

## DETERMINING YOUR EFFECTIVE RANGE

Despite the rapid equipment advances in recent years, with faster arrows and increased accuracy, bowhunting remains a short range method of hunting. There are certainly a few select individuals who can consistently hit their targets at ranges of 40 yards or more but for the average archer, bowhunting is a 10 - 25 yard challenge. Hunting statistics from numerous sources support this conclusion. In one study the average kill distance was 18 yards - this included some long shots that biased the average upwards. Approximately 80% of the kills were made under 20 yards. Obviously this does not mean that animals cannot be killed at longer distances it just means that we are accepting a much greater risk or a bad outcome and increased possibility of wounding an animal. And remember, in Africa, you pay full price for a wounded animal.

Each individual, motivated by ethics, should determine for himself the maximum distance at which they will attempt a shot. Remember that properly tuned archery equipment can kill 100% of the time if the hunter knows, and stays within, his personal limitations, and shoots within his effective range.

Effective range is the ability to place 80% of your arrows in a 8" circle (20 cm). The following figures give some insight into the skill level of archers:



Effective range for beginners - 8 yards.

Effective range for average bowhunters - 18 yards.

Effective range for tournament level archers - 21 yards.

Most individuals overestimate their ability with the bow and arrow. We are capable of success when we shoot within our limitations but can easily miss when we attempt shots beyond our level of proficiency.

The first hurdle to overcome is the ability to accurately determine range at unknown distances. It is difficult, but critical, to accurately estimate the distance to your target.



There is little room for error. The only way you will learn to judge distances accurately is through constant practice in the field, on the range and in your back garden. The other alternative is to make use of a rangefinder or to pace off distances from your hide or treestand to a point where you will shoot at your intended target.



- **Shooting conditions.**

Shooting conditions at the range are generally ideal. Distances are known or easier to estimate, the target is stationary, you can take your time aiming, and adopt the most comfortable position. Conditions during hunting are seldom ideal. The shot might be up or downhill, the shooting window might be partially obscured with brush, the target might be moving, you might have to adopt an uncomfortable position and so on. You must therefore practice hunting under simulated hunting conditions, the more varied the better. **You must practice with the broadheads you intend hunting with as well as with all your accessories and hunting gear.**

Practice under low light conditions, in windy conditions and even in the rain. Practicing under these less than ideal conditions will eventually instill in you a confidence in your capabilities but will also make you aware of your limitations.

- **Equipment tuning**

Before attempting to determine your effective range it is imperative that your equipment be properly tuned. Correct bow setup, properly spined and tuned arrows, correct technique etc. are all vital to success.

- **Determining your effective range.**

Your effective range is dynamic. It can change. If you practice regularly it will improve. If you do not practice it will deteriorate. If you attempt long, difficult shots which result in wounded animals it will bring bowhunting into disrepute. You must be responsible.



## PRACTICAL: DETERMINING YOUR EFFECTIVE RANGE

1. From a standing position shoot groups of 10 arrows starting from 5 yards at a 8" diameter (20 cm) target and move back at yard increments until you can no longer place **8 out of 10 arrows in the 8" target**. (Figure 9.1).

2. Repeat from a kneeling and sitting position to determine effective range from these positions.

**Optimum range - knowing when to shoot** (Figure 2).

When do you know when you are ready to hunt with a bow and arrow? Good question. Because you have hunted with a firearm for many years this does not qualify you to hunt with archery equipment. Shooting a bow and a rifle have a few similarities but many more differences and it is the responsibility of an ethical sportsman to get to know his equipment intimately and to use it well, before taking on the challenge of hunting - especially with a weapon that is new and unfamiliar.

Becoming proficient with archery equipment and the techniques used in bowhunting takes time. More time than it takes with a firearm - simply because the bow and arrow is generally a short range, low velocity weapon, when compared to a modern firearm.



**FIGURE 1:**This is what you are trying to achieve.

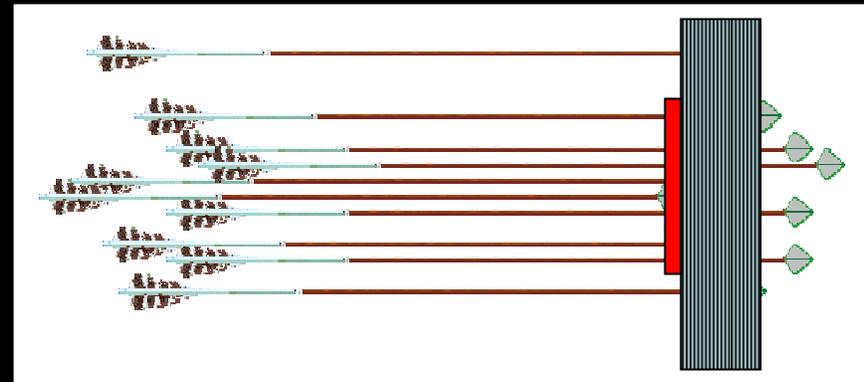


**FIGURE 2:**Practice under realistic conditions



You have determined your maximum effective range by placing 8 out of 10 arrows in an 8" (20 cm) target area which approximates the size of the heart / lung kill zone on an animal the size of an impala or warthog. It will be bigger on larger animals and reduced in smaller species. You started off by shooting at this "kill zone" from close range and then moving back a yard or two until you reached a point where you could no longer consistently place 80% of your arrows in an 8" circle. You will then have reached the limit of your effective range and should not attempt shots in the field at, or beyond this distance.

Effective range is the point to which you can consistently put a minimum of 8 out of 10 arrows in an 8" circle.



## BUT IS THIS GOOD ENOUGH?

There is now a revised standard which is recommended that is termed "optimum range". Consider for a moment the following: Optimum range gives you a more realistic estimate for "how far to shoot" as it takes the following conditions into consideration:



- Animal behaviour
- Yardage estimation accuracy
- Animal alertness
- Hunter mental / physical condition
- Field conditions

Optimum range is defined as: The greatest distance at which you are likely to accurately estimate the distance to the target, execute a shot properly, and still have the animal in the same position when the arrow arrives as when it was shot.

See the article on determining your optimum range

