

CHAPTER 5

TARGETS, FEATURES AND SETTING THE UNIQUE SHOTS

TARGETS

3-D archery, in its most common form, uses three dimensional plastic animal targets. Most clubs, however, only bring these out for their occasional open shooting events. There is not much to say about the 3-D targets themselves, each club discovers which brands and which targets are most cost-effective, and I don't profess to be familiar with enough of them to make comparative statements.

In this chapter I will discuss the permanent targets that clubs build. Also, I'll cover some of the other features common to many courses, such as treestands, and some of the unique shooting situations that one occasionally meets during 3-D competition.

In preparing a 3-D course, a certain amount of consideration goes into the permanent targets. Every club I've met has constructed targets of 10-test particle board for its permanent practice butts. These targets differ in size and construction, some are more impressive than others, but all fill the basic function. From a safety point of view, what are some of the factors a course designer should consider when examining fixed target butts?

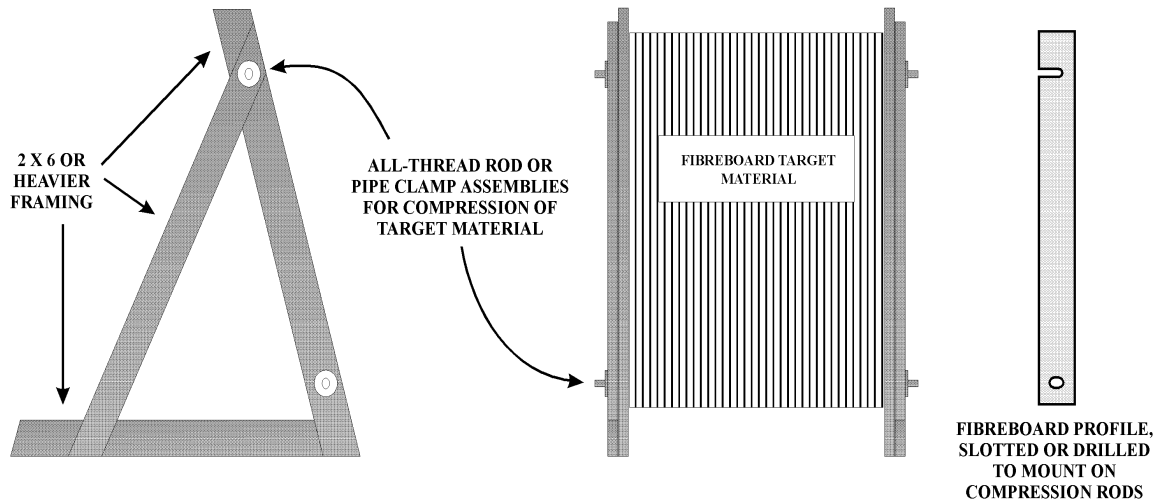
The practice butts should ideally be large, this offers the necessary room for error for newer archers and for all of us when we are practicing. After all, this is why these butts are there. Many of the better targets I've seen were a very forgiving four feet square. Large butts reduce time spent seeking near-miss arrows and ensure that butt size does not restrict the choice of target to be mounted at each butt.

These targets will need to be of solid construction, the large mass of target material in them and the need for it to be under compression makes a very heavy object. The target must be solid enough to take the impact of arrows and the pushing and pulling of arrow removal. You certainly don't want a target butt falling over on a few hundred dollars worth of arrows, or on an archer pulling them. Some clubs sink posts and construct the target between them, others employ a semi-portable design that is fixed in place by stakes and occasionally a freestanding portable design is used. Compression on the stacked material is usually achieved by 1" threaded rod. Six inch wide pieces of target material are slotted on the back edge and slid onto the rod when the compression is released. This system can eliminate the requirement to dismantle a target to restack it.

10-Test Butt Construction. Figure 10 depicts a simple freestanding 10-test target butt design. This particular target has served me well, is relatively inexpensive and is (to a degree) portable.

