing and management needs to consider that fact.

Inactive bowhunters—those who have not bowhunted in the past two years—do not differ in many aspects from active bowhunters. Age is one difference and there are some minor differences in education and income. But these differences do not necessarily have any cause-and-effect relationship as to why these bowhunters have become inactive. It would seem that the inactive bowhunter would be a prime marketing segment to increase participation. The inactive bowhunter already has most of the expertise needed and has shown an interest in the past. Therefore it is necessary to look at the inactive bowhunter as a primary object for marketing and management.

About one-fifth of the bowhunters in the United States have become inactive. The most common reason for their inactivity is time constraints in general (24 percent). This issue of time also involves work obligations (21 percent) or family activities (8 percent). However, it is interesting to note that inactive bowhunters still find time to go fishing (85 percent), camping (68 percent), wildlife viewing (67 percent), and hiking (55 percent). Only a very small number of inactive bowhunters (3 percent) did not take part in any outdoor recreation.

These observed differences do not differ greatly from active bowhunters. However, there are differences in other areas. A smaller number of inactive bowhunters (30 percent) report that the challenge of bowhunting is important to them, compared with active bowhunters (78 percent). Another area of difference is the importance of being close to nature. A smaller number of inactive bowhunters (16 percent) than active bowhunters (86 percent) report that being close to nature is important to them.

This paints a picture of inactive bowhunters being less avid in their desire to go hunting, not necessarily to go bowhunting. Probably the most important area here is in the desire to be challenged by bowhunting. This may be related to the observed age differences between active and inactive bowhunters, but that cannot be clearly stated at this time. It does indicate that inactive bowhunters show a lower level of enthusiasm, as determined by satisfactions, than active bowhunters.

Dissatisfaction with bowhunting specifically does not appear to be a factor with inactive bowhunters. A majority of inactive bowhunters (56 percent) report they are unlikely to return to active bowhunting even though they report their last bowhunting experience as satisfactory. A smaller group (41 percent) say they may return to active bowhunting.

Cost of equipment does not appear to be a factor with inactive bowhunters. Most inactive bowhunters (57 percent) feel equipment is inexpensive or about right. A small number (26 percent) feel equipment is too expensive.

It is interesting to note that about half of active bowhunters consider equipment too expensive and the other half believe it is inexpensive or just right. This observation is interesting, but the conclusion is that the expense of bowhunting equipment is not a factor in bowhunters reducing or ceasing their participation. In fact, the great majority of inactive bowhunters (94 percent) report that the cost of equipment was either not a reason or only a minor reason in their decision not to go bowhunting.

Other Characteristics of Inactive Bowhunters

Peer influence is a major factor in increasing bowhunting activity. Active bowhunters (71 percent) would increase their bowhunting if asked to do so by a friend, as compared with 55 percent who would if asked by a family member. This is in sharp contrast to other hunters who are strongly influenced in their hunting activity by family issues.

Getting Them Back

Three factors stand out among inactive bowhunters as to what might induce them to return to bowhunting. Inactive bowhunters would return if a friend asked them (39 percent), if gun hunting were not an option (38 percent), or if their children asked them to go bowhunting (31 percent). However, about an equal number of inactive bowhunters (33 percent) state that nothing would induce them to return to active bowhunting.

The three main reasons given by active bowhunters for increasing their activity are the same as given by inactive bowhunters for returning to bowhunting. These are: being invited by a friend (71 percent), being asked by their children (55 percent), and unavailability of gun hunting license (45 percent). The differences here are in the degree, not the issue.

Safety is also not an issue for inactive bowhunters. Nearly all (94 percent) of inactive bowhunters agree that bowhunting is a safe recreational activity. A comparable number (96 percent) feel that hunting with guns is a safe activity.

Going After Gun Hunters

Gun hunters would logically be a choice for marketing and management options intended to increase bowhunting participation. Because nearly all active bowhunters were already gun hunters, and nearly all active bowhunters also hunt with firearms, it would seem that inducing more gun hunters to take up archery would be a good approach to increasing bowhunting participation.

Some gun hunters (31 percent) express no interest in bowhunting. This is about the same as those who simply say they have never tried it (25 percent) and those who report a lack of knowledge (18 percent). Overall, about equal numbers of gun hunters say they would not be interested (47 percent) in bowhunting as those who say they would be interested (52 percent). A large number of gun hunters (72 percent) have favorable opinions of archery hunting. Thus among non-bowhunting hunters, about half could be considered as a potential market in terms of interest. This would be about 5 million new bowhunters! However, only a small number (26 percent) of gun hunters feel they are likely to take up archery hunting in the near future and a large number (68 percent) feel it is unlikely that they will go bowhunting in the near future.

Gun hunters are obviously a good target audience for marketing and management to increase bowhunting. However, this needs to be taken within context. Gun hunters are satisfied with their present hunting experiences and do not report a high interest in increasing their activity. Of the non-bowhunting group of active hunters, those who show very high enthusiasm for hunting are most likely to become bowhunters. It is necessary to determine who those avid hunters are by region and species hunted.

Of the non-bowhunting hunters who express an interest, the challenge of bowhunting or increased opportunity to hunt are primary reasons for their interest. These are the same reasons given by active bowhunters and inactive bowhunters for increasing activity and for satisfactions derived from bowhunting.

Gun hunters do not seem to have inherent issues about the cost of archery equipment. Only a small number (14 percent) feel bowhunting equipment is too expensive, and a larger number (45 percent) feel bowhunting equipment is about right or inexpensive. However a large number (42 percent) do not have any knowledge about the costs of archery equipment. Very few gun hunters (22 percent) report that cost of equipment is a factor in their decision not to bowhunt.

Safety is also not a factor regarding participation for gun hunters. Most (94 percent) feel that archery hunting is a safe recreational activity. This is comparable to their favorable opinion about the safety of hunting in general (92 percent).

Be Cautious Recruiting Non-Hunters

In terms of increasing bowhunting participation across the board, increasing the level of activity of active bowhunters would appear to be the best option. Next would be retention of active bowhunters and enticing inactive bowhunters to return to a more active status. Active gun hunters would be the next best option to increase bowhunting participation.

The opportunities for recruitment among non-hunters or inactive hunters is not known at this time. However, this would probably be the least likely demographic segment to address in a marketing or management plan. Hunting in general is a sport with strong relationship to family history. The reasons to hunt, and not to hunt, are tied to the American family life and are not easily duplicated by later experiences.

While non-hunters and inactive hunters should not be ignored, programs directed at them need to be realistic. The potential to recruit non-hunters directly into archery hunting is poor. The potential to recruit non-hunters into archery other than hunting is probably better. Recruitment of inactive hunters into archery hunting is probably slightly better. Inactive hunters may have dropped out due to a lack of challenge or a need to experience more nature-related satisfactions. Both of these can be supplied through archery hunting and could be exploited.

Among non-hunters, people who are interested in outdoor sports—especially those involving challenge and nature experiences—would be the most likely to take up archery, hunting or otherwise. However, this potential is poorly known at this time. It would be prudent to investigate the interest of non-hunters in bowhunting and target archery. Our best guess at this time, however, is that this will prove to be a very small market.

Conclusions

•Bowhunting is a subset of the total hunting culture in the United States. Any efforts to increase or facilitate bowhunting needs to be within the context of this overall picture. Hunters generate bowhunters; bowhunters do not, and probably will not be found among inactive or non-hunters.

•This tends to be hunters in their mid- 20s who hunt multiple seasons and various species, and hunt a high number of days. Extending hunting opportunity and early hunting opportunity are primary motivators for bowhunting initiation.

•Recruitment and retention of bowhunters does not necessarily imply more or new bowhunters. This issue can also be seen as increasing the activity of existing bowhunters, reducing the number of inactive bowhunters, and increasing satisfaction levels among bowhunters. Active gun hunters who are associated with bowhunters are the most likely group to take up bowhunting. The influence of active bowhunters is probably a major factor in recruitment and retention issues.

•The trends in hunting in the United States are part of a broad social and cultural picture. While hunting in general is declining, some areas—bowhunting in particular—are increasing. Industry and agency planners must not adopt simplistic explanations for the decline in overall hunting, or for the increase in bowhunting. Both are part of a larger, and very complex, pattern of the changes in American society.

•Bowhunters have all of the characteristics of other hunters, but are also much more individualistically motivated. The challenge of bowhunting and the individual skill needed are major sources of satisfaction to bowhunters. While the social aspect of hunting remains important to bowhunters, they are also satisfied by more solitary aspects.

•Because inactive bowhunters report that time constraints are the major factor in decreased activity, any effort to make bowhunting more accessible, more convenient, and easier will probably meet with some success. For example, archery seasons typically occur at the same time across broad regions. There may be opportunity for more spring, late winter, or special archery seasons. Other options, such as making areas that are closed to gun hunting for safety reasons open to archery, may be possible.

•Marketing for bowhunting should concentrate on the individual hunter. Marketing should be directed at active and inactive bowhunters, as well as active and inactive gun hunters. There is little potential for non-hunters to become directly involved in archery hunting, although there may be some potential for non-hunting archery.

•Bowhunters are highly motivated by the challenge of the sport. Marketing and management should focus on this aspect and facilitate the acquisition of skills and challenging hunting conditions. While bowhunters report satisfaction with the utilitarian aspects of hunting, these are subordinate to other factors. For example, getting close to game is generally more important to a bowhunter than taking a trophy. Marketing and management should stress the factors most likely to occur rather than the exceptional experience.

•Bowhunters tend to buy new equipment, but only every six years or so. This is a "quality" end product in the mind of the customer. Bowhunters tend to keep equipment purchased rather than sell it or give it away. Marketing of bowhunting equipment needs to stress quality and durability. Because bowhunters are motivated primarily by the challenge of bowhunting and receive satisfactions from naturalistic aspects of hunting, equipment marketing should reflect those values. The cost of equipment, at least at the present time, is not a major factor.

•Bowhunting should be marketed and managed as a "high end" sport. Bowhunters are primarily motivated by the challenge of bowhunting and the naturalistic satisfactions derived. These are selling points in marketing and an opportunity to use management approaches that enhance the idea that bowhunting is more difficult and more rewarding than other types of hunting.

•Bowhunters are fully informed about much of hunting before they take up the sport. They are well-informed and understand how to make decisions about equipment and hunting participation. They are well-informed consumers and are looking for information of a much more specific nature than other types of hunters. Bowhunters are already "recruited" into hunting and do not, in general, require basic information or support.

•Bowhunters are high-level consumers of other types of outdoor and natural resource based recreation. They are an important market segment for all sorts of equipment and activities. Marketing and management directly to bowhunters for non-archery related activities and equipment is a good idea.

Additional Research Needs

•The differences between active bowhunters and inactive bowhunters, gun hunters and non-hunters are not fine-grained enough to make very many meaningful statements. It will be important in the future to further investigate the demographics of bowhunters, especially regional differences, in order to make better predictions about participation and in order to fine-tune management and marketing options.

•There appear to be two groups of inactive bowhunters; those who report they are likely to return to bowhunting and those who report they are not likely to return. It is important to more fully understand the differences in these groups as inactive bowhunters, especially those likely to return, are the best target audience for marketing and management programs.

•The area of satisfactions and motivations of bowhunters is one area where more detail is needed. Bowhunters tend to be very specific in their description of satisfactions and motivations. The area of the "challenge" of bowhunting, for example, is at best a generalization at this time. Much more information about the nature of satisfactions, dissatisfactions, motivations, and other areas of value in bowhunting is needed in order to make fine-grained decisions about marketing and management.

•Retention and desertion among bowhunters is poorly understood. There is some indication that bowhunters tend to leave bowhunting as they grow older. However, this conclusion is based on age distribution and not actual research into desertion. Certainly in both management and marketing there is a need to retain bowhunters as they age. The mechanisms for retention need to be more fully understood in order to accomplish this. Therefore attention should be directed at the upper age groups of bowhunters in research and outreach.

•The overall demographics of bowhunters (age, ethnicity, sex, education, income, etc.) needs further study. Longitudinal studies are not available and our observations are based on "snap-shot" studies. It is necessary to look at these figures over time in order to more fully understand them.

•Research is needed to better understand the effects of income and education on bowhunting participation. As an observation only, participation in bowhunting varies with income and education. However, the determinate factors are not known. Whether this is an informational issue, or related to the general decline in hunting with education and income, is not known at this time.

•The specific trends of bowhunting in geographic regions and by species is not well understood at this time. Research should be localized in order to better understand these trends. Bowhunting is probably increasing in all areas and for all species, but this cannot be fully documented as yet.

•The differences between inactive and active bowhunters are in degree, not in specific areas. Because inactive bowhunters would ordinarily be considered a prime market for increasing participation, it is necessary to explore the attitudes and opinions of inactive bowhunters more fully. There is good reason to believe that at least some of the factors that are related to inactivity can be modified, or dealt with through management or changed marketing approaches.

•The differences between bowhunters and gun hunters may vary from area to area. It would be especially useful to know if regional differences occurred. Also, because most bowhunters are big game hunters, the differences in satisfactions and dissatisfactions, motivations, opinions and attitudes among and between bowhunting and non-bowhunting big game hunters might yield some useful statistics.

•The attitudes and opinions of non-hunters toward archery hunting are poorly known. Because there is potential, albeit small, among people interested in adventure outdoor sports and eco-tourism, these attitudes and opinions need to be investigated.

• Programs specifically directed for recruitment and retention of minority and/or female bowhunters should be considered a highly specialized niche. These market segments are very small and data do not suggest they are increasing. For some specific geographic regions or for specific programs there may be justification for such programs, but care should be taken as these are very small numbers of individuals.

