

USAGE of ROCKET NETS for CAPTURE of WILDLIFE

The rocket netting method for capture of wildlife became available in 1966; since then numerous improvements, based on our clients' field experience, have been made.

To use this method, a nylon net, an electrical firing wire, four launchers, and four recoilless rockets and their powder charges are required. With the exception of the charges, Wildlife Materials International, Inc. sells these items on an individual basis. Due to insurance costs, we no longer furnish rocket charges; however, we can recommend other sources of powder.

The following procedure for netting and handling of wildlife will aid your efficient usage of the capture system.

SELECTION of SITE:

Of prime importance is the choice of a rocket netting site. Field observation will reveal areas of wildlife concentration. Then consider the proximity of adequate cover for animals; sites within 50-75 yards of good cover seem most productive. Research has shown that deer, for instance, tend to come out to feed earlier in the afternoon and stay out later in the morning when cover is nearby. Openings in woods also work well. When capturing waterfowl, choose a location near water that birds regularly use as a loafing area.

Placement of the blind from which the net is to be fired should also be considered when selecting a launching site. Check prevailing wind direction so that human scent will not spook animals. When animals are at bait site, the distance of the blind from bait area, as well as height of the blind above ground and ease of human entry into it, become important. The ideal blind is downwind of the bait site, 100-150 yards away from it, 15 feet or more above ground level and possibly in a tree, with good access that avoids disturbing animals at the bait site. From the blind, operators should be able to look straight down the net line; this view tells where animals are in relation to the net and will help operators gauge the timing of a shot. Realistically, all of these criteria are difficult to achieve, but adherence to them when possible will enhance your trapping success.

PRE-BAITING for ANIMAL OBSERVATION:

Once a site has been chosen, begin to pre-bait the area with feed to be used in trapping; shelled yellow corn has had good success. For waterfowl and turkeys, the feed pile can be placed two to three feet in front of the net, where birds will not be on or immediately next to the net. For deer and other big game, locate the bait pile eight to ten feet from the net; this will prevent animals being too close to the net when it is shot, and will also limit the room for animals to feed behind the pile, when part of their bodies might be positioned on or right next to the net and rockets. Feed should be available constantly and baiting should continue until the animals to be trapped are using the area regularly; this usually takes one to two weeks. During the pre-baiting period, observations will indicate the best time for trapping. Research has shown that early morning and late afternoon work well, with the latter being most productive for a number of species.

In areas where animals come to bait only after dark, special techniques must be employed. Periodic illumination of the bait area with a spotlight will provide observation time as well as help animals adjust. A heavy gauge multi-strand electrical wire, run from

the rockets to the spotlight, can fire the rockets when animals are observed on the bait; the operator's release of an on-off switch will complete the electrical circuit.

SETTING UP the NET (see two illustrations on p. 6):

1. After choosing an open area of approximately 80 by 150 feet, clear all debris that might prevent the net from resting flat on the ground.
2. To insure ample firing room, stretch the net out completely at the site. Straighten any tangles in the net. Then anchor the BACK edge of the net, using the net's five **anchor lines**, with small concrete blocks or similar 5-10 pound weights. Weighting the back of the net so that it is dragged a few feet forward when a shot is made works better than permanently anchoring it or using snapback rubber straps.
3. With the assistance of four or five people, gather the net into firing position. Begin at the BACK edge of the net; pull and fold the net, accordion-like, into a long compact row of folds. The net's LEADING edge will be placed on TOP of the folds. Three (for waterfowl and turkeys) or four (for deer and other big game) **shroud lines**, found at the ends and center of the net's LEADING edge, should be untangled for usage. (Each shroud line is a gathering of three ropes, held together by a metal thimble, which come from the net). If no assistance is available, one person can gather the net into firing position by working a section at a time.
4. Run the electrical firing line from the blind to the net. Any two-lead electrical wire, either stranded or solid, of 18 gauge or larger, will work. However, a long-term trapping program should employ weather-proof wire so that exposure to seasonal elements will not cause damage. **DO NOT MAKE ANY ELECTRICAL CONNECTIONS YET.**
5. Erect four rocket launchers at the BACK edge of the net. The rocket launchers are steel T-fence posts; their winged bottom ends, facing the net, are to be driven about a foot into the ground. For waterfowl and turkeys, launcher height should be 2-3 feet above the ground; for deer and other big game, 4-6 feet works well. The two middle rocket launchers should be pointed straight ahead, with the two outside launchers pointing slightly outward.