Moving Targets. I have seen deer, bear, coyote, javelina and turkey charging quickly or crossing the shooting lane at a more reasonable pace. Moving targets are a type that few archers practice on, so give them plenty of space. They are also more suited to the instinctive archer. Such targets occasionally need extra attention to placement with backstops and control of the direction of fire for safety. When planning for the placement of a moving target, ensure that your estimates for safe areas are based on the earliest and latest places in the target's run that an archer can fire on it.

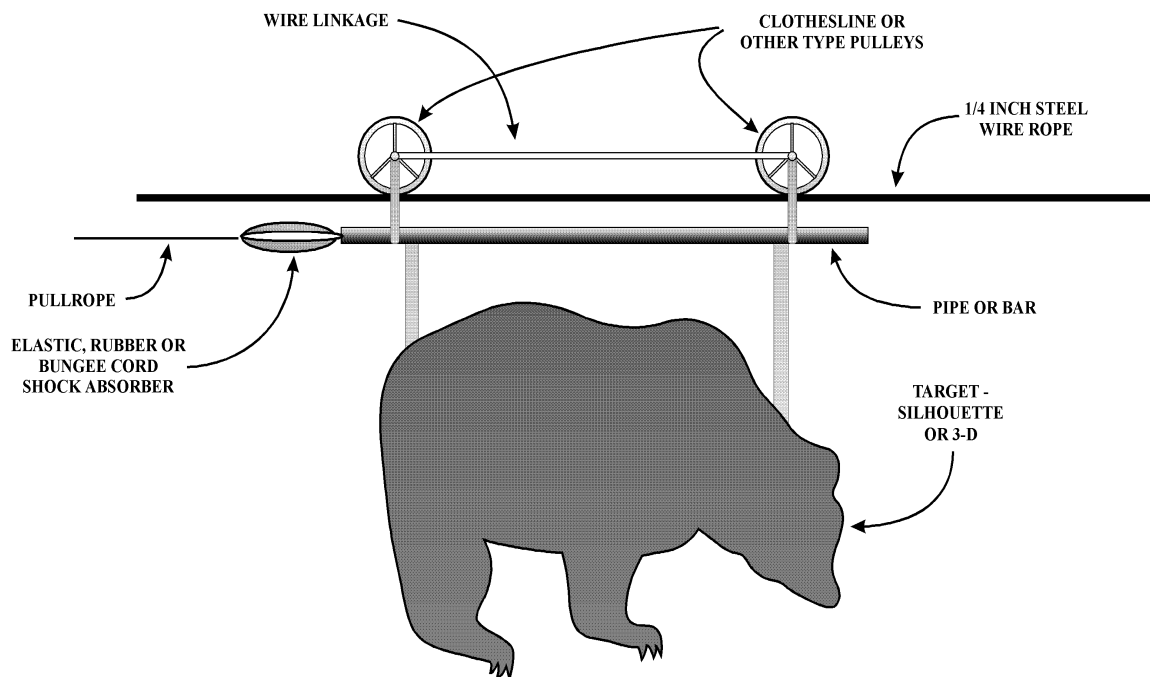
FREESTANDING ARCHERY TARGET



Moving Target Construction. None of the clubs in Ontario used moving targets when I shot there a few years ago. In Nova Scotia, few clubs don't establish at least one. For rounds on a 3-D course they are a special challenge. Archers will learn if a shot at a walking deer or running coyote is a possible hunting shot for them. Within the scope of competition, the moving targets help to sort out the better archers and are very entertaining for all participants.

One of the best moving target systems I have seen was developed by The King's Archers in

BASIC MOVING TARGET SYSTEM



New Minas, Nova Scotia. This club had three "movers" (in 1993), using two excellent mounting systems on their 3-D course. These targets were a running coyote, a walking deer, and a charging bear. The coyote and deer were constructed on what spread across the province as a standard for moving targets.