Chapter 3

Economics of Bowhunting/Background

- **New data on the economic importance of bowhunting can help industry, government, wildlife agencies and the media assist the promotion of bowhunting.**

Bowhunting, a popular and traditional recreation, produces not only personal, social and conservation rewards, but also many economic benefits. Economics provides wildlife managers and public opinion leaders with information on how bowhunting activities stimulate the economy, the value of bowhunting to the participant, and how bowhunting-related expenditures benefit society. Groups that utilize economic information include wildlife managers, industry, media, government leaders, and bowhunters.

Bowhunters need access to land, healthy game populations, laws and regulations permitting an enjoyable bowhunting experience, and availability of equipment and services. For these conditions to come together, decisions and actions must be implemented within state and federal legislatures, wildlife agencies, corporate boardrooms, and media offices. This determines the financial resources available to manage resources and helps shape public attitudes that ultimately decide the course and fate of all resource actions and programs. Efforts to initiate positive change, build constructive relationships, and serve the bowhunter can be greatly enhanced with sound economic data.

Specifically, economics can assist in six general areas:

Legislative Activities: Economics can help secure legislative support for bowhunting programs and/or state wildlife agency conservation initiatives by demonstrating the importance of wildlife-related activities to state residents and commerce.

Management Priority Development and Plan Management Actions: Along with biological and other data, economics can help federal, state and local governments develop conservation and wildlife management priorities and understand potential economic displacements and/or benefits from various management schemes and options.

Public Communication: Economics can help secure public involvement in fish and wildlife issues by demonstrating some of the benefits from wildlife-associated recreation. In addition, economics can help capture the attention of those who normally may not be interested in wildlife issues.

Bowhunter Management: Economics provides insights on bowhunter behavior, habits and preferences to help officials effectively manage human interactions with wildlife.

Habitat Conservation: By demonstrating the economic returns of keeping (or restoring) land in a natural state, economics can help habitat conservation and restoration efforts.

Restitution for Lost Wildlife: Economics can establish the proper level of restitution to be paid for acts that result in illegally killed wildlife or lost recreational opportunities.

Economics is one of many tools used by resource and civic leaders when dealing with hunting and hunting-related issues. Economic information alone will never justify bowhunting or be the sole reason behind bowhunting and wildlife management decisions. Instead, economic data should be used with biological, public opinion, cultural and other data sources to produce sound decisions.

How Economic Data has Advanced Bowhunting

Up to 1997, very little data was available on bowhunters' expenditures and their related economic impacts. General information has been available regarding annual sales of bows and bowhunting accessories from sources such as the U.S. Fish and Wildlife Service's National Surveys of Fishing, Hunting and Wildlife-Related Recreation. State-level data has not been reliable, nor have details been available regarding expenditures by specific equipment items or for bowhunter expenditures on travel expenses and big-ticket items. What data has been available tended to be proprietary and dealt with equipment expenditures only. Therefore, very little was available to help publicly promote bowhunting and to help resource managers and elected officials handle issues that impact bowhunters.

A 1997 benchmark study of bowhunting economics provided a wealth of data beneficial to bowhunting and its associated trade and conservation efforts. Previously, reliable data had not been available, impeding efforts to communicate the significant contributions of bowhunting. Now, entities in the archery industry have solid data for their own business purposes such as drafting business plans to obtain financing, and to help plan and forecast manufacturing and sales.

The archery industry can also now provide elected officials, media, and government agencies with information that can assist wildlife management and hunting programs, and help promote bowhunting through solid, scientific data regarding bowhunting's significant economic and environmental contributions.

All congressional representatives have now received information regarding the economic significance of bowhunting via the Congressional Sportsmens Foundation and the Congressional Bowhunting Task Force. In addition, copies have been distributed to the outdoor press, which is at the forefront in promoting the contributions of hunters to the economy and to conservation. As the number of bowhunters continues to grow, industry representatives such as AMO are using this data to encourage more shooting ranges and bowhunter education programs. Also, this data is used regularly to respond to investment firms and banks when they are considering investing in new manufacturing or service concepts designed to serve bowhunters. Altogether, reliable economic information helps expand bowhunting opportunities, helps protect the right to hunt, and helps provide new products and services for all bowhunters.

Sources of Industry Economic Data

All bowhunting data reported in this handbook come from three sources:

1996 National Survey of Fishing, Hunting and Wildlife-Associated Recreation—This survey is conducted every five years by the U.S. Fish and Wildlife Service at the request of the International Association of Fish and Wildlife Agencies (IAFWA). This survey is funded by hunting and fishing excise taxes. Data collection is contracted to the U.S. Bureau of the Census. Data are collected in two phases. The first phase was the screening phase, in which 80,000 households were contacted to identify hunters, anglers and wildlife-watching participants. Once households were identified that contained likely sportsmen, each was surveyed primarily by phone approximately every four months throughout 1996 regarding activities and expenditures. In total, 22,578 anglers and hunters and 11,759 wildlife watchers were surveyed. For bowhunting, this survey provided invaluable data on total numbers of bowhunters in the U.S. and by state.

1997-1998 AMO Bowhunter Study—In 1997 and 1998, supported by funds from the Federal Aid in Wildlife Restoration program (Pittman-Robertson) and AMO, bowhunters were surveyed nationally. Contracted to Southwick Associates, this study focused on quantifying the annual travel and equipment expenditures made by bowhunters and the resulting economic impact on the national and regional economies. These impacts include jobs, income, and federal tax revenues.

Data were collected through a national mail survey. Names and addresses for bowhunters were obtained from bowhunter license lists provided by state wildlife agencies. States in each region were surveyed:

Table 10

Midwest	Northeast	Southeast	West
Illinois	Maine	Mississippi	Montana
Kansas	New Jersey	Missouri	New Mexico
Minnesota	New Hampshire	Texas	Oregon
Wisconsin	Connecticut	West Virginia	Nevada

A total of 500 bowhunters were randomly selected from each state license list and mailed a survey. In all, 8,000 bowhunters were sent surveys; 30.1 percent responded.

1999 Bowhunter Attitude and Motivations Survey—In 1999, another bowhunter survey was initiated by AMO and funded by Federal Aid In Wildlife Restoration funds. Responsive Management of Harrisonburg, Virginia, conducted the survey, which focused on reasons why people bowhunt, levels of activity, and their opinions on many bowhunting facets including equipment choices and wildlife management. Active and inactive bowhunters, as well as gun hunters, were surveyed. Over 2,700 households were contacted via phone with a 50-percent response rate. Most of the information presented in Chapters 1 and 2 were produced from this survey. As part of this project, Southwick Associates developed state-level economic impacts including jobs, income, and state and Federal tax revenues generated by bowhunters. The basis for the state-level impacts were the 1997-98 AMO Bowhunter Study and the 1996 National Survey of Fishing, Hunting and Wildlife-Associated Recreation.

Bowhunter Contributions to the U.S. Economy

- **Bowhunters contribute much of their money to rural economies that truly need it.**
- **The direct, indirect, and induced impacts of each dollar spent amplifies its importance.**
- **In the more avid bowhunting states, the economic effect of bowhunting is substantial.**
- **The bowhunting industry is surprisingly large and important compared with many other well-respected fields of commerce.**

The bowhunting "industry" should not be thought of as an industry in the traditional sense. Unlike steel or textile industries, which are easily identified by large factories and transportation systems, the bowhunting industry is comprised of widely scattered manufacturers, wholesalers and retailers who, when considered together, form an important industry. Bowhunting usually occurs in rural regions that are too often economically disadvantaged compared to urban and suburban regions. It is in these areas where bowhunter dollars are especially valuable.

The type of economic benefits referred to in this handbook are known by economists as economic "impacts." Impacts describe the business and financial activity resulting from an activity such as bowhunting. Impacts include retail sales, jobs, tax revenues, and salaries and wages. They all begin with the bowhunter spending money.

There are three levels of impacts:

Direct Impacts are the initial purchases made by bowhunters. For example, when a person buys arrows for $60, there is a direct impact on the retailer of $60.

Indirect Impacts occur after the original retail sale. The retailer must purchase additional arrows to replace the inventory sold; the arrow manufacturer must purchase aluminum, paint and other materials for production; paint suppliers must purchase resins and chemicals, and so on. Therefore, the original expenditure of $60 for arrows, in turn, may benefit a host of other industries.

Induced Impacts result from wages and salaries paid to employees. The employees of the retailer, manufacturer and all of their suppliers spend their paychecks which in turn create another cycle of indirect and induced effects.

The sum of the direct, indirect and induced impacts is the total economic effect. As the original retail purchase goes through successive rounds of spending from supplier to supplier and their employees, the original purchase is multiplied, benefiting many industries and individuals. Each successive round of spending is smaller than the previous one until they can no longer be measured.

Direct Impacts

Individually, bowhunters spend a significant amount each year on bowhunting-related equipment and activities. These expenses range from bows and other hunting gear, to vehicles, food and travel expenses. The average spent per year by the typical bowhunter is presented in Table 11. The figures represent the average for all bowhunters combined for 1998. Items appearing in the table as a lower-cost item may appear low due to three factors: a) they are not commonly used by bowhunters compared to other items, b) they are low cost, and/or c) they may last a long time and therefore are seldom replaced.

The most costly item in the table is the Pickups / Campers / Vans category. While these items are purchased by a small minority of hunters, their relative cost (upwards to $40,000) results in a high average value being reported in the table. Steps were taken in the survey to record only the vehicle dollars spent primarily for bowhunting activities (versus work or daily errands), but the average still equates to about 25 percent of all dollars spent on bowhunting annually. Similar effects are also seen in the ATV and Land categories. All told, if big-ticket items (land, boats, motors, vehicles, ATVs and cabins) are removed from the national average reported in Table 11, bowhunters on average then spent $1,778 in 1996 for their bowhunting activities.

The National Surveys of Fishing, Hunting and Wildlife Associated Recreation, conducted every five years by the

U.S. Fish and Wildlife Service, show more than a 200-percent increase in dollars spent by all hunters for big-ticket items such as vehicles and boats from 1991 to 1996. Note that 1991 was a recessionary year. People typically refrain from large purchases in such times. By 1996, the economy had recovered and people were buying the big-ticket items they had delayed purchasing previously. Across the U.S., home and car sales, vacations, and other luxury purchases were at or near all-time highs. This spending spree included hunters using their extra discretionary cash to buy hunting properties and vehicles. The Bowhunter expenses reported in Table 11 were based on 1996 data, then adjusted to 1998 using inflationary indices and changes in bowhunting license sales. This data reflects the general national economy of the time, which favored big-ticket items.

Table 11

Average Expenditures per U.S. Bowhunter (1998)

Item:	Average Expenses:
Food	$139.06
Lodge	$46.04
Public and Private Transportation	$218.08
Guide	$48.64
Land Access Fees	$32.48
Equipment Rental	$30.90
Hunt Clubs & Leases	$90.30
Land	$561.81
Shooting Ranges	$22.41
Licenses And Permits	$65.18
Bows (compound, long, recurve)	$224.12
Crossbow	$5.26
Accessories (arrow rests, releases, sights, etc.)	$97.00
Finished Arrows (aluminum, carbon, & wood)	$52.97
Raw Arrows (aluminum, carbon, and wood)	$12.10
Broadheads & Points	$35.55
Arrow Accessories	$7.36
Fletching Tools	$5.00
Hand Tools	$6.57
Quivers	$10.83
Armguards	$2.05
Bowpress	$2.19
Bowcase	$15.40
Chronograph	$1.57
Bowfishing Gear	$3.89
Tree Stands	$89.90
Scents	$22.36
Targets (3D, bale, foam)	$44.40
Camping	$42.05
Binoculars	$52.85
Clothes & Social Apparel	$152.12
Meat Processing & Taxidermy	$86.53
Magazines	$21.28
Membership Dues & Contributions	$12.00
Repair And Maintenance Of Equipment	$13.13
Coolers	$6.45
Knives & Cutting Tools	$22.46
Backpacks & Sacks	$13.72
Videos, Books & Instructional Materials	$14.49
Other Equipment	$38.56
Boats	$78.90
Motors and Boat Accessories	$116.96
Pickups, Campers & Vans	$1,081.65
All Terrain Vehicles	$421.42
Cabins	$95.89
Cameras, Film & Developing	$28.89
Video Cameras, Tape & Accessories	$41.17
Total:	**$4,233.94**

Impacts Per Bowhunter

Each time a bowhunter spends a dollar, the economy benefits. The bowhunter's dollar spreads across the economy through multiple rounds of spending to everyone from the retail store receiving the dollar, to the farmers, manufacturers and accountants supporting those businesses. The economic impacts of bowhunters in each state are presented in Table 12.

In Table 12, the first column of numbers indicates the average spent per bowhunter in each respective state in 1998. The next column, Multiplier Effect, is the sum of the multiple rounds of spending created by the average bowhunter's purchase. Salaries and Wages represents the payroll dollars generated by a typical bowhunter's annual expenditure, and the Jobs column indicates the percentage of a job that each bowhunter represents. The Tax columns show the total state and federal revenues generated as a result of bowhunters' purchases. Table 12 can also be seen as the total economic activity and jobs lost should bowhunters cease making purchases and not spend that money anywhere else.