Note the **rocket holder** on the TOP END of each launcher; this five-inch-long piece of pipe, with its 3/4 inch-in-diameter hole, has been welded perpendicular to the top of the steel rod; this rocket holder should face the net for later ease in launching the rocket that propels the net. Space the rocket launchers along the BACK edge of the net, lining each one up with the center rope of the three or four clusters of shroud lines on the LEADING edge of the net.
6. Attach the rockets to the shroud lines on the LEADING edge of the net. This is done by looping the shroud line rope through the U-shaped metal shackle, called a clevis, at the end of the rocket's chain.
7. Load the powder charges into the rockets. To do this, unscrew the tail section of the rocket and place the powder charge inside the rocket body; make sure the charge's electrical wires have been unrolled and pulled out full length through one of the rocket's nozzle holes. Then secure the tail section by hand-tightening it to the rocket. During periods of bad weather, it is advisable to wait until trap day to load the rockets. This should avoid problems with moisture ruining the charges.

8. Insert the loaded rocket into the holder of the rocket launcher. To do this, use the back end of the stabilizer bar that has been welded to the rocket; each rocket should be positioned **parallel to the ground** with the **body of the rocket hanging down** and the **stabilizer bar up or on top**. This arrangement thrusts the rocket upward about 15-25 degrees and will ultimately give a fairly flat throw. However, if the rocket body is on top, the rocket will thrust downward and the net will sink too quickly, allowing animals to escape or causing head injuries.

9. Make energy connections by running the electrical firing line (coming from the blind) up and down each rocket launcher post; then hook the rocket charges' electrical leads "in series" with this firing line. POLARITY DOES NOT have to be observed; the rocket charges' electrical leads can be hooked to either positive or negative leads of the main firing line. **Make sure the leads of the main firing line are DISCONNECTED from the power supply and SHORTED TOGETHER before charge loads are connected.**

Also, **DO NOT STAND IN FRONT OF or BEHIND THE ROCKETS WHEN**

CONNECTING CHARGES! A 12volt battery and #14 or larger copper wire are both recommended for good power supply. The reliability of the electrical squibs that ignite the charges is about 100%; therefore, if one or more of these fail to ignite (especially ones furthest away from the battery source), low voltage or too small firing line is usually indicated.

Always check for continuity of the main line with a galvanometer or blasting ohmmeter. If the squib and black powder ignite but the larger pellets do not, wet powder is indicated. This should rarely occur since charges are waterproof, unless their plastic bags have been broken as the charges were inserted into the rocket body.

In using a 12volt auto battery, for instance, an operator can connect one main electrical line to a battery terminal at the beginning of a netting attempt. Later, TO SET OFF THE CHARGE and thus project the net, touch the other lead to the other battery terminal. Keep an eye on the net as it shoots out.

10. Bait the trapping site at least 2-3 days before a shot is attempted; keep it baited continuously while the site is being used for netting. However, when this is not feasible, bait a site several hours before netting so that human scent will dissipate. A small feed pile, recommended for initial trapping work, may limit the numbers of animals captured, due to social aggression at the pile. A long narrow pile, from between the first and second rocket to between the third and fourth rocket, will enable more animals to be captured at one time. Placement of bait relative to the net is important: **the ideal bait locale is 2-3 feet (waterfowl and turkeys) or 8-10 feet (deer and big game) in front of the net and centered along its length.**

NETTING PROCEDURE:

1. Three to five people constitute a normal netting crew; however, if larger catches are anticipated, a bigger crew is desirable. Crews should arrive at the trapping site well before animals are expected. Make a final check to insure that the net's trailing or back edge has not become hooked or fastened to the launchers or other objects. Observe the ground weights to make sure they will not be dragged across the wires on the ground and thus damage the firing system. When feasible, one person should get inside the blind for net projection; others should remain a short distance away and out of sight of the bait area (i.e., in a vehicle). However, under favorable downwind conditions and in large blinds off the ground, more than one person may get into the blind.