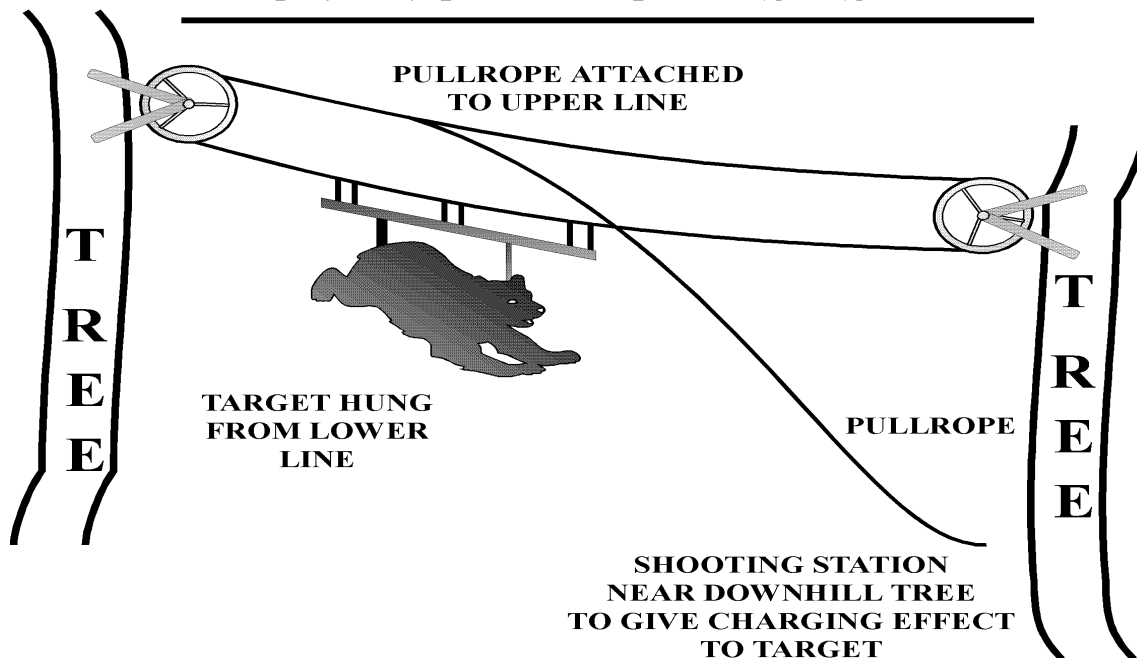
Each was suspended from 1/4 inch steel wire rope, running on a simple overhead trolley formed of two ordinary clothesline pulleys held upright by a linking wire above and a length of pipe below the cable. Targets were suspended from the pipe. This arrangement resulted in quiet, smooth running targets which made an excellent moving target system. Figure 12 illustrates this particular type of moving target running gear.

The King's Archers charging bear operated on a different system, the target was suspended from a regular clothesline setup. A pull rope is attached to the upper side of the line and the weight of the target on the lower line creates its running action downhill toward the archers. This is illustrated at Figure 12. This moving target, like most others I've seen, employed two or three firing positions, with separately defined shooting lanes where necessary. The ability to have two or three archers firing at once reduces wear on the target mechanisms and minimizes the time required for a group of archers at the target.

Ensure moving targets are not too heavy for repeated pulling and check their operation repeatedly for best effect. Linkages should be secure and the rope should run freely without fraying. Check to make sure that the target pulleys cannot jump off the cable at the end of a run, or that the shock causes other parts of the system to fail. You don't want to have individual archers trying to repair the target during a shoot. If yours wants to self-destruct at the end of its run, a simple but effective solution is usually possible. Insert a short length of bungee (rubber) cord between the end of the rope and the target to absorb the shock.