It is interesting to note that the highest per-state averages are found in the West, where total expenditures and participation rates are the lowest. The top five states in the U.S. for average annual bowhunting expense are, in order: Washington, Alaska, Idaho, Oregon, and California. The lowest average expenditures are in the Midwest, the region with the highest participation rates and total expenditures. The lowest five states in the U.S. in terms of average annual per-bowhunter expenses are, in order: Ohio, Michigan,

Table 12

Economic Impacts per Bowhunter (1998)

	Retail Sales	Multiplier Effect	Salaries & Wages	Jobs	State Sales Tax Revenues	State Income Tax Revenues	Fed. Income Tax Revenues
AK	$5,628.79	$8,476.64	$2,099.50	0.110	$11.20	$0.00	$199.02
AL	$4,872.38	$9,292.18	$2,380.23	0.126	$193.34	$86.34	$231.86
AR	$4,872.38	$8,911.19	$2,224.57	0.133	$220.35	$68.74	$201.10
AZ	$4,994.49	$9,282.99	$2,593.60	0.130	$239.47	$54.89	$261.80
CA	$5,628.79	$11,642.72	$3,163.99	0.124	$338.38	$41.78	$343.06
CO	$4,766.84	$9,463.53	$2,641.15	0.126	$174.53	$88.33	$265.00
CT	$4,241.15	$7,890.02	$2,189.91	0.084	$279.02	$63.82	$243.09
DE	$4,241.15	$6,670.73	$1,521.84	0.074	$32.18	$64.37	$153.09
FL	$4,872.38	$8,631.52	$2,232.01	0.108	$273.33	$0.00	$227.14
GA	$4,872.38	$9,659.06	$2,448.50	0.119	$181.61	$104.24	$248.70
HI	$5,628.79	$9,101.02	$2,388.91	0.102	$641.64	$132.02	$249.66
IA	$3,495.80	$6,559.17	$1,710.80	0.092	$190.27	$117.55	$163.20
ID	$5,628.79	$9,251.51	$2,579.23	0.140	$306.42	$102.52	$241.65
IL	$3,495.80	$7,603.78	$1,934.52	0.080	$226.15	$54.63	$207.55
IN	$3,495.80	$6,998.07	$1,786.91	0.090	$182.29	$56.69	$176.38
KS	$4,766.84	$9,342.04	$2,457.28	0.127	$250.98	$61.73	$237.08
KY	$4,872.38	$9,623.34	$2,338.34	0.129	$276.34	$134.19	$222.67
LA	$4,872.38	$8,263.20	$2,027.88	0.112	$200.53	$38.01	$191.99
MA	$4,241.15	$8,009.14	$2,152.91	0.086	$219.51	$96.80	$234.59
MD	$4,241.15	$7,820.31	$2,059.22	0.091	$223.86	$82.40	$215.31
ME	$4,241.15	$7,209.12	$1,988.14	0.111	$255.06	$105.38	$185.96
MI	$3,495.80	$6,668.74	$1,678.45	0.075	$213.95	$65.94	$174.89
MN	$3,495.80	$6,748.47	$1,722.95	0.082	$235.40	$69.78	$174.44
MO	$3,495.80	$7,129.80	$1,734.26	0.087	$161.24	$48.16	$170.78
MS	$4,872.38	$8,963.73	$2,259.79	0.131	$323.19	$58.01	$208.30
MT	$4,766.84	$7,853.66	$2,174.90	0.125	$63.50	$63.21	$197.80
NC	$4,872.38	$9,289.44	$2,332.22	0.123	$203.73	$90.76	$226.91
ND	$4,766.84	$8,012.12	$2,072.99	0.122	$252.05	$25.96	$185.43
NE	$4,766.84	$8,714.24	$2,431.33	0.130	$275.41	$62.43	$230.80
NH	$4,241.15	$7,743.97	$2,155.44	0.100	$23.85	$100.44	$221.87
NJ	$4,241.15	$8,080.26	$2,121.69	0.082	$243.86	$29.53	$234.33
NM	$4,994.49	$8,385.92	$2,186.90	0.132	$239.44	$61.19	$195.28
NV	$5,628.79	$9,051.37	$2,514.52	0.110	$368.10	$0.00	$260.83
NY	$4,241.15	$7,724.01	$1,982.16	0.074	$164.46	$60.11	$221.40
OH	$3,495.80	$7,350.45	$1,842.31	0.087	$192.12	$37.41	$187.68
OK	$4,994.49	$9,981.52	$2,606.44	0.144	$220.68	$56.86	$246.57
OR	$5,628.79	$10,561.77	$2,742.78	0.131	$48.29	$144.79	$274.25
PA	$4,241.15	$8,940.42	$2,391.06	0.104	$247.23	$66.00	$252.86
RI	$4,241.15	$7,100.60	$1,887.44	0.091	$306.95	$52.38	$190.46
SC	$4,872.38	$9,143.75	$2,296.73	0.124	$237.48	$62.94	$221.09
SD	$4,766.84	$8,139.31	$2,236.30	0.125	$209.45	$0.00	$206.89
TN	$4,872.38	$10,055.93	$2,489.95	0.123	$285.18	$148.40	$250.49
TX	$4,994.49	$10,785.22	$2,875.58	0.140	$299.52	$0.00	$290.36
UT	$4,766.84	$9,599.51	$2,698.66	0.138	$248.68	$114.93	$262.55
VA	$4,241.15	$8,315.88	$2,200.64	0.102	$159.39	$64.68	$226.36
VT	$4,241.15	$7,065.65	$1,886.80	0.104	$172.63	$44.40	$177.59
WA	$5,628.79	$10,310.82	$2,746.40	0.122	$369.92	$0.00	$283.40
WI	$3,495.80	$6,648.26	$1,690.41	0.088	$194.04	$64.63	$163.88
WV	$4,241.15	$6,852.66	$1,822.52	0.105	$258.92	$53.13	$167.31
WY	$4,766.84	$7,319.10	$1,978.29	0.116	$186.81	$0.00	$177.06
US	$4,233.94	$11,825.01	$2,985.95	0.125	$217.37	$67.73	$324.98

Indiana, Illinois, and Wisconsin. These differences can be attributed to the following possible reasoning: In the Midwest, Northeast, and Southeast, hunting is more convenient and affordable so more people can participate. This lowers the overall annual expenditure per bowhunter, and helps draw more people into bowhunting than in the West. For most hunters, hunting in the West requires more overnight and long-distance travel—a bigger investment in equipment and more travel expense. Other reasons for lower bowhunting participation in the West include a smaller human population overall, and a stronger tradition of rifle hunting versus bowhunting, due in part to somewhat greater difficulty to get within bow-shooting range of game in the open country of the West. In addition, as longer distances result in increased difficulty in the West, bowhunting may attract only the more avid bowhunter who is likely to spend more on average than less avid bowhunters.

Impacts By State

Bowhunting can have a significant impact on state economies. These impacts per state are presented in Table 13.

Each state's economy receives a significant boost from bowhunters. Table 13 presents the bowhunting benefits for each state. The top five and bottom five states are influenced prima-

Table 13
Economic Impacts of Bowhunting (1998)

Bowhunting Licenses Sold	Retail Sales	Multiplier Effect	Salaries & Wages	Jobs	State Sales Tax Revenues	State Income Tax Revenues	Fed. Income Tax Revenues
AK 5,000	$28,143,931	$42,383,209	$10,497,487	552	$56,000	$0	$995,104
AL 66,000	$321,577,344	$613,283,673	$157,094,905	8,286	$12,760,247	$5,698,513	$15,302,469
AR 50,000	$243,619,200	$445,559,600	$111,228,292	6,665	$11,017,481	$3,437,098	$10,055,127
AZ 20,000	$99,889,786	$185,659,721	$51,872,002	2,590	$4,789,433	$1,097,718	$5,236,059
CA 15,000	$84,431,794	$174,640,862	$47,459,885	1,855	$5,075,731	$626,688	$5,145,941
CO 45,194	$215,432,422	$427,694,974	$119,364,053	5,692	$7,887,796	$3,992,171	$11,976,513
CT 14,000	$59,376,092	$110,460,260	$30,658,760	1,169	$3,906,218	$893,496	$3,403,295
DE 6,400	$27,143,356	$42,692,654	$9,739,766	471	$205,961	$411,981	$979,768
FL 35,000	$170,533,440	$302,103,286	$78,120,242	3,772	$9,566,582	$0	$7,949,798
GA 120,800	$588,583,987	$1,166,814,609	$295,778,747	14,341	$21,938,135	$12,592,376	$30,043,104
HI 750	$4,221,590	$6,825,761	$1,791,683	76	$481,229	$99,013	$187,245
IA 36,800	$128,645,570	$241,377,357	$62,957,489	3,381	$7,001,973	$4,325,785	$6,005,891
ID 22,000	$123,833,297	$203,533,189	$56,743,156	3,080	$6,741,328	$2,255,533	$5,316,226
IL 131,000	$457,950,261	$996,095,223	$253,422,125	10,466	$29,626,136	$7,156,171	$27,189,196
IN 122,000	$426,488,029	$853,764,230	$218,003,511	10,959	$22,239,597	$6,916,586	$21,518,047
KS 17,800	$84,849,695	$166,288,310	$43,739,499	2,255	$4,467,356	$1,098,823	$4,219,958
KY 110,000	$535,962,240	$1,058,567,130	$257,217,191	14,143	$30,396,896	$14,760,806	$24,493,912
LA 50,000	$243,619,200	$413,160,047	$101,394,186	5,621	$10,026,695	$1,900,472	$9,599,593
MA 26,000	$110,269,885	$208,237,664	$55,975,773	2,246	$5,707,258	$2,516,837	$6,099,272
MD 47,000	$199,334,024	$367,554,795	$96,783,317	4,300	$10,521,557	$3,872,864	$10,119,787
ME 13,000	$55,134,943	$93,718,563	$25,845,839	1,447	$3,315,802	$1,369,901	$2,417,473
MI 385,000	$1,345,884,355	$2,567,464,197	$646,204,723	28,848	$82,370,631	$25,386,667	$67,333,803
MN 66,000	$230,723,032	$445,398,905	$113,714,631	5,404	$15,536,410	$4,605,277	$11,513,192
MO 97,417	$340,550,692	$694,563,796	$168,946,544	8,515	$15,707,765	$4,691,675	$16,637,210
MS 58,000	$282,598,272	$519,896,096	$131,067,780	7,613	$18,744,808	$3,364,418	$12,081,170
MT 26,000	$123,937,757	$204,195,288	$56,547,521	3,248	$1,651,098	$1,643,413	$5,142,905
NC 80,000	$389,790,720	$743,155,086	$186,577,468	9,869	$16,298,342	$7,261,062	$18,152,655
ND 11,700	$55,771,991	$93,741,831	$24,253,949	1,430	$2,948,972	$303,730	$2,169,498
NE 18,235	$86,923,269	$158,904,110	$44,335,358	2,366	$5,022,183	$1,138,321	$4,208,620
NH 23,580	$100,006,304	$182,602,742	$50,825,233	2,367	$562,498	$2,368,322	$5,231,686
NJ 47,575	$201,772,685	$384,418,319	$100,939,192	3,885	$11,601,419	$1,404,892	$11,148,189
NM 6,000	$29,966,936	$50,315,504	$13,121,382	792	$1,436,641	$367,133	$1,171,702
NV 2,184	$12,293,269	$19,768,194	$5,491,712	241	$803,932	$0	$569,657
NY 170,000	$720,995,405	$1,313,082,330	$336,966,581	12,612	$27,957,354	$10,219,396	$37,638,840
OH 100,000	$349,580,352	$735,044,693	$184,231,312	8,653	$19,212,053	$3,740,670	$18,767,809
OK 60,000	$299,669,357	$598,891,048	$156,386,581	8,637	$13,240,558	$3,411,540	$14,794,342
OR 25,150	$141,563,974	$265,628,539	$68,980,946	3,288	$1,214,553	$3,641,355	$6,897,432
PA 328,193	$1,391,915,558	$2,934,182,723	$784,729,789	34,015	$81,138,419	$21,662,268	$82,986,680
RI 4,580	$19,424,464	$32,520,753	$8,644,492	418	$1,405,841	$239,882	$872,299
SC 45,000	$219,257,280	$411,468,638	$103,352,740	5,573	$10,686,485	$2,832,308	$9,949,133
SD 10,600	$50,528,470	$86,276,675	$23,704,764	1,324	$2,220,166	$0	$2,193,041
TN 91,000	$443,386,944	$915,089,310	$226,585,228	11,217	$25,950,941	$13,504,759	$22,794,948
TX 75,000	$374,586,696	$808,891,746	$215,668,819	10,472	$22,464,241	$0	$21,777,166
UT 12,420	$59,204,113	$119,225,892	$33,517,314	1,712	$3,088,640	$1,427,447	$3,260,821
VA 58,516	$248,175,101	$486,612,001	$128,772,784	5,959	$9,326,688	$3,784,717	$13,245,506
VT 30,994	$131,450,186	$218,992,733	$58,479,588	3,228	$5,350,462	$1,376,031	$5,504,124
WA 20,658	$116,279,466	$213,000,917	$56,735,139	2,510	$7,641,744	$0	$5,854,508
WI 246,000	$859,967,666	$1,635,471,290	$415,841,916	21,675	$47,733,846	$15,898,276	$40,313,942
WV 121,000	$513,179,082	$829,171,804	$220,524,868	12,706	$31,329,004	$6,428,649	$20,244,918
WY 10,570	$50,385,465	$77,362,837	$20,910,574	1,228	$1,974,586	$0	$1,871,551
Altogether, the impact to the U.S. economy produced by bowhunters is huge:							
US 3,185,116*	$13,398,808,946	$37,664,037,289	$9,510,583,413	398,451	$692,349,690	$215,725,039	$1,018,785,920

* Number of bowhunting licenses sold obtained from *Archery Business* magazine. One adjustment was made to Rhode Island, thus changing the total from 3,180,994 to 3,185,116

rily by the total number of bowhunters in each state and not the average spent per bowhunter as in Table 12. The top five states for overall bowhunting impacts are Pennsylvania, Michigan, Wisconsin, New York and Georgia. In Table 13, please note that the sales tax estimates also include revenues from state fuel excise taxes.

