Susan Lousberg of Texas rides horseback to monitor a heavily guarded nestbox mounted in a pasture with livestock. Susan's box is protected by a barbed wire cattle guard and a stovepipe baffle. The box is mounted on a heavy mounting pole, out of reach of livestock.

box mount if livestock is not present. One of my personal favorite mounting locations is between the top two strands of a barbed wire fence, midway between two fence posts.

My most dreaded predator is the fire ant, and while fire ants will climb a post, they do not then crawl 10 or 15 feet horizontally out on barbed wire in search of a meal. This nonpoisonous, passive, ant-resistant mounting method works well for me. Raccoons, opossums, and snakes will rarely venture out along barbed wire either.

Cats are predators that are not be deterred by barbed wire fencing. Nestboxes mounted on this kind of fencing will be low enough to be within their leap. Fortunately, feral cats are seldom a problem in my area.

A barbed wire fence that is electrified and remains so all summer can be an ideal place to mount nestboxes — on the posts, not the wire. Any snake or raccoon that tries to climb to the box will get any thoughts of dinner knocked clean from its mind when it touches the hot wire. Insects will still be a problem, however. They have no need to touch the hot wire when they climb the post.

Just perching on the hot wire will not be a problem for a bluebird, as the electric current has to run to a ground contact to be dangerous. If a bluebird happens to alight on the hot wire right next to a post and then touches the post, it can complete a ground circuit and be electrocuted. This area of the post can be wrapped with electrical tape to prevent any mishap to the birds. And be careful yourself working with nestboxes on electrified fences, or at least have a friend come along to capture the excitement on videotape.

Because they require no investment and are common in rural and remote areas, **utility poles** have long been a favorite place for trail operators to hang their nestboxes. In many areas of the country, utility companies have cooperated with trail monitors in allowing their poles to be used for the benefit of bluebirds. Main utility lines have poles spaced 300 feet apart or more, so boxes can be mounted on every pole and not be too close to one another.

One significant advantage of utility poles is that they are wide enough to provide excellent shade during hot afternoons if the box is located on the east side of the pole. Whether you are in the northern or southern states will determine if you need to shift the box a little north or south of due east for optimum protection.

Trees and brush are usually kept clear of utility lines, even when they run through heavily wooded areas. Bluebirds can hunt in these open spaces, and the lines overhead provide excellent hunting perches. In some areas, however, weeds and brush are now controlled with herbicides instead of mowing.

The downside of using utility poles as box mounts is that permission must be obtained from several utility companies (poles are often shared by power, phone, and cable companies), and there is no predator control that is safe to use because linemen must have unimpaired access to the poles. All climbing predators and insects can and will climb utility poles. Pests such as mice can take over boxes. Trail operators using utility pole mounts for their nestboxes often find that predation rises each year as predators learn and remember box locations.

A lightweight PVC nestbox mounts easily on two strands of a barbed wire fence. It is hard to find fence wire stretched tight enough to support the weight of a wooden nestbox.

Since repairmen must climb utility poles, the utility companies may ask you to attach boxes so that they can easily and quickly be removed without tools. A good way of doing this is to drill a 3/16-inch hole on a 45-degree angle down through the box back and into the pole. An 8-penny (8d) or 16d nail can then be slipped through the box (or through the hanger strap if you are using that coupling method) and into the pole so that the box hangs on the nail. Being able to remove the box quickly makes it safe for linemen to climb the pole, but it also makes it easy for people and predators to make off with the box.

The trunks of living trees should be avoided as mounts for nestboxes in most parts of the country. Predators and insects climb trees easily, and it is difficult to provide any sort of protection against them. Living trees should not be wrapped with metal for predator protection, as this stunts their growth. Squirrels and porcupines are more likely to chew on boxes mounted on tree trunks than those mounted on other poles, even wooden ones; snakes are more likely to climb trees in search of food.

In parts of the West and Southwest, tree trunks are used as mounting poles with fair success. These are areas where large predators keep the population of feral cats, raccoons, and opossums in check. Most of the trees used are less than 12 inches in diameter, are located in open areas, and have no low limbs near the box. In some ways, they resemble a utility pole more than the trees seen in the East.

On living trees, a nestbox can be attached with wire protected by a piece of rubber hose to prevent the tree from growing around the wire. The wire should be loosened each year. Attaching a box to a living tree with a nail requires regular maintenance, or the nail will disappear into the tree, and the nestbox will end up on the ground.

If you are nailing a hanger strap to a tree, use an 8d duplex head (double-headed) nail. The inner nail head will hold the mount to the tree, and the outer head will make it easy for you to pull the nail out a little each year so that the strap and nail don't become embedded.

Nestboxes can also be attached directly to a tree with 16d (3¼-inch-long) casing or finish nails driven through the back of the box. If the nails are driven flush with the back of the box, the tree will likely draw the nails through the wooden back as it grows. But if the nails are left sticking out an inch or so inside the box, the tree can grow for several years before the box will need to be reattached.

Historically, nestboxes were not mounted on poles, posts, or tree trunks; they were **hung from tree limbs.** And they weren't nestboxes exactly; they were hollow gourds.

Compared to pole-mounted boxes, hanging boxes are much more difficult to monitor and cannot be protected from predators. That's enough to discourage most bluebird monitors from using them, but Dick Purvis (see sidebar, p. 68) in southern California has hung nestboxes in trees very successfully and has inspired many others to do the same.

A cat calculates how to reach the nestlings inside a nestbox mounted on a utility pole. A disadvantage of mounting nestboxes on utility poles is that they can't be placed out of the reach of cats and other climbing predators.

Purvis's predator problem is minimized because his boxes are placed in public areas such as city parks and golf courses, which have high human traffic, crowding out most predators. The boxes are also placed far out on limbs so that climbers are less likely to reach them.

In heavily developed areas, vandals are a bigger problem than predators, and that's where boxes hanging high out of human reach become especially useful. They permit bluebirds to remain in (or return to) areas overwhelmed by urban sprawl. Boxes hung in trees are also well shaded, which is an important consideration in hot climates.

Heavy-gauge wire, steel rods, or steel straps can be bent into hooks and used to hang a nestbox. If wire is used, it should be at least 9-gauge (almost 3/16-inch-diameter) high-carbon wire, which resists bending. When the wire is hooked over a tree limb, it must be strong enough so that the weight of the nestbox won't slowly straighten out the hook. Zinc-coated or galvanized steel wire will resist rusting as well. Connect the wire to the center of the nestbox roof.

The same flat steel strap used to make a hanger strap for pole- and post-mounted boxes (p. 110)

Nails and screws present a safety hazard and costly expense to sawmills when a tree is harvested for lumber. I saw $8,000 damage done to a sawmill because someone had laid a wrench in the crotch of a tree 80 years earlier and the tree had swallowed it up. Nails can be just as devastating.