Most moving targets require an archer in the group to pull them back hand over hand. An simple alternative I have seen is the use of a simple winch constructed of a tire rim. Mounted solidly to a tree it spun freely on a short axle and was cranked by a handle welded to its outer edge. The winch was an effective and very efficient solution to the target pulling requirement.

"CLOTHESLINE" STYLE MOVING TARGET SYSTEM



FEATURES

Every club likes its course to have innovative target settings and novelty targets. I have seen some very interesting designs for such targets in Nova Scotia.

COURSE TREESTANDS - STANDARDS AND SAFETY

Treestands require a different and challenging shot on 3-D courses and nearly every archery club with a 3-D course has one. Designs and construction methods vary greatly. Cost, skill, and the availability of materials and helping hands are all factors affecting its design and construction. They also provide bowhunters who hunt from treestands a facility to practice their preferred hunting shot at their club. In the design of a 3-D course, a treestand, with its steep downward angle of fire, does not require a large danger area to be kept clear around it.

I've seen some excellent course treestands of sturdy timbers, with stairs (or ramps for less flexible archers) and good strong guardrails. Unfortunately, I've also seen the opposite end of the scale; rickety lumber constructions with homemade ladders and no obvious consideration to safety. A fall from such a stand would be tragic. No archery course should have a treestand which does not satisfy reasonable safety requirements.

Look at the ads for commercial treestands, listen to the salesman's pitches. What do they stress? - **safety!** Commercial treestands are normally designed for one person to sit or stand in a tree and they are often equipped with a safety harness. Manufacturers of commercial treestands must meet stringent safety standards to sell a reputable product without being sued. But do safety or construction standards exist for club treestands?

No - safety standards for club treestands do not exist. Should they? I would say yes. Let's put it in perspective; consider the treestand at the club where you usually shoot. Now, answer these questions;

- If it was a treehouse, would your mother have let you climb and play on it? Would your wife let your kids if she saw it?
- If it was a scaffolding at work, would the shop steward let you climb and work on it?

If you answered no to any of these questions, the treestand you're talking about **is not safe!**

Before we continue, let's identify some possible examples of safe raised work or play platforms. What about the scaffolding you do use at work. How about the commercial freestanding treehouses you can buy for your kids. Or raised decks built to the Building Code. You can bet these meet safety standards - if they didn't you'd call your lawyer! See Figures 13 and 14 for illustrations of some of the better treestand designs I've encountered.

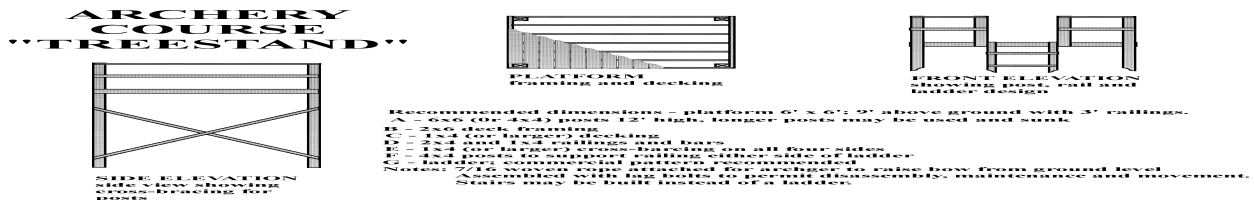
What features should a club treestand have? Here is a short list, you may be able to add to it as you design and construct your club's treestand.

- A sturdy platform - better if its strong and large enough to hold two archers (a novice or younger archer may feel more comfortable with a coach present).
- Guardrails - solid and high enough to prevent a fall, consider a removable top rail on the target side for bow limb movement.
- Access - usually a ladder, commercial ladders do present a better appearance for safety than homemade. Ensure it is attached at the top. The best stands I've seen have stairs or ramps, these provide improved access for the less flexible and younger archers.
- A lifting rope - so that archers are not tempted to climb into the treestand while holding their bow.