Interesting Comparisons & Facts

Many numbers and statistics are presented in this handbook. What do they really mean? It can be difficult to understand them in the context of everyday points of reference. Below are some interesting facts that may help explain the significance of bowhunting and put some statistics in ordinary terms.

•The top 10 bowhunting states (ranked by bowhunter expenditures) account for over half (51 percent) of all U.S. bowhunting retail sales. (Top 10 states by rank = PA, MI, WI, NY, GA, KY, WV, IL, TN, IN).

•The top 10 bowhunting states (ranked by number of bowhunters) account for more than half (51 percent) of all U.S. bowhunters (Top 10 states by rank = MI, PA, WI, NY, IL, IN, WV, GA, KY, OH).

•The number of bowhunters in the U.S. is larger than the individual populations of 21 states: AR, DE, HI, ID, IA, KS, ME, MS, MT, NE, NV, NH, NM, ND, OR, RI, SD, UT, VT, WV, and WY (source: Bureau of the Census).

•Chicago, the third-largest U.S. city, is not big enough to hold all U.S. bowhunters (3.2 million bowhunters versus 2.8 million Chicagoans; source: Bureau of the Census).

•The value of Michigan's annual corn harvest is less than half of the state's annual bowhunting expenditures ($520 million versus $1.34 billion; source: USDA).

•Bowhunters' annual expenditures in Georgia are 50 percent greater than the state's annual peanut crop ($589 million for bowhunting and $388 million for peanuts; source: USDA).

•Bowhunters' expenditures in Alabama are greater than the state's annual cotton harvest ($322 million for bowhunting and $277 million for cotton; source: USDA).

•Bowhunters' annual expenditures in Virginia are greater than the value of the state's annual tobacco harvest ($248 million for bowhunting and $200 million for tobacco; source: USDA).

•Bowhunters' expenditures support more jobs than the number employed by Ford Motors, the Fortune 500's third largest employer (398,000 supported by bowhunting, 371,000 employed by Ford; source: Fortune 500).

•If bowhunting were a corporation, it would rank #92 on the Fortune 500 (source: Fortune 500 list released 1/98).

•Each year, bowhunters spend twenty-two times more than the total box office earnings of "Titanic," the largest grossing movie ever (as of May 1998, Titanic's earnings were $587 million; source: Washington Post).

•Bowhunters spend up to 2.5 times more on hunting than a typical gun hunter.

•The typical bowhunter generates $610 in state and federal tax revenues and creates $2,986 in salaries and wages annually.

•With every eight new bowhunters recruited, a new job is created!

Chapter 5

Bowhunters Compared to Gun Hunters—Numeric and Economic Differences

- Of the 14 million hunters in the U.S., 3.2 million bowhunt.
- In the U.S., about 1 in 4 gun hunters also bowhunt.
- The average bowhunter spends more time and money hunting than the average gun hunter.

As explained in earlier chapters, bowhunting is a subset of gun hunting. According to Duda (1999), 82 percent of bowhunters first hunted with a gun before graduating to a bow. Most continue to hunt with a gun in addition to their bowhunting activities. Despite this direct link, bowhunting and bowhunters can be differentiated from gun hunting and gun hunters in economic terms. This chapter will look at some of those differences.

Bowhunters, as a subset of all hunters, will obviously be a smaller group than all hunters. According to the U.S. Fish and Wildlife Service, in 1991, there were 14,063,000 hunters in the U.S. Of these, 2,732,000 reported bowhunting.

The major difference between gun hunting and bowhunting lies in the trends. By 1996, using just U.S. Fish and Wildlife Service data, the number of hunters had decreased 0.6 percent since 1991. However, bowhunters had increased 20.4 percent over that same 5-year period. In 1991, one in every 5.1 hunters also bowhunted. By 1996, that ratio had increased to one in every 4.3. Bowhunting license sales data collected by *Archery Business Magazine* shows an increase of 22.5 percent over the same 5-year period.

By Region

By region, the ratio of gun hunters to bowhunters varies. The closest ratio of gun to bow was in the Northeast (3.3 to 1) followed closely by the Midwest (about 4 to 1), while the greatest difference was in the West (about 12.6 to 1).

Table 14
Number of Gun and Bowhunters

Region	Gun Hunters	Bowhunters
Southeast	5,705,000	996,733
Northeast	2,742,000	832,322
Midwest	4,548,000	1,145,135
West	2,667,000	210,926
US	13,975,000	3,185,116

Region	Ratio of Gun Hunters to Bowhunters:	Percent of Gunhunters who Bowhunt:
Southeast	5.72	17.5%
Northeast	3.29	30.4%
Midwest	3.97	25.2%
West	12.64	7.9%
US	4.39	22.8%

Source: 1996 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (USFWS) and *Archery Business*

Note: The total regional gunhunters exceeds the U.S. total as some bowhunters reported hunting in multiple regions. The U.S. total was adjusted downward to reflect multiple responses.

Table 15
Regions, By States Included

Southeast (Region 1)	Northeast (Region 2)	Midwest (Region 3)	West (Region 4)
AL	CT	IL	AK
AR	DE	IN	AZ
FL	ME	IA	CA
GA	MD	KS	CO
KY	MA	MI	HA
LA	NH	MN	ID
MS	NJ	NE	MT
MO	NY	ND	NV
NC	PA	OH	NM
OK	RI	SD	OR
SC	VT	WI	UT
TN	WV		WA
TX			WY
VA			

By Time Spent Hunting

Bowhunters spent a greater number of days hunting than gun hunters (Table 16). The greatest difference was in the Northeast, where bowhunters spent about 65 percent more time than gun hunters. The least difference was in the Southeast, where bowhunters spent 25 percent more days afield than gun hunters. For both gun hunting and bowhunting, less days were spent afield in the Western region of the United States. Possible reasons for greater bowhunting days include 1) longer seasons available to bowhunters, and 2) bowhunters typically represent the

Table 16

Average Annual Days of Hunting

Region	Gun Hunters	Bowhunters	% Difference
Southeast	20	25	25.0%
Northeast	17	28	64.7%
Midwest	16	25	56.3%
West	13	17	30.8%

more avid hunter who is willing to spend a greater number of days afield.

By Expenditures

On average, bowhunters tend to spend significantly more each year compared to general hunters (Table 17). This is based on data from the 1996 National Survey of Fishing, Hunting and Wildlife Recreation, which compiled gun hunter and bowhunter expenses identically, thus allowing fair comparisons. The average gun hunter spent $2,307.90 annually for equipment, travel expenses, and other incidentals related to hunting activities. Bowhunters spent $5,711.59, or nearly 148 percent more. A separate study conducted for AMO by Southwick Associates also found similar differences (Table 11). The categories with the biggest spending differences include travel items and "big-ticket" items such as cabins, vehicles, and land. Please note that the data in Table 17 came from a different survey than the data reported earlier in Table 11. The data in Table 11 is based on a larger sample size and may be preferable compared to Table 17, though the methodologies utilized by both surveys are sound and reliable.

One of several possible reasons for the disparity between gun hunting and bowhunting expenditures may be related to bowhunters' level of enthusiasm, otherwise known as "avidity." According to research, bowhunters typically start as gun hunters. Many enthusiastic gun hunters take up bowhunting as a new challenge or as a way to spend more days in the field. These avid participants are willing to spend more on their chosen activity. Since they derive more value from their hunting activity, and since they spend more days pursuing their chosen activity, they will spend more money per day in the field, and spend much more overall than less enthusiastic hunters. Therefore, advertisers promoting higher-end products or services that enhance the overall value received from a day afield should look to bowhunters.

Table 17

Bowhunters Compared to General Hunters: 1996 Expenditure Differences

	Bowhunters	Gun Hunters	Bowhunters Compared To Gun Hunters
Food	$222.33	$124.93	78.0%
Lodging	$41.52	$27.58	50.6%
Public Transportation	$7.35	$11.22	-34.5%
Private Transportation	$191.36	$93.23	105.3%
Guides	$12.07	$12.67	-4.8%
Public Land Use Fees	$3.11	$2.93	6.2%
Private Land Use Fees	$35.87	$19.11	87.8%
Equipment Rental	$1.96	$2.82	-30.5%
Boat Fuel	$5.66	$3.81	48.5%
Boat Launching	$0.68	$0.60	12.5%
Boat Mooring	$4.75	$8.21	-42.1%
Heating Fuel	$11.57	$6.87	68.3%
Rifle	$103.55	$70.39	47.1%
Shotgun	$97.21	$53.79	80.7%
Muzzle Loaders	$24.84	$8.37	196.8%
Pistol/Handgun	$34.90	$25.35	37.7%
Bow Expenditures	$158.01	$6.48	2338.4%
Scopes	$40.40	$17.41	132.1%
Decoys	$27.35	$6.65	311.5%
Ammunition	$63.11	$45.75	37.9%
Hand Loading Equipment	$22.43	$11.94	87.9%
Dog Expenditures	$55.18	$41.15	34.1%
Other Hunting Equipment	$40.71	$22.03	84.8%
Camping Gear	$13.04	$9.55	36.6%
Binoculars	$14.85	$11.18	32.9%
Clothing	$72.24	$28.30	155.3%
Taxidermy	$53.24	$13.70	288.6%
Books/Magazines	$15.54	$5.41	187.1%
Dues	$28.88	$13.91	107.7%
Oth. Hunt Related Expenditures	$5.25	$3.47	51.3%
Boats & Accessories	$8.34	$1.81	360.4%
Pickup/Vehicle	$194.93	$130.82	49.0%
Cabin	$59.34	$7.52	689.1%
Off-road Vehicle	$273.61	$116.68	134.5%
Other Equipment	$2.67	$4.28	-37.8%
Land Purchase/ Lease	$3,763.75	$1,337.99	181.3%
TOTAL	$5,711.59	$2,307.90	147.5%

Chapter 6

Profiles of Bowhunter Expenditures

- "Avid" bowhunters spend much more money than "non-avid" bowhunters do.
- There is little difference in per-bowhunter expenditures according to region.
- Younger bowhunters tend to spend more than older bowhunters do.
- As bowhunting experience increases, so do purchases of more traditional-type archery equipment.
- Whether the bowhunter lives in a city, suburbs, small town, or rural area has little effect on his expenditures.
- "Big spenders" (<19 percent of bowhunters) spend from 50 percent to 100 percent more per year for compound bows and certain accessories than "average spenders."

This chapter profiles equipment expenditures made by bowhunters and compares expenditures by bowhunting avidity, age, region, years of bowhunting experience, and other factors. These profiles are based on the surveys discussed in Chapter 5.

Avid Versus Non-avid Expenditures

As with nearly all sports, those who take part on a more frequent basis typically spend more and may purchase different types of equipment compared to the less-frequent participant. This section compares the equipment purchases of avid and non-avid bowhunters. A bowhunter is described as avid if they reported 10 or more days of bowhunting a year.

There are significant differences in equipment purchases between avid and non-avid bowhunters for most items. Table 18 is based on the 1996 Southwick study and compares equipment purchases for avid and non-avid bowhunters. The first column (% of bowhunters) tells the percent of all bowhunters (avid and non-avid) who reported purchasing each item. Of those who purchased an equipment item, the last two columns indicate the percentage of annual U.S. equipment purchases made by avid or non-avid bowhunters. For example: 83.7 percent of all 1996 compound bow sales went to avid hunters. Not surprisingly, avid bowhunters purchased a majority of all equipment items listed. For all bowhunters, the equipment items purchased most often were broadheads, with over 70 percent of bowhunters reporting an expenditure on them.

Table 18

Avid vs. Non-Avid Bowhunters: Percentage of Annual Sales Made By Each
(Based on Dollars Spent)

Purchases (n=1,955)	% of Bowhunters	Non-Avid (%)	Avid (%)
Bows			
Compound	49.8	16.3	83.7
Longbow	1.8	16.7	83.7
Recurve	5.1	13.1	86.9
Crossbow	1.2	20.8	79.2
Accessories			
Arrow Rest	35.8	12.7	87.3
Releases	33.4	14.7	85.3
Bowsights	43.5	13.7	86.3
Glove/Tabs	24.9	16.3	83.7
Other	58.3	14.6	85.4
Arrows-Finished			
Aluminum	58.9	17.1	82.9
Carbon	9.3	13.7	86.3
Wood	1.7	15.2	84.8
Don't Know	0.4	14.3	85.7
Arrows-Raw			
Aluminum	13.7	13.1	86.9
Carbon	3.1	16.7	83.3
Wood	2.3	15.9	84.1
Don't Know	0.1	0.0	100.0
Points			
Broadheads	70.3	14.7	85.3
Field	30.8	13.1	86.9
Target	16.5	11.8	88.2
Other	2.7	13.2	86.8

Table 19 is based on the 1996 Southwick study and shows the percentage of avid and non-avid bowhunters who purchased an item in 1996. The first column (%) gives the percentage of bowhunters in each category who purchased an equipment item. The next column (column %) shows the distribution of purchases within each equipment category. For example, of all the bows purchased by non-avid bowhunters, 86.9 percent were compound bows, 3.3 percent were longbows, etc. For most equipment, avid hunters were roughly twice as likely as non-avid hunters to report an expenditure for any given item. It is interesting to note that even though avid hunters report a greater number of purchases, the preferences for the items are the same between avid and non-avid bowhunters. For example, regardless of the number of times a person bowhunted in 1996, 86 percent selected a compound bow over traditional bows or crossbows.