2. When to shoot the net is problematic; the crew's decision will usually be determined by their desired composition of a catch and how readily animals are coming to bait. Keep in mind your observation of the animals' feeding patterns; for instance, deer will probably move on and off the bait site several times, feeding for 10-15 minutes in all, unless they are disturbed or forced off by a more dominant member of the herd.

With patience as the key factor, a work crew can select the ideal time to shoot so that most, if not all, of a group can be netted. For best results, shoot the net when animals are near the center of the net and have their heads down feeding. To avoid animal injury, the crew should **be mindful of animals standing on the net or directly (within 1 foot for waterfowl or 2 feet for deer) in front of it when a shot occurs.**

In the blind before a netting attempt, a crew member should connect one main electrical firing line to a battery terminal, then study animal activity along the net; TO SET OFF THE CHARGE, touch the other lead to the other battery terminal. It is possible to set off the charge without looking at the battery terminal; rather, keep an eye on the net as it shoots out.

3. Handle netted animals with care. It is important to get to the captured animals as quickly as possible after the net has dropped over them. Netted animals will thrash, possibly injuring themselves; therefore a rapid, quiet approach by crew members is desirable. Animals near the edge of the net require immediate restraint to prevent their escape. Check animals to insure that the net is not damaging their teeth, gums, wings or other parts of the body.

A. The best method of restraint for big game animals, if an animal is still on its feet, is an approach from its side. Place one hand on the animal's back near the hips and another hand near the shoulders (or the antlers of bucks); give a quick, hard jerk, pulling the animal over, its feet pointing away from the trapper. In capturing waterfowl or turkeys, get a good hold at the back near the wings; **DO NOT GRAB WING TIPS** as injury might result. Check the ground to make sure the animal is not lying on anything that could scratch, puncture (stones or small stumps), or burn (rocket debris) the animal.

B. For big game, apply restraining pressure by placing a forearm across an animal's neck; with that same hand, grab the animal's foreleg that is closest to the ground and pull up on it, toward the trapper. A knee on the flank and the other hand on the animal's hip will hold it down. Be aware of flailing hooves. For waterfowl and turkeys, calm the wings, grasp the bird's neck from beneath with your hand, and tuck the bird under your arm.

C. Quiet the animals as quickly as possible. For instance, after big game have been restrained, they must be blindfolded. A piece of dark material (wool works well) about 8 inches wide and 3 feet long is sufficient. The blindfold can be put over the face, crossed under the throat, brought up around the neck and tied at the back of the neck. While the capturer does not blindfold waterfowl and turkeys, placement of the bird's head back under its wing will serve the same function. The creatures' lack of vision, along with handlers' silence (even talking should be avoided when possible), tends to quiet animals considerably.

D. Tie the captured animals, using a soft braided nylon rope; for deer, a 1/4 inch diameter rope works well. All four legs should be tied. For additional insurance, pull the rope tight (enough that animal can't get leverage and hurt itself, but not so restrictive that circulation is cut) under the animal's belly with a loop over its back to prevent kicking. Be sure to roll a deer up on its brisket to prevent bloating. Again, silence and a firm but gentle touch are in order.

E. Inject the animals in the hip muscle with a good tranquilizing drug. Aspirate the needle to make sure you are not injecting the drug directly into a vein. This is done by pulling the syringe's plunger out and checking whether blood has been drawn into the syringe with the drug. Blood indicates that an injection will be sent (too?) rapidly through the vein; if blood shows, remove the needle and try again. Waterfowl and Turkeys do not require tranquilizing; instead, place them in cages that do not become overstacked.