- A safety harness - if the position of the stand, the target or branches might tempt an archer to lean outwards or brace himself in ways other than standing solidly on the platform, consider a safety harness. It's cheap insurance against falls.

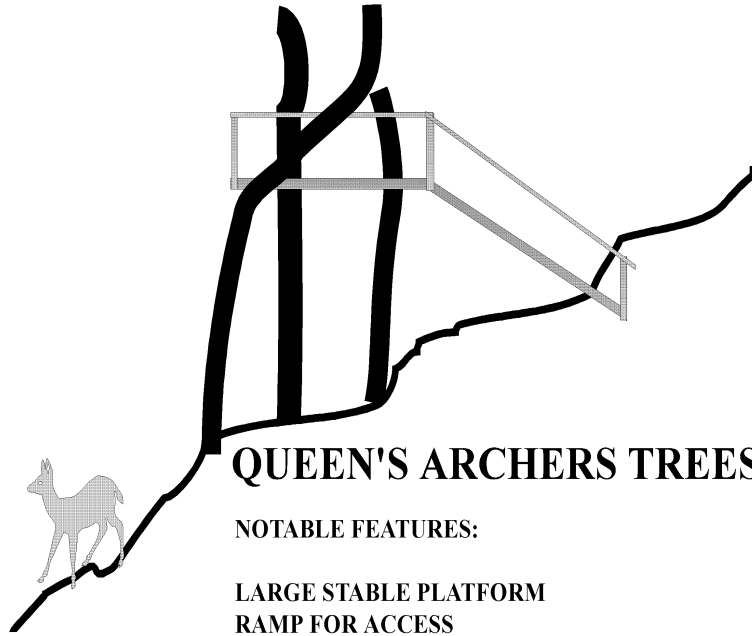
If you are looking for construction ideas for a club treestand, examine the free-standing treehouse designs available for kids to play on. They are sturdy, safe and proven. Another design possibility is to include a seat, similar to those built in to most commercial stands. A seat could be incorporated in your design with a requirement during shoots to use it (left and right-hand seats might be needed, though).

There is no one "best" treestand design. There are poor solutions out there and we've all seen (and probably shot from) them. Don't take shortcuts in the design and construction of your club's treestand. A hasty construction of found lumber may work, but is it really safe? It's a lot less trouble in the long run to design and build a safe, strong treestand once, than to find the time, help, tools and materials to replace a poor one that "works." I'd rather shoot a course with no treestand than be expected to climb into an unsafe one to have shot the entire course.



Steel Targets. Steel deer and bear have both eaten arrows on me. Some clubs include these on their courses, others employ them as a separate final event to the day's shoot. I have also seen shooting lanes with an alternate McKenzie target for those archers who wish not to sacrifice a shaft to the steel (though usually at a loss of possible points). I have found that the most popular option is to have the steel deer/bear as a separate, novelty event to be shot at lunchtime or at the end of the day.

Limiting Shooting Positions. Shooting while kneeling, sitting or with the bow in a nonstandard position could be a very real part of hunting. Meeting such a situation on a 3-D course will help archers discover what is possible for them, and what shots should not be taken when hunting. Consider increasing the anticipated danger area for any shot which requires unfamiliar shooting techniques.



QUEEN'S ARCHERS TREESTAND

NOTABLE FEATURES:

LARGE STABLE PLATFORM

RAMP FOR ACCESS

HANDRAILS FOR RAMP AND PLATFORM

NATURAL MATERIALS, LOG AND SLAB CONSTRUCTION

All of the shooting situations described above can contribute to entertaining and challenging archery. Each type of target or shooting position will have to be assessed carefully to ensure the safety of the course is maintained. The system for course design and the siting considerations described in this Guide will help you to plan, design and confirm a 3-D course. A methodical approach and early planning for all aspects of 3-D archery will ensure a safe and enjoyable course. In the following chapters I will explore some of the other (but still important) aspects of preparing for and conducting the 3-D event itself.