Table 19

Comparison of Equipment Preferences, by Avid vs. Non-Avid

	Non-Avid (n=504) %	Non-Avid Column %	Avid (n=1,451) %	Avid Column %
Bows				
Compound	31.6	86.9	56.2	85.8
Longbow	1.2	3.3	2.1	3.2
Recurve	2.6	7.1	5.9	9.1
Crossbow	1.0	2.7	1.3	2.0
	Totals	100.0	Totals	100.0
Accessories				
Arrow Rest	17.7	16.3	42.1	18.6
Releases	19.1	17.6	38.4	17.0
Bowsights	23.2	21.4	50.6	22.4
Glove/Tabs	15.7	14.4	28.1	12.4
Other	32.9	30.3	67.1	29.6
	Totals	100.0	Totals	100.0
Arrows-Finished				
Aluminum	39.1	86.4	65.7	83.3
Carbon	5.0	11.0	10.8	13.7
Wood	1.0	2.2	1.9	2.4
Don't Know	0.2	0.4	0.4	0.5
	Totals	100.0	Totals	100.0
Arrows-Raw				
Aluminum	6.9	67.3	16.1	72.4
Carbon	2.0	19.2	3.5	15.5
Wood	1.4	13.5	2.6	11.5
Don't Know	0.0	0.0	0.1	0.6
	Totals	100.0	Totals	100.0
Points				
Broadheads	40.1	62.0	80.8	57.8
Field	15.7	24.2	36.1	25.9
Target	7.5	11.7	19.6	14.1
Other	1.4	2.1	3.2	2.3
	Totals	100.0	Totals	100.0

Table 19 showed us that avid bowhunters were about twice as likely as non-avid bowhunters to purchase any given bowhunting item. When *all* avid and non-avid hunter expenditures are averaged together (including bowhunters who did not report any expenditures), avid bowhunters spend roughly twice as much money than non-avid hunters.

Table 20 reports the average expenditure for bowhunters who actually purchased one of the listed items. There are few differences between avid and non-avid bowhunters. The only major statistical differences were for three items: recurve bows, raw carbon arrows, and broadheads where avid bowhunters spent 54.6, 59.4 and 24.0 percent more respectively than non-avid bowhunters. Table 20 differs from Table 19 as it only reports the average expenditure made by bowhunters who reported buying at least one bowhunting item in 1996. Table 19 considers all bowhunters. Once the non-spending hunters were eliminated from the average, the expenditure difference narrows to where avid bowhunters spend only 25 percent more than non-avid hunters.

When comparing Table 19 to Table 20, some interesting differences between avid and non-avid bowhunters can be seen. Although avid hunters reported about twice as many

Table 20

Average Equipment Expenditures (for respondents who reported an expenditure) by Avid vs. Non-Avid

	Non-Avid ($)	Avid ($)
Bows		
Compound	340.1	377.8
Longbow	267.5	357.8
Recurve	188.4	291.2
Crossbow	230.0	246.8
Accessories		
Arrow Rests	31.5	35.3
Releases	41.4	46.2
Bowsights	50.2	55.3
Glove/Tabs	15.9	18.7
Other	47.4	57.8
Arrows-Finished		
Aluminum	59.7	65.6
Carbon	106.3	98.6
Wood	50.4	59.7
Don't Know	20.0	93.3
Arrows-Raw		
Aluminum	55.9	66.7
Carbon	74.7	119.1
Wood	45.1	55.1
Don't Know	0.0	40.0
Points		
Broadheads	31.6	39.2
Field	11.3	11.0
Target	12.9	13.6
Other	30.4	25.9
Total	$1,710.7	$2,174.7

purchases of equipment items than non-avid hunters, the average amount spent was nearly the same. Analysis of the equipment groups (Table 20) shows that avid and non-avid bowhunters spend roughly the same proportion on the items, indicating that there is not a strong difference in preference for equipment between the two categories. Only the frequency of purchase is significantly different.

Regional Differences in Expenditures

Just as customs and traditions vary across the country, so do preferences for bowhunting. According to United States Fish and Wildlife Service's 1996 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, bowhunting enjoys the most popularity in the Midwest and the least in the West.

Table 21 shows the percentage of bowhunters who purchased an item in 1996 by region. For most equipment, there is little difference in the percentage of bowhunters reporting an expenditure for specific items. The "%" column gives the percentage of bowhunters in each category who purchased an equipment item. The "column %" column gives the percentage each item represents within each category.

There are few significant differences in average equipment expenditures when all survey respondents are taken into account (Table 22). The first column of Table 22 shows the average spent by the typical bowhunter by region for each item, while the second column shows the percentage of sales each items represents within its equipment category. For example, in the Midwest, the average bowhunter spent $194 for a compound bow in 1996, and in the Midwest, compound bows represented 89.1 percent of all bow sales. For most equipment, it can be seen that hunters in each region spent roughly the same amount of money on each item, though there appears to be a trend toward slightly lower expenditures in the West. Across the regions, no statistical difference could be found regarding types of equipment preferred (i.e. preference for compounds over traditional bows, etc.). For those bowhunters who specifically reported spending

Table 21

Comparison of Equipment Preferences, by Region (1996)

	Midwest (n=573)		Northeast (n=600)		Southeast (n=573)		West (n=600)	
	%	Column %	%	Column %	%	Column %	%	Column %
Bows								
Compound	51.8	86.6	52.2	85.3	44.2	83.8	47.8	87.2
Longbow	2.6	4.4	1.3	2.2	1.1	2.1	1.9	3.6
Recurve	4.2	7.0	6.2	10.1	6.0	11.3	4.3	7.8
Crossbow	1.2	2.0	1.5	2.5	1.5	2.8	0.8	1.4
	Totals	100.0	Totals	100.0	Totals	100.0	Totals	100.0
Accessories								
Arrow Rest	36.1	18.3	36.2	18.0	36.8	18.8	34.5	18.3
Releases	33.9	17.1	34.0	16.9	32.3	16.5	32.7	17.4
Bowsights	43.8	22.2	45.2	22.5	42.4	21.7	41.9	22.3
Glove/Tabs	24.8	12.5	26.7	13.3	25.6	13.1	22.4	11.9
Other	59.2	29.9	58.8	29.3	58.5	29.8	56.5	30.1
	Totals	100.0	Totals	100.0	Totals	100.0	Totals	100.0
Arrows-Finished								
Aluminum	60.9	84.1	59.2	84.5	62.5	87.0	54.4	80.9
Carbon	9.8	13.5	8.7	12.4	8.2	11.4	10.1	15.1
Wood	1.2	1.7	1.7	2.4	1.1	1.6	2.5	3.8
Don't Know	0.5	0.7	0.5	0.7	0.0	0.0	0.2	0.3
	Totals	100.0	Totals	100.0	Totals	100.0	Totals	100.0
Arrows-Raw								
Aluminum	12.9	69.2	14.0	69.4	12.6	70.8	14.8	77.6
Carbon	2.8	15.0	4.2	20.7	3.3	18.8	1.9	10.2
Wood	2.6	14.0	2.0	9.9	1.9	10.4	2.3	12.2
Don't Know	0.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0
	Totals	100.0	Totals	100.0	Totals	100.0	Totals	100.0
Points								
Broadheads	70.9	57.3	71.0	57.6	74.7	62.2	66.5	58.6
Field	31.1	25.1	34.0	27.6	28.6	23.8	28.1	24.7
Target	18.2	14.7	16.2	13.1	15.6	13.0	15.6	13.7
Other	3.7	3.0	2.0	1.6	1.1	0.9	3.3	2.9
	Totals	100.0	Totals	100.0	Totals	100.0	Totals	100.0

Table 22

Average Equipment Expenditures (for all respondents), by Region

	Midwest (n=573)		Northeast (n=600)		Southeast (n=269)		West (n=513)	
	$	Column %	$	Column %	$	Column %	$	Column %
Bows								
Compound	$194.0	89.1%	$182.8	86.8%	$186.9	89.0%	$177.1	90.9%
Longbow	9.2	4.2	5.6	2.7	3.0	1.4	5.6	2.9
Recurve	11.9	5.5	18.1	8.6	17.4	8.3	10.0	5.1
Crossbow	2.6	1.2	4.2	2.0	2.8	1.3	2.1	1.1
Totals	217.7	100.0	210.7	100.0	210.1	100.0	194.8	100.0
Accessories								
Arrow Rest	13.0	13.8	12.0	13.8	13.3	15.5	11.9	13.8
Releases	14.6	15.5	14.9	17.1	14.8	17.3	16.4	19.0
Bowsights	24.3	25.8	22.3	25.6	26.6	31.0	23.4	27.1
Glove/Tabs	5.0	5.3	4.7	5.4	4.5	5.3	3.9	4.5
Other	37.4	39.7	33.1	38.0	26.5	30.9	30.6	35.5
Totals	94.3	100.0	87.0	100.0	85.7	100.0	86.2	100.0
Arrows-Finished								
Aluminum	39.5	74.5	38.6	82.0	41.0	79.8	34.2	77.6
Carbon	12.0	22.6	7.1	15.1	9.6	18.7	8.7	19.7
Wood	0.8	1.5	1.1	2.3	0.8	1.6	1.2	2.7
Don't Know	0.7	1.3	0.3	0.6	0.0	0.0	0.0	0.0
Totals	53.0	100.0	47.1	100.0	51.4	100.0	44.1	100.0
Points								
Broadheads	28.4	81.4	26.6	79.9	27.4	80.1	24.9	81.6
Field	3.2	9.2	3.7	11.1	4.5	13.2	2.8	9.2
Target	2.7	7.7	2.1	6.3	2.1	6.1	1.9	6.2
Other	0.6	1.7	0.9	2.7	0.2	0.6	0.9	3.0
Totals	34.9	100.0	33.3	100.0	34.2	100.0	30.5	100.0

Table 23

Average Equipment Expenditures (for respondents who reported an expenditure), by Region

	MW ($)	NE ($)	SE ($)	West ($)
Bows				
Compound	$374.3	350.4	442.4	370.9
Longbow	350.7	424.4	266.7	288.4
Recurve	285.0	292.8	291.9	234.0
Crossbow	210.0	280.6	188.5	272.5
Accessories				
Arrow Rest	36.0	33.2	36.3	34.6
Releases	43.1	43.9	45.8	50.2
Bowsights	55.6	49.3	62.7	55.8
Glove/Tabs	20.2	17.6	17.4	17.2
Other	63.3	56.2	45.5	54.2
Arrows-Finished				
Aluminum	64.9	65.2	65.7	62.8
Carbon	122.7	81.4	116.8	86.0
Wood	65.7	64.6	73.3	46.0
Don't Know	136.7	50.0	0.0	20.0
Arrows-Raw				
Aluminum	73.5	65.1	65.1	57.5
Carbon	98.1	117.7	153.2	81.0
Wood	61.6	65.1	61.0	28.7
Don't Know	40.0	0.0	0.0	0.0
Points				
Broadheads	40.0	37.4	36.7	37.5
Field	10.3	10.8	15.6	9.9
Target	15.0	13.2	13.2	12.0
Other	15.9	44.7	19.0	28.0

money for an item, a comparison across regions indicates there are few significant differences regarding the average expenditure (Table 23). Statistical analysis applied to the data showed that the Southeast had a higher expenditure than the national average for compound bows, bowsights, and field points (19, 15, and 42 percent respectively), but was lower for crossbows and longbows.

Expenditure Differences By Age Group

Age can also be a determining factor in the equipment a bowhunter selects and the price he is willing to pay. Table 24 shows the percentage of hunters who purchased an item in 1996. Note that as age increased, purchases of basic bowhunting items decreased. This could reflect purchases by younger hunters who might be newer to the sport and therefore do not have the equipment base of older bowhunters, or are upgrading their equipment as their skills develop. In addition, expenditures may decrease starting around the age of 40-plus based on a higher rate of inactive bowhunters in these age groups as reported by Duda (1999). It is interesting to note that older bowhunters, (60 and older), who made up less than 4 percent of the 1996

Southwick survey respondents, accounted for more than 30 percent of the crossbow purchases (not shown in a table). This can be attributed to physical conditions in older respondents that hinder their ability to use other types of bows.

Table 24 identifies equipment purchases by the age of the hunters. The "%" column gives the percentage of hunters within each category who purchased the listed equipment item. The "column %" column gives the percentage of sales each item represents within each equipment category.

Table 25 identifies average equipment expenditures by the age of hunters. The "$" column gives the average expenditure for an equipment item in each category. The "column %" column gives the percentage of sales each item represents within each equipment grouping. The average expenditure for all respondents shows there are few major differences across age groups. It is interesting to note that hunters between the ages of 19 and 39 tended to purchase more equipment and spend more on each purchase. After the age of 40, the money spent on equipment steadily decreased. The 18-and-under group reports more equipment purchases (Table 24), but spends less on their purchases. This reflects the fact that these are the newer bowhunters with lower income who are probably buying lower-quality equipment and then upgrading as they progress in the sport. In addition, they may be spending more once into the 19-29 age group, based on growing incomes. The decrease in expenditures at age 40 may reflect the tendency to become inactive, as reported by Duda (1999).

