

TECHNICAL NOTES

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March 31, 2009

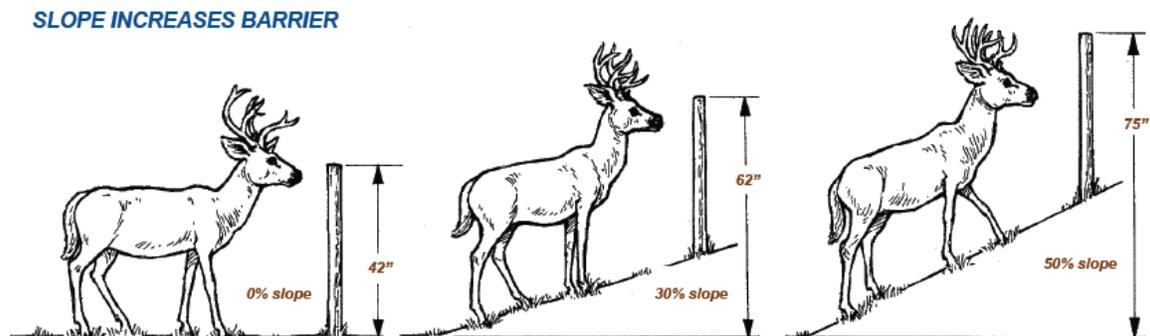
Building Wildlife Friendly Fences

This Technical Note makes recommendations for designing fences to meet both landowner objectives to protect property and control livestock while reducing injuries to wildlife. Not all fences are bad, but when not designed to consider wildlife needs they can injure and/or create a barrier to wildlife.

Planning Your Fence:

The best scenario for wildlife and fences is less is better. When planning a wildlife friendly fence consider the following items to meet your objectives:

1. Purpose of the fence: To protect your property, identify a boundary, keep livestock in or out or keep wildlife away from the haystack. What type of animals (i.e. cattle, sheep, deer, and elk) are you trying to keep in or out? The purpose will help with the design and placement of your fence.
2. Topography: Are there hills, gullies, streams and water bodies in the planning area? Fences built on the contour of a slope actually increases barrier (fence) height making it more difficult to cross. The added height can create a barrier to wildlife or result in more injuries.



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3. Species of wildlife present: What species (i.e. elk, deer, antelope, moose, and sage-grouse) will be negotiating this fence? What age group of wildlife will be in the area, adult and young?
4. What is the daily and seasonal movement of wildlife and domestic livestock? Are livestock only present for 4 months out of the year? What time of year is the fence needed?
5. Presence of water, food and cover for wildlife: Wildlife will need food, water and cover on a daily basis. Fences that are not wildlife friendly around streams, wetlands and water bodies will put big game at risk of injury on a daily basis. Fences close to sage-grouse leks or with poor visibility can kill grouse when they fly into them. Fence posts around leks tend to be raptor perches. If fencing is close to leks then raptor deterrents should be installed on the fence posts.

Placement of fence is just as important as the type of fence being built. Do not restrict wildlife movement over the entire property. Where practical, avoid building fences across slopes and provide for movement of wildlife close to important water, cover and food. Only use specialty barrier fences where needed like gardens, haystacks and corrals. For boundary fences allow free movement for wildlife including gaps and lay-down sections along known migration corridors when livestock are not present.

When fencing in areas where sage grouse are present do not install fences closer than 0.6 miles to a lek location. In areas where leks are present or bird and fence collisions have been observed improve visibility of wires by using reflective tagging.

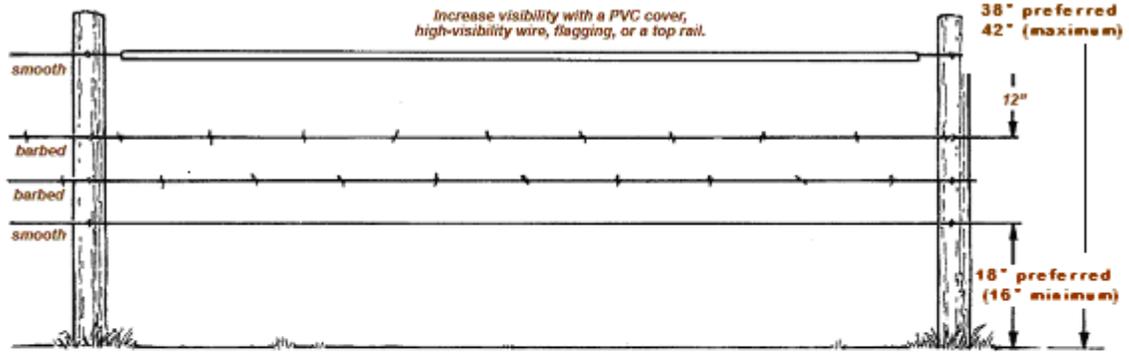
Fence designs:

Wildlife friendly designs for fences should be low enough that an adult can jump, high enough for the young to go under, minimize the chance of tangling and be visible to wildlife.