F. Collect data quickly so that animals may be released as soon as possible. Deer, for instance, can be held for up to an hour after being tranquilized, provided precautions have been taken to prevent bloat. Most handlers of waterfowl and turkeys prefer to move immediately through the banding process so that birds may be returned to their natural habitat. For successful work with wildlife, it is wise to familiarize oneself with specific behavior of creatures to be captured.

MAINTENANCE of EQUIPMENT:

1. Rockets require periodic greasing of threads at the rear of the rocket body to keep the nozzle from rusting on.

2. Before re-using the net to trap animals, check that twigs have been removed from the rope. Also inspect net for burned rope, which will occasionally be caused by a previous rocket firing, in case the net needs repair. If a net is to be shot after a freezing rain or snow, be sure stretch it first; this prevents the net's being stiff and packed down, and will insure a good lift off.

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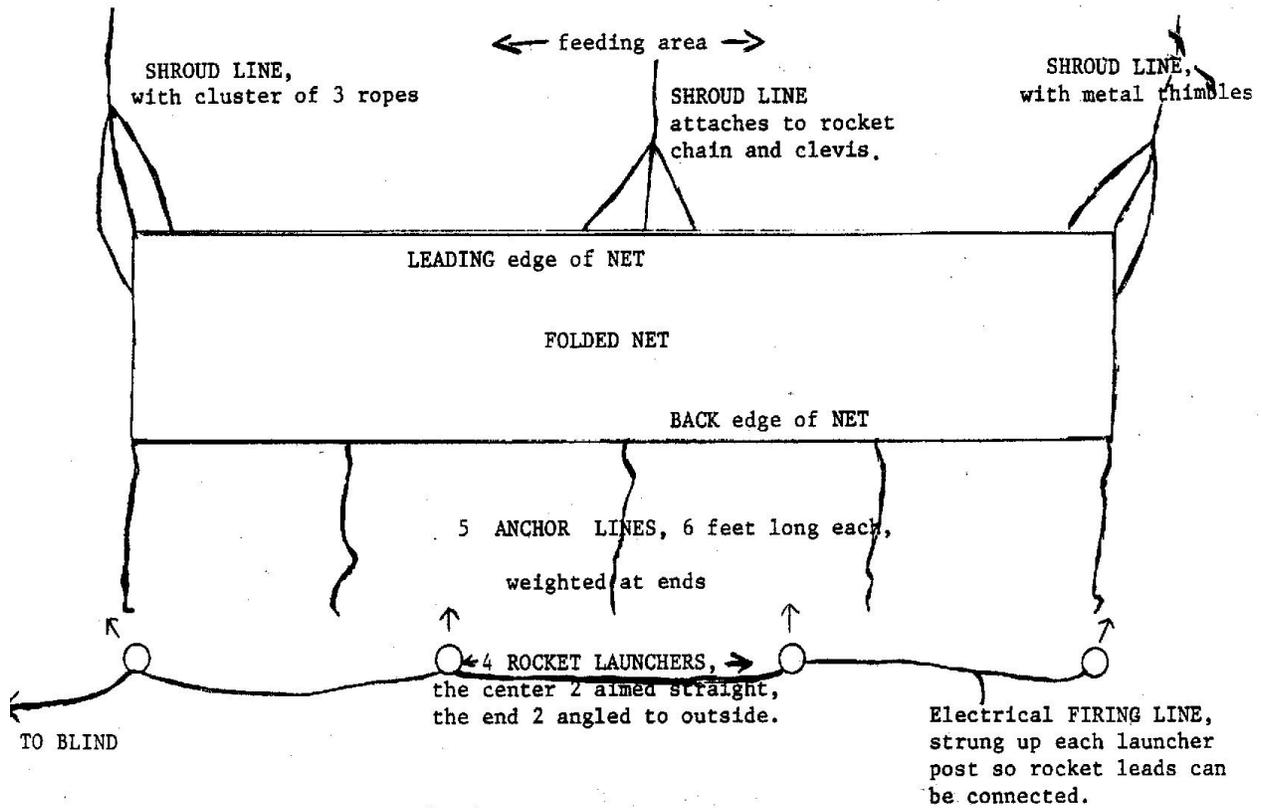