Table 24

Comparisons of Equipment Preferences, by Age

Age:	18 and under (n=94)		19-29 (n=323)		30-39 (n=592)		40-49 (n=485)		50-59 (n=222)		60-69 (n=61)	
	%	Column %	%	Column %	%	Column %	%	Column %	%	Column %	%	Column %
Bows												
Compound	71.3	87.0	59.1	91.0	54.1	87.2	46.6	85.6	51.4	79.7	45.9	71.8
Longbow	3.3	3.9	0.6	1.0	2.2	3.5	2.3	4.2	2.2	3.5	3.3	5.1
Recurve	3.2	3.9	4.3	6.7	5.2	8.4	4.7	8.7	9.9	15.4	4.9	7.7
Crossbow	4.3	5.2	0.9	1.4	0.5	0.8	0.8	1.5	0.9	1.4	9.8	15.4
Totals		100.0		100.0		100.0		100.0		100.0		100.0
Accessories												
Arrow Rest	50.0	20.1	45.8	19.6	40.7	18.9	32.6	17.7	32.4	16.1	21.3	13.0
Releases	42.6	17.1	44.0	18.8	36.0	16.7	28.7	15.5	35.6	17.7	31.2	19.0
Bowsights	61.7	24.8	52.6	22.5	47.5	22.1	39.2	21.3	46.8	23.3	34.4	21.0
Glove/Tabs	30.8	12.4	24.8	10.6	25.7	11.9	27.2	14.8	27.5	13.6	26.2	16.0
Other	63.8	25.6	66.6	28.5	65.4	30.4	56.7	30.8	59.0	29.3	50.8	31.0
Totals		100.0		100.0		100.0		100.0		100.0		100.0
Arrows-Finished												
Aluminum	71.3	79.8	70.3	84.1	60.6	84.3	57.3	83.2	64.0	82.1	57.4	94.6
Carbon	16.0	17.9	11.8	14.1	8.6	12.0	9.3	13.5	11.7	15.0	3.3	5.4
Wood	2.1	2.4	0.6	0.7	2.4	3.3	2.1	3.0	1.8	2.3	0.0	0.0
Don't Know	0.0	0.0	0.9	1.1	0.3	0.5	0.2	0.3	0.5	0.6	0.0	0.0
Totals		100.0		100.0		100.0		100.0		100.0		100.0
Arrows-Raw												
Aluminum	12.8	70.6	12.4	74.1	15.4	66.9	15.9	73.3	11.7	74.3	26.2	88.9
Carbon	4.3	23.5	2.8	16.7	4.2	18.4	3.5	16.2	1.3	8.6	0.0	0.00
Wood	1.1	5.9	1.6	9.3	3.0	13.2	2.3	10.5	2.7	17.1	3.3	11.1
Don't Know	0.0	0.0	0.0	0.0	0.0	0.3	1.5	0.0	0.0	0.0	0.0	0.0
Totals		100.0		100.0		100.0		100.0		100.0		100.0
Points												
Broadheads	80.9	51.0	80.8	57.1	74.3	57.2	73.2	60.8	70.3	61.2	65.6	58.0
Field	51.1	32.2	39.3	27.8	34.5	26.5	28.3	23.5	27.0	23.5	23.0	20.3
Target	20.2	12.8	19.2	13.6	17.7	13.7	16.9	14.0	14.4	12.5	21.3	18.8
Other	6.4	4.0	2.2	1.5	3.4	2.6	2.1	1.7	3.2	2.7	3.3	2.9
Totals		100.0		100.0		100.0		100.0		100.0		100.0

Of those hunters who reported an equipment expenditure for an item, a comparison across age groups indicates there are few significant differences regarding the average amount spent for specific items (Table 26). The 50-59 age group reported higher than the national average for finished carbon arrows, raw aluminum and wood arrows, and target points (70, 35, 127, and 80 percent more than the national average respectively). Some bowhunters older than 69 were identified, but too few returned surveys were available to produce reliable results.

Miscellaneous Insights by Activity and Age

Additional analysis were conducted regarding bowhunter activity and age. Among the results are:

•Bowhunters up until the age of 40 report about 16 visits per year to an archery range, after which the number of visits decreases.

•As age increases, bowhunters are less likely to visit public archery ranges.

Table 25

Average Equipment Expenditures (for all respondents) by Age

Age:	18 and under (n=94)		19-29 (n=323)		30-39 (n=592)		40-49 (n=485)		50-59 (n=222)		60-69 (n=61)	
	$	Column %	$	Column %	$	Column %	$	Column %	$	Column %	$	Column %
Bows												
Compound	$200.0	88.8%	$209.2	93.1%	$211.1	90.3%	$183.7	67.8%	$186.6	84.0%	$144.8	75.2%
Longbow	8.2	3.6	1.5	0.7	8.2	3.5	67.0	24.7	9.1	4.1	13.9	7.2
Recurve	7.4	3.3	11.7	5.2	12.6	5.4	18.3	6.8	25.2	11.3	12.0	6.2
Crossbow	9.6	4.3	2.3	1.0	1.9	0.8	2.0	0.7	1.3	0.6	21.8	11.3
Totals	225.2	100.0	224.7	100.0	233.8	100.0	271.0	100.0	222.2	100.0	192.5	100.0
Accessories												
Arrow Rest	13.3	16.1	17.9	16.9	14.9	14.6	10.9	12.6	10.4	11.7	4.7	7.3
Releases	15.2	18.4	18.5	17.4	17.2	16.8	13.3	15.4	17.1	19.3	9.0	13.9
Bowsights	23.2	28.2	28.3	26.7	26.7	26.1	23.4	27.1	26.9	30.3	11.8	18.3
Glove/Tabs	3.0	3.6	4.3	4.1	4.8	4.7	5.6	6.5	4.8	5.4	5.5	8.5
Other	27.7	33.6	37.1	35.0	38.8	37.9	33.2	38.4	29.6	33.3	33.6	52.0
Totals	82.4	100.0	106.1	100.0	102.4	100.0	86.4	100.0	88.8	100.0	64.6	100.0
Arrows-Finished												
Aluminum	39.3	80.9	46.3	80.8	40.1	79.6	38.1	78.7	40.2	65.7	27.7	96.2
Carbon	9.0	18.5	9.0	15.7	8.7	17.3	9.1	18.8	20.0	32.7	1.1	3.8
Wood	0.3	0.6	0.7	1.2	1.5	3.0	1.1	2.3	0.8	1.3	0.0	0.0
Don't Know	0.0	0.0	1.3	2.3	0.1	0.2	0.1	0.2	0.2	0.3	0.0	0.0
Totals	48.6	100.0	57.3	100.0	50.4	100.0	48.4	100.0	61.2	100.0	28.8	100.0
Arrows-Raw												
Aluminum	6.6	85.7	6.7	72.8	11.7	63.6	9.0	61.2	10.4	67.1	12.5	86.2
Carbon	1.0	13.0	2.1	22.8	5.3	28.8	4.6	31.3	1.8	11.6	0.0	0.0
Wood	0.1	1.3	0.4	4.3	1.3	7.1	1.1	7.5	3.3	21.3	2.0	13.8
Don't Know	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Totals	7.7	100.0	9.2	100.0	18.4	100.0	14.7	100.0	15.5	100.0	14.5	100.0
Points												
Broadheads	26.5	70.9	31.0	84.2	29.3	80.1	28.9	84.8	26.1	75.0	19.2	38.0
Field	5.4	14.4	3.6	9.8	4.1	11.2	2.8	8.2	4.0	11.5	26.0	51.5
Target	2.7	7.2	2.0	5.4	2.4	6.6	1.9	5.6	3.5	10.1	4.6	9.1
Other	2.8	7.5	0.2	0.5	0.8	2.2	0.5	1.5	1.2	3.4	0.7	1.4
Totals	37.4	100.0	36.8	100.0	36.6	100.0	34.1	100.0	34.8	100.0	50.5	100.0

Table 26

Average Equipment Expenditures (for respondents who reported an expenditure), by Age

Age:	18 & under	19-29	30-39	40-49	50-59	60-69
Bows						
Compound	$280.6	353.8	390.5	394.3	363.3	315.6
Longbow	258.3	237.5	373.0	307.3	402.0	425.0
Recurve	233.3	269.3	241.1	385.2	253.9	243.3
Crossbow	225.0	245.0	366.7	243.7	150.0	221.5
Accessories						
Arrow Rest	$26.6	39.2	36.6	33.6	32.0	22.3
Releases	35.7	42.0	47.7	46.3	47.9	28.9
Bowsights	37.6	53.7	56.2	59.7	57.5	34.1
Glove/Tabs	9.7	17.3	18.8	20.4	17.4	20.9
Other	43.4	55.7	59.3	58.8	50.2	66.2
Arrows-Finished						
Aluminum	$55.1	65.9	66.1	66.4	62.8	28.3
Carbon	56.6	77.0	100.7	97.7	171.2	33.5
Wood	15.0	110.0	64.9	51.5	44.5	0.0
Don't Know	0.0	140.0	40.0	30.0	50.0	0.0
Arrows-Raw						
Aluminum	$51.9	54.3	75.8	56.6	88.9	47.7
Carbon	24.3	77.1	125.2	130.6	136.7	0.0
Wood	7.0	28.0	42.9	48.5	122.5	62.5
Don't Know	0.0	0.0	40.0	0.0	0.0	0.0
Points						
Broadheads	$32.7	38.3	39.4	39.4	37.1	29.3
Field	10.6	9.3	12.0	9.8	14.8	11.2
Target	13.3	10.4	13.5	11.0	24.6	21.7
Other	44.7	11.0	23.4	24.6	39.3	22.5

•As expected, as age increased, so did education and income—until the age of 50. Bowhunters in the 50-plus age groups, as of 1996, had lower average income and education than bowhunters in the 40-49 age group. More research would be needed to explain these decreases.

•There appeared to be little difference across age groups regarding the likelihood of a bowhunter:

1) subscribing to a magazine,
2) who also hunts with a firearm part of the season, and
3) preferring one particular game species over another.

Expenditure Differences By Experience

This section examines bowhunters' equipment preferences and expenditures based on their level of bowhunting experience. Statistical analysis applied to Southwick Associates 1996 survey conducted for AMO indicated that purchases for many bowhunting equipment items varied significantly by experience group.

Table 27

In the Past 12 Months, Average Number of Visits Made to a Public Range?
(Active Bowhunters)

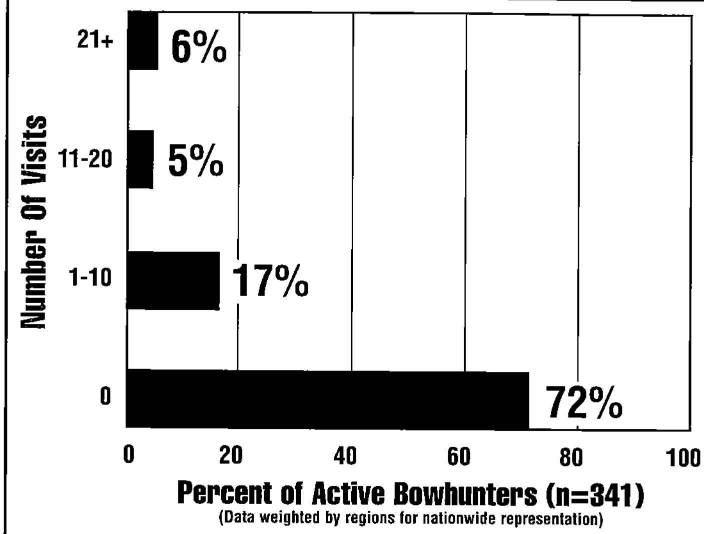


Table 28 looks at equipment preferences based on years of bowhunting experience. Not surprisingly, there appears to be a correlation between experience and age of the hunters. Many of the equipment items that were significantly different according to experience were also significantly different by age. As experience level increased, bowhunters tended to be more "traditional" or "purist" in their purchases. Less-experienced bowhunters are more likely to purchase compound bows, accessories, and finished arrows; more- experienced bowhunters purchased a higher percentage of traditional bows, wood arrows, unfinished arrows and non-conventional ("other") arrow points. The "Total" row tells the percent of bowhunters who fall into each age group in 1996. The "% of Bowhunters" column tells the percent of total hunters who reported purchasing an equipment item in 1996. The other columns present the percentage of each item's sales attributed to that experience group.

Table 29 shows the percentage of bowhunters in each experience group who purchased an item in 1996. The results correspond to Table 28, where as experience increases, bowhunters tend to become more traditional or purist. Purchase of compound bows decreased as experience increased, whereas purchases of traditional bows increased. Purchase of finished aluminum arrows decreased with

Table 28

Comparisons of Equipment Preferences, by Years of Bowhunting Experience (n=1747)

Years of Experience:	% of Bowhunters %	2 years & under %	3-5 %	6-10 %	11-20 %	21 & over %
Bows						
Compound	53.5	16.7	15.7	15.2	25.6	26.8
Longbow	2.1	11.1	2.8	16.7	19.4	50.0
Recurve	5.4	9.5	8.4	8.4	19.5	44.2
Crossbow	1.3	22.7	4.5	18.2	18.2	36.4
Accessories						
Arrow Rest	38.4	14.8	16.1	16.0	27.5	25.7
Releases	35.6	16.1	16.2	16.1	25.2	26.4
Bowsights	46.5	15.6	15.4	16.5	26.2	26.2
Glove/Tabs	26.6	14.2	13.2	15.5	26.5	30.6
Other	62.2	14.0	14.7	16.0	26.3	29.0
Arrows-Finished						
Aluminum	62.6	15.2	16.3	15.4	25.1	28.1
Carbon	10.0	17.1	17.1	15.4	22.8	27.4
Wood	1.8	16.1	3.2	12.9	25.8	41.9
Don't Know	0.4	14.3	0.0	28.6	42.9	14.3
Arrows-Raw						
Aluminum	14.8	8.1	10.1	14.7	31.0	36.1
Carbon	3.2	14.3	14.3	19.6	30.4	21.4
Wood	2.5	2.3	7.0	7.0	35.9	48.8
Don't Know	0.1	0.0	50.0	0.0	50.0	0.0
Points						
Broadheads	75.0	13.4	15.0	15.0	26.9	29.7
Field	33.3	15.8	15.7	16.7	26.5	25.3
Target	17.6	13.4	16.3	14.0	28.0	28.3
Other	3.0	15.4	17.3	15.4	21.1	30.8
		%	%	%	%	%
Total	---	12.9	14.1	15.7	26.7	30.6 =100

experience, whereas purchase of raw aluminum and wood arrows increased. As expected, less-experienced bowhunters were also more likely to purchase bow accessories such as sights and arrow releases. The "%" column gives the percentage of hunters in each category who purchased an equipment item. The "column %" column gives the percentage of sales each item represents within each equipment grouping.

Table 30 identifies equipment expenditures by the years of bowhunting experience. The "$" column gives the average expenditure for an equipment item in each category. The "column %" column gives the percentage of sales each item represents within each equipment grouping.

There are significant differences in the average amount spent per experience group (Table 30). Statistical analysis applied to the data reaffirms the previous findings (Tables 28 and Table 29) that experienced hunters become more traditional or purist. There were significant differences between bowhunters with 0-2 years experience and those with more than 20 years experience. The differences occurred for longbows, arrow rests, bowsights, finished alu-

Table 29

Percentage of Bowhunters Who Purchased Equipment, by Years of Experience (n=1,747)

Years of Experience:	2 and under (n=225) %	2 and under Column %	3-5 (n=247) %	3-5 Column %	6-10 (n=275) %	6-10 Column %	11-20 (n=466) %	11-20 Column %	21 & over (n=534) %	21 & over Column %
Bows										
Compound	69.3	89.7	59.5	93.6	51.6	88.8	51.3	86.0	46.8	78.6
Longbow	1.8	2.3	0.4	0.6	2.2	3.8	1.5	2.5	3.4	5.7
Recurve	4.0	5.2	3.2	5.1	2.9	5.0	6.0	10.1	7.9	13.2
Crossbow	2.2	2.9	0.4	0.6	1.5	2.5	0.9	1.4	1.5	2.5
Totals		100.0		100.0		100.0		100.0		100.0
Accessories										
Arrow Rest	44.0	18.2	43.7	19.5	38.9	18.2	39.5	19.1	32.2	17.1
Releases	44.4	18.4	40.9	18.2	36.4	17.0	33.7	16.3	30.7	16.3
Bowsights	56.4	23.3	50.6	22.5	48.7	22.8	45.7	22.1	39.9	21.2
Glove/Tabs	29.3	12.1	24.7	11.1	26.2	12.3	26.4	12.8	26.6	14.1
Other	67.6	27.9	64.8	28.8	63.3	29.6	61.4	29.7	59.0	31.3
Totals		100.0		100.0		100.0		100.0		100.0
Arrows-Finished										
Aluminum	73.8	82.2	72.1	85.2	61.1	83.6	58.8	84.3	57.5	83.2
Carbon	13.3	14.9	12.1	14.4	9.8	13.4	8.6	12.3	9.0	13.0
Wood	2.2	2.5	0.4	0.5	1.5	2.0	1.7	2.5	2.4	3.5
Don't Know	0.4	0.5	0.0	0.0	0.7	1.0	0.8	0.9	0.2	0.3
Totals		100.0		100.0		100.0		100.0		100.0
Points										
Broadheads	77.8	55.4	79.8	56.8	71.6	57.1	75.7	58.4	72.9	60.9
Field	40.9	29.1	36.8	26.2	35.3	28.1	33.1	25.5	27.5	23.0
Target	18.2	13.0	20.2	14.4	15.6	12.5	18.5	14.2	16.3	13.6
Other	3.6	2.5	3.6	2.6	2.9	2.3	2.4	1.8	3.0	2.5
Totals		100.0		100.0		100.0		100.0		100.0

minum arrows, and raw aluminum and wood arrows. In general, hunters with 3-5 years of experience tend to spend more on equipment than other groups. This may be a result of bowhunters upgrading their equipment, and/or preferring and purchasing the newer, higher-technology items that typically cost more. As bowhunters increase their years of experience, there is some shift to traditional forms of bowhunting that typically employ a lesser amount of accessories such as bowsights and releases. This trend may also contribute to the overall reduction in expenditures as experience (and age) increase, as does the higher tendency to become inactive.

Table 31 examines the typical expenditure of bowhunters who actually bought a specific item in 1996 , sorted by years of experience (versus Table 30, which looked at the average expenditure for all bowhunters in each experience group). For bowhunters who purchased equipment, there were a few significant differences between the experience groups. Hunters in the 0-2 years of experience group reported expenditures lower than the national average for compound and longbows (20- and 60-percent lower respectively). A possible explanation could be that bowhunters new to the sport purchased inexpensive bows (starter bows) until they progressed to higher-quality bows (as seen in the 3-5 years experience group). Hunters in the 11-20 years of experience group reported expenditures higher than the national average for finished wood arrows (33 percent), while the 6-to-10-year group reported expenditures higher than the national average for target points (30 percent). Tables 28-31 altogether show that while bowhunters gain years of experience, they are more likely to purchase equipment for a traditional form of bowhunting. This does not necessarily mean they will spend more for a traditional bow or arrows (except unfinished wood or carbon arrows), but that they are more likely to migrate to traditional forms of bowhunting.

Additional Insights by Years of Experience

Additional analyses were conducted of bowhunter activity compared to years of experience. Among the results are:

Table 30

Average Equipment Expenditures (for all respondents), by Years of Experience

Years of Experience:	2 and under (n=225)		3-5 (n=247)		6-10 (n=275)		11-20 (n=466)		21 & over (n=534)	
	$	Column %	$	Column %	$	Column %	$	Column %	$	Column %
Bows										
Compound	$204.8	91.8	$217.3	94.4	$195.0	83.0	$207.5	88.4	$176.8	82.7
Longbow	2.5	1.1	2.0	0.9	5.6	2.4	5.5	2.3	13.4	6.3
Recurve	11.4	5.1	9.7	4.2	8.3	3.5	18.9	8.0	19.7	9.2
Crossbow	4.4	2.0	1.2	0.5	426.0	11.1	2.9	1.2	3.8	1.8
Totals	223.1	100.0	230.2	100.0	234.9	100.0	234.8	100.0	213.7	100.0
Accessories										
Arrow Rest	14.0	13.4	16.3	16.6	14.3	15.8	14.8	14.2	9.8	11.7
Releases	17.8	17.0	16.2	16.5	15.8	17.5	16.9	16.2	14.8	17.6
Bowsights	31.8	30.5	25.6	26.1	25.2	27.9	27.3	26.2	21.3	25.4
Glove/Tabs	5.4	5.2	4.3	4.4	5.1	5.6	4.7	4.5	4.9	5.8
Other	35.4	33.9	35.5	36.3	30.0	33.2	40.5	38.9	33.1	39.5
Totals	104.4	100.0	97.9	100.0	90.4	100.0	104.2	100.0	83.9	100.0
Arrows-Finished										
Aluminum	46.3	74.0	44.6	82.9	42.0	81.1	38.2	79.1	36.3	75.2
Carbon	13.8	22.0	9.1	16.9	8.6	16.6	8.6	17.8	10.6	21.9
Wood	1.2	1.9	0.1	0.2	0.6	1.2	1.3	2.7	1.4	2.9
Don't Know	1.3	2.1	0.0	0.0	0.6	1.2	0.2	0.4	0.0	0.0
Totals	62.6	100.0	53.8	100.0	51.8	100.0	48.3	100.0	48.3	100.0
Points										
Broadheads	28.0	80.2	31.1	79.9	27.1	77.9	29.0	81.5	28.1	81.9
Field	4.5	12.9	4.0	10.3	4.5	12.9	3.3	9.3	3.1	9.0
Target	1.9	5.4	3.0	7.7	2.8	8.0	2.3	6.5	2.2	6.4
Other	0.5	1.4	0.8	2.1	0.4	1.1	1.0	2.8	0.9	2.6
Totals	34.9	100.0	38.9	100.0	34.8	100.0	35.6	100.0	34.3	100.0

Table 31

Average Equipment Expenditures (for respondents who reported an expenditure), by Years of Experience

Years of Experience:	2 & under	3-5	6-10	11-20	21 & over	National Avg.
Bows						
Compound	$295.4	$365.1	$377.7	$404.5	$377.6	$368.8
Longbow	138.7	500.0	255.8	368.4	398.3	342.7
Recurve	286.1	299.9	285.7	314.6	250.0	279.7
Crossbow	200.0	300.0	176.3	332.5	256.7	244.9
Accessories						
Arrow Rest	$31.8	37.3	36.9	37.4	30.6	34.7
Releases	39.9	39.5	43.6	50.2	48.3	45.2
Bowsights	56.3	50.6	51.7	59.7	53.3	54.8
Glove/Tabs	18.3	17.4	19.7	18.0	18.4	18.3
Other	52.4	54.9	47.3	66.1	56.0	56.6
Arrows-Finished						
Aluminum	$62.7	61.9	68.8	65.0	63.1	64.2
Carbon	103.4	75.0	87.8	99.9	118.4	99.4
Wood	52.0	20.0	41.3	78.6	58.3	59.1
Don't Know	300.0	0.0	80.0	33.3	20.0	82.9
Arrows-Raw						
Aluminum	$55.8	56.3	75.0	74.5	57.3	65.0
Carbon	108.4	82.5	75.8	122.2	165.6	114.7
Wood	7.0	26.3	30.7	43.3	70.8	53.8
Don't Know	0.0	30.0	0.0	50.0	0.0	40.0
Points						
Broadheads	$36.0	38.9	37.9	38.2	38.6	38.1
Field	10.9	10.9	12.8	9.9	11.3	11.1
Target	10.7	14.9	17.7	12.5	13.6	13.7
Other	13.7	22.0	12.4	42.7	31.3	26.5

•About 2 out of 3 bowhunters with more than 20 years of experience subscribed to a magazine. This dropped to 1 out of 2 bowhunters who have less than 10 years experience.

•Although not significantly, visits to private archery ranges increased with experience, whereas visits to public ranges decreased. This may be a function of age and income, where private ranges and clubs may be more affordable to a larger portion of older bowhunters.

•A majority of the women in the survey reported less than 5 years of experience, which could indicate a growing popularity among women for bowhunting.

•For bowhunters with 20-plus years of experience, a higher number of days were spent hunting deer, elk, and bear compared to bowhunters with two or less years of experience (38 percent more, 75 percent more, and 375 percent more respectively). Days spent pursuing turkey and small game were not significantly different between the groups.

Expenditure Differences By Place Of Residence

This section looks at equipment preferences for bowhunters based on place of residence (urban, suburban, small town, and rural). Table 32 compares equipment purchases by type of residence area. The "% of bowhunters" column reports the percentage of total respondents who bought an item. For all items purchased, the remaining columns disclose who made the purchases. Table 32 first shows that a significant majority of bowhunters live in small towns or rural areas. A comparison across places of residence shows there are few significant differences in equipment purchases. The areas where significant differences occurred are rural residents showing a higher inclination for traditional bows, crossbows and unfinished wood arrows than residents of urban, suburban, or rural areas. In general, small-town residents reported purchases of a greater number of finished arrows, whereas raw aluminum and carbon arrows were purchased more often by urban and suburban residents. It is speculated that the purchase of these arrow shafts by urban residents is a factor of their not being able to bowhunt as often as people living closer to huntable lands. The assembly of arrows is a substitute way to be involved in bowhunting. This should be considered carefully by bowhunting dealers in urban and suburban regions and mail-order businesses when developing sales strategies. The higher percentage of bowhunters in small towns and rural areas gravitating toward traditional means may reflect their better opportunities to practice and hunt with a bow. If true, construction of more archery ranges in urban and suburban areas may lead to greater conversion of gun hunters into bowhunters.

Table 33 identifies equipment purchases by place of residence. The "%" column gives the percentage of hunters in each category who purchased an equipment item. The "column %" column gives the percentage of sales each item represents within each equipment grouping. For example, of all bows bought by Urban/City residents, 87.5 percent were compound bows. For most equipment, it can be seen that there is little difference in the percentage of hunters reporting an expenditure. The only major difference that occurred between places of residence was in the raw arrow equipment group.