Figure 1: SETTING UP the NET

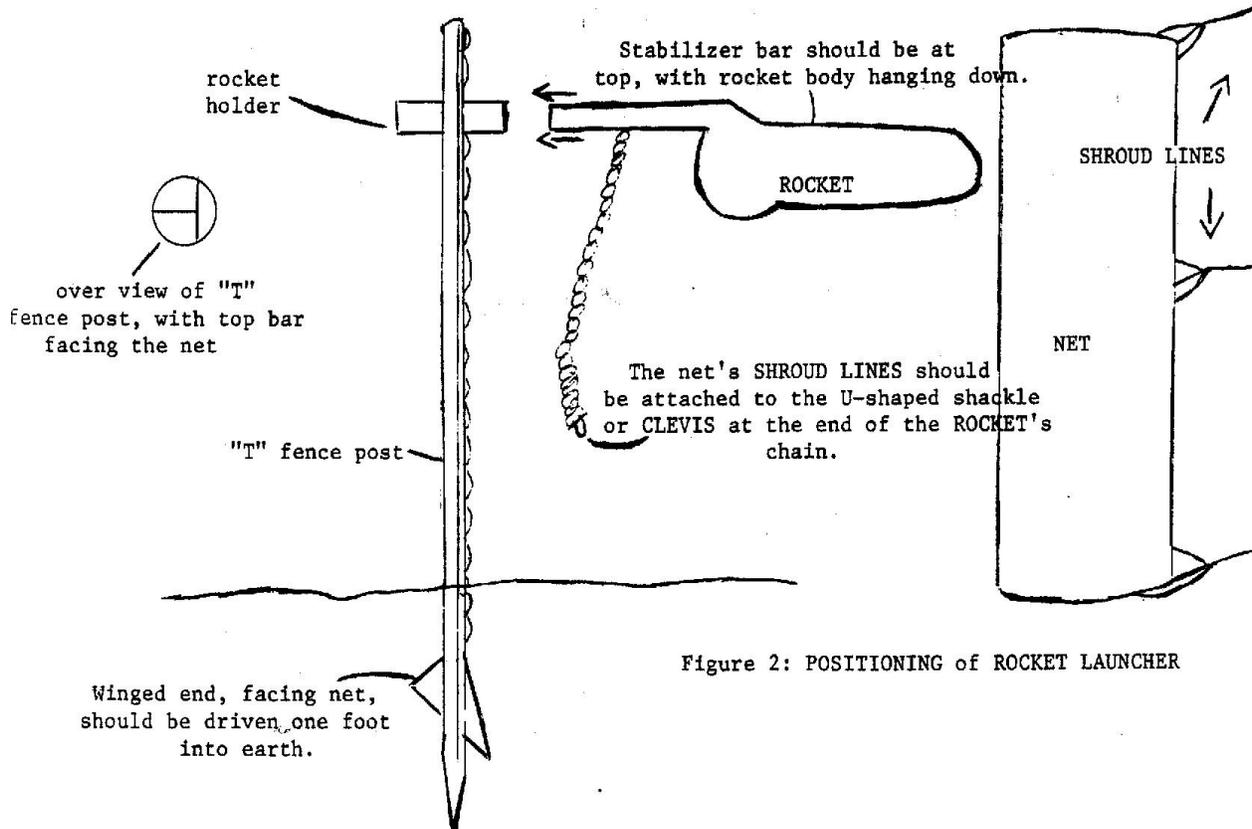


Figure 2: POSITIONING of ROCKET LAUNCHER