Table 32

Equipment Preferences, by Residence (n=1,775)

	% of Bowhunters*	Urban (%)	Suburb (%)	Small Town (%)	Rural (%)
Where they live:		11.8	15.4	36.4	36.4
Bows					
Compound	53.2	12.6	13.4	38.2	35.8
Longbow	2.0	8.3	11.1	38.9	41.7
Recurve	5.4	14.7	11.6	33.7	40.0
Crossbow	1.3	0.0	4.4	30.4	65.2
Accessories					
Arrow Rest	37.9	12.9	15.0	36.7	35.4
Releases	35.4	10.8	15.6	37.3	36.3
Bowsights	46.1	10.6	16.0	38.1	35.3
Glove/Tabs	26.5	9.6	12.5	40.2	37.7
Other	61.7	11.7	15.4	36.4	36.5
Arrows-Finished					
Aluminum	62.3	10.7	14.7	38.0	36.6
Carbon	10.0	10.8	17.0	38.1	34.1
Wood	1.8	12.9	3.2	48.4	35.5
Don't Know	0.4	0.0	14.3	42.9	42.9
Arrows-Raw					
Aluminum	14.8	14.1	15.3	34.7	35.9
Carbon	3.3	17.2	29.3	22.4	31.0
Wood	2.4	4.7	9.3	39.5	46.5
Don't Know	0.1	0.0	0.0	50.0	50.0
Points					
Broadheads	74.6	11.6	15.0	37.0	36.4
Field	33.0	10.6	15.6	36.2	37.6
Target	17.6	9.3	14.1	38.8	37.8
Other	2.9	7.8	17.7	41.2	33.3

*This column may not be identical to similar columns in previous tables. The slight differences are due to survey responses. Several respondents may not have replied where they lived, though they answered other questions. Those responses would have been dropped for the analysis for this particular table, thus slightly changing the results in this column compared to other tables.

Where Tables 32 and 33 look at the percentage of residents who purchase specific items, Tables 34 and 35 examine the typical amount spent by residents. There are few significant differences for typical expenditures by place of residence when all survey respondents are taken into account (Table 34). Statistical analysis applied to the data found that suburban residents had higher mean expenditures for bowsights, and for both finished and raw carbon arrows, while rural residents reported a significantly higher average expenditure for crossbows.

Table 34 identifies equipment expenditures by place of residence. This table shows the average for all bowhunters, not just for those who actually bought an item. The "$" column gives the average expenditure for an equipment item in each category. The "column %" column gives the percentage of sales each item represents within each equipment grouping.

Table 35 differs from Table 34 in that it looks only at residents who actually purchased specific items. As in Table 34, Table 35 shows that there are a few significant expenditure differences between places of residence. Suburban residents reported expenditures higher than the national average for

Table 33

Comparison of Equipment Preferences, by Residence (n=1,775)

	Urban/City (N=209)		Suburban (N=273)		Small Town (n=646)		Rural (n=647)	
	%	column%	%	column%	%	column%	%	column%
Bows								
Compound	56.9	87.5	46.5	88.8	55.9	87.2	52.2	83.3
Longbow	1.4	2.2	1.5	2.8	2.2	3.4	2.3	3.7
Recurve	6.7	10.3	4.0	7.7	5.0	7.7	5.9	9.4
Crossbow	0.0	0.0	0.4	0.7	1.1	1.7	2.3	3.7
	totals	100.0	totals	100.0	totals	100.0	totals	100.0
Accessories								
Arrow Rest	41.6	21.0	37.0	18.1	38.2	17.9	36.8	17.9
Releases	32.5	16.4	35.9	17.6	36.2	17.0	35.2	17.1
Bowsights	41.6	21.0	48.0	23.5	48.0	22.6	44.7	21.7
Glove/Tabs	21.5	10.8	21.6	10.6	29.3	13.7	27.4	13.3
Other	61.2	30.8	61.9	30.3	61.6	28.8	61.8	30.0
	totals	100.0	totals	100.0	totals	100.0	totals	100.0
Arrows-Finished								
Aluminum	56.5	83.7	59.7	83.6	65.0	83.2	62.6	84.6
Carbon	9.1	13.5	11.0	15.4	10.4	13.3	9.3	12.5
Wood	1.9	2.8	0.4	0.5	2.3	3.0	1.7	2.3
Don't Know	0.4	0.0	14.3	42.9	0.5	0.6	0.5	0.6
	totals	100.0	totals	100.0	totals	100.0	totals	100.0
Points								
Broadheads	73.7	61.8	72.5	57.9	75.8	58.1	74.5	57.6
Field	29.7	24.9	33.3	26.6	32.8	25.1	34.0	26.3
Target	13.9	11.6	16.1	12.9	18.7	14.3	18.2	14.1
Other	1.9	1.6	3.3	2.6	3.3	2.5	2.6	2.0
	totals	100.0	totals	100.0	totals	100.0	totals	100.0

arrow rests and finished carbon arrows (19 and 37 percent, respectively). Urban areas reported expenditures higher than the national average for broadheads (9 percent). It is interesting to note that suburban bowhunters who purchased a bow generally spent more, although the average total amount spent for all suburban residents (Table 34) was lower than the other areas of residence. This may be attributed to a slightly smaller percentage of suburban bowhunters actually buying a bow compared to other areas.

Additional Insight by Residence

An analysis was made of the days spent hunting in 1996 by place of residence and species pursued. Not surprisingly, rural residents reported the greatest number of days hunting, followed in order by small city, suburban, and urban. Overall, rural residents spent an average of 5 more days hunting than the urban residents (25 and 20 days, respectively). A greater percentage of urban residents went elk hunting than the other areas (other species were not significantly different).

"Big Spenders" vs. "Average Spenders"

In the 1996 AMO/Southwick Associates survey, a number of respondents were noticed to have reported rather large expenditures. This section looks at respondents who reported large bowhunting expenditures and those that reported average expenditures. "Big spender" is the term for those having spent more than $5,000 on bowhunting during 1996. This section was designed to look at what effect that big spenders could have on raising the average equipment expenditures of all respondents. In that survey, 18.8 percent of survey respondents fell into the big-spender category.

Table 36 shows the percentage of hunters who purchased an item in 1996. The "%" column gives the percentage of hunters in each category who purchased an equipment item in 1996. The "column %" column gives the percentage of sales each item represents within each equipment grouping. Not surprisingly, for all equipment items listed, big spenders are more likely to purchase than average spenders. The difference is notable for some items such as

Table 34

Average Equipment Expenditures (for all respondents), by Residence

	Urban/City (N=209)		Suburban (N=273)		Small Town (N=646)		Rural (N=647)	
	$	column%	$	column%	$	column%	$	column%
Bows								
Compound	$211.6	89.5	$188.0	92.4	$197.6	89.6	$195.5	85.9
Longbow	4.0	1.7	5.0	2.5	7.5	3.4	8.2	3.6
Recurve	20.8	8.8	9.3	4.6	13.4	6.1	17.6	7.7
Crossbow	0.0	0.0	1.1	0.5	2.1	1.0	6.2	2.7
totals	$236.4	100.0	$203.4	100.0	$220.6	100.0	$227.5	100.0
Accessories								
Arrow Rest	$14.1	15.0	$15.4	14.9	$12.8	14.2	$12.5	13.1
Releases	16.5	17.6	16.8	16.2	16.3	18.1	15.5	16.2
Bowsights	21.6	23.0	29.6	28.6	23.2	25.8	26.9	28.2
Glove/Tabs	4.1	4.4	4.1	4.0	5.4	6.0	4.8	5.0
Other	37.7	40.1	37.6	36.3	32.3	35.9	35.7	37.4
totals	$94.0	100.0	$103.5	100.0	$90.0	100.0	$95.4	100.0
Arrows-Finished								
Aluminum	$38.7	77.1	$37.7	70.9	$41.2	77.4	$40.7	82.1
Carbon	10.1	20.1	15.1	28.4	10.7	20.1	7.1	14.3
Wood	1.4	2.8	0.3	0.6	1.1	2.1	1.1	2.2
Don't Know	0.0	0.0	0.1	0.2	0.2	0.4	0.7	1.4
totals	$50.2	100.0	$53.2	100.0	$53.2	100.0	$49.6	100.0
Points								
Broadheads	$30.7	85.0	$28.8	78.9	$27.2	78.8	$29.0	81.9
Field	3.2	8.9	4.6	12.6	3.5	10.1	3.5	9.9
Target	2.0	5.5	2.4	6.6	2.8	8.1	2.2	6.2
Other	0.2	0.6	0.7	1.9	1.0	2.9	0.7	2.0
totals	$36.1	100.0	$36.5	100.0	$34.5	100.0	$35.4	100.0

Table 35

Average Equipment Expenditures (for respondents who reported an expenditure), by Residence

	Urban/ City ($)	Suburb ($)	Small Town ($)	Rural ($)	National Avg.
Bows					
Compound	$371.7	$404.2	$353.7	$374.2	$370.1
Longbow	276.7	338.5	346.1	354.0	342.8
Recurve	310.3	230.0	270.1	300.0	283.3
Crossbow*	0.0	300.0	189.7	267.4	245.2
Accessories					
Arrow Rest	33.9	41.6	33.6	34.1	35
Releases	50.7	46.8	44.9	43.9	45.5
Bowsights	51.8	61.7	48.1	60.3	55
Glove/Tabs	19.2	18.8	18.7	17.6	18.3
Other	60.9	60.7	52.4	57.7	56.6
Arrows-Finished					
Aluminum	68.6	63.1	63.4	65.0	65
Carbon	110.7	137.7	102.9	76.7	100.7
Wood	71.7	75.0	49.9	61.6	53.8
Don't Know*	0.0	30.0	33.3	150.0	82.8
Arrows-Raw					
Aluminum	72.2	52.8	65.4	68.0	65.4
Carbon	109.3	131.0	79.6	122.0	112.9
Wood	26.0	45.0	49.9	61.6	59.1
Don't Know*	0.0	0.0	30.0	50.0	40
Points					
Broadheads	41.7	39.7	35.9	39.0	38.3
Field	10.9	13.8	10.6	10.3	11
Target	14.3	14.7	14.8	12.0	13.7
Other	13.0	21.2	30.3	25.5	25.7
Totals	$1,713.60	$2,126.30	$1,922.80	$2,255.60	$2,120.20

* based on small sample size. Use with caution.

Table 36

Comparison of Equipment Preferences, by Average vs. Big Spenders

	Average Spender (N=1587)		Big Spender (N=647)	
	%	column %	%	column %
Bows				
Compound	44.4	88.6	73.1	85.8
Longbow	1.4	2.8	3.8	3.2
Recurve	3.2	6.3	13.3	9.1
Crossbow	1.2	2.4	1.4	2.0
	totals	100.0	totals	100.0
Accessories				
Arrow Rest	30.7	16.3	57.6	18.6
Releases	28.7	17.6	53.5	17.0
Bowsights	38.3	21.4	66.3	22.4
Glove/Tabs	23.4	14.4	31.0	12.4
Other	54.1	30.3	76.4	29.6
	totals	100.0	totals	100.0
Arrows-Finished				
Aluminum	57.2	86.4	66.0	83.3
Carbon	7.9	11.0	15.2	13.7
Wood	1.4	2.2	3.0	2.4
Don't Know	0.3	0.4	0.8	0.5
	totals	100.0	totals	100.0
Arrows-Raw				
Aluminum	11.5	67.3	23.4	72.4
Carbon	2.2	19.2	6.8	15.5
Wood	1.7	13.5	4.6	11.5
Don't Know	0.1	0.0	0.0	0.6
	totals	100.0	totals	100.0
Points				
Broadheads	66.1	62.0	88.3	57.8
Field	27.0	24.2	47.5	25.9
Target	13.8	11.7	28.3	14.1
Other	2.6	2.1	3.0	2.3
	totals	100.0	totals	100.0

compound bows. These numbers indicate a higher turnover rate in equipment for big spenders.

The expenditure difference between big and average spenders is significant for the majority of items (Table 37). Compared with average spenders, big spenders spent roughly:

•30 percent more for target and field points;
•50 percent more on compound bows, arrow rests, releases, glove/tabs, finished and raw aluminum arrows, and broadhead points;

•75 percent more on recurve bows, bowsights, and raw carbon arrows; and

•100 percent more on finished carbon arrows and "other" accessories.

Average spenders reported a greater expenditure for only two items—longbows and finished wood arrows—though a small number of responses for these categories from big spenders means caution must be taken in the longbow and finished wood arrow interpretations.

Overall, there were major differences between big and average spenders. Big spenders tended to purchase more equipment and spend more money on equipment. Although these differences exist, big and average spenders show similar preferences for equipment.

Additional Insight into "Big Spenders"

An effort was made to determine what personal characteristics might differentiate a big spender from an average spender. No significant differences were found in place of residence or region, education, ethnic background, gender, marital status, or if a firearm was used for part of the season. However, significant differences were found in other categories. On average, big spenders:

- Have higher incomes,
- Were 3 years older,
- Hunt 10 more days a year,
- Are more likely to subscribe to a bowhunting magazine,
- Make more visits to private and public archery ranges (8 and 4, respectively).

For respondents who reported expenditures of greater than $15,000, special equipment (vehicles, ATVs, boats, land, cabins, etc.) accounted for 76 percent of their total expenditures.

Table 37

Average Equipment Expenditures (for respondents who reported an expenditure), by Average vs. Big Spender

	Average ($)	Big ($)
Bows		
Compound	330.3	480.0
Longbow	354.5	324.2
Recurve	201.8	355.2
Crossbow	241.7	249.2
Accessories		
Arrow Rests	30.3	45.1
Releases	38.8	61.1
Bowsights	45.6	76.9
Glove/Tabs	16.5	23.9
Other	45.1	90.5
Arrows-Finished		
Aluminum	58.5	87.6
Carbon	76.2	152.6
Wood	62.5	49.8
Don't Know	100.0	60.0
Arrows-Raw		
Aluminum	54.9	87.2
Carbon	84.6	149.6
Wood	48.8	60.9
Don't Know	40.0	0.0
Points		
Broadheads	33.6	52.8
Field	10.3	12.8
Target	12.1	16.5
Other	23.2	39.1

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