The following wildlife friendly guidelines will fit several types of fences:

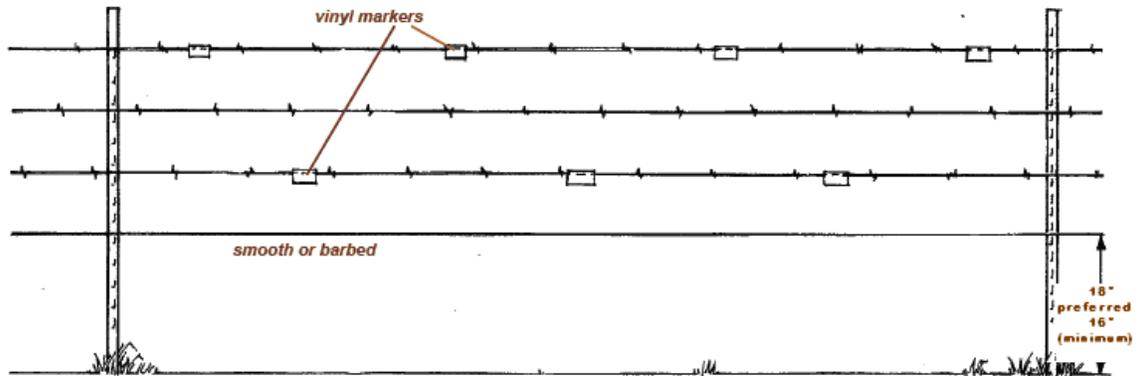
1. Top wire/rail preferred height 38” or a maximum of 42” above ground.
2. At least 12” between top two wires.
3. Bottom wire preferred height 18” above ground or a minimum of 16”.
4. Smooth wire on the bottom.
5. Posts at 16.5 foot intervals.
6. No vertical stays.
7. Keep wire tight.
8. Make fence wire more visible by adding vinyl siding trim or small diameter PVC tubing to the top and middle wires. Flagging is not a first choice for making fencing more visible. Flagging needs to be replaced yearly and domestic and wildlife animals have been known to eat the flagging material.

IDEAL WILDLIFE FRIENDLY FENCE

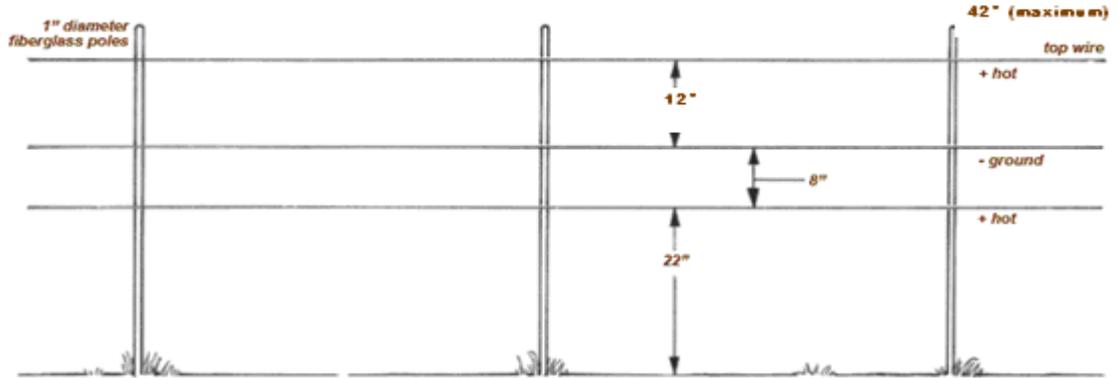


The friendliest fences are very visible and allow wild animals to easily jump over or slip under the wires or rails.

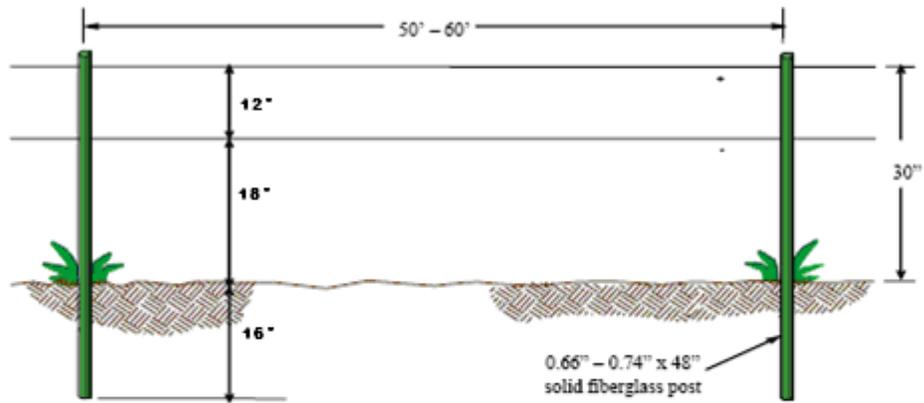
Typical 4 Strand Livestock Fence with Markers



3-WIRE HIGH-TENSILE ELECTRIC FENCE



2-wire electric fence.



Fence with Vinyl Markers



Christine Paige

Durable Markers for Wire Fence

Use 12' strips of "undersill" or trim strips of white vinyl siding, available at home hardware centers. Cut strips to 3" lengths. Use tin snips for small projects, or use a 10" miter saw with a 200-tooth blade to cut up to eight pieces at a time for larger projects. One 12' siding strip yields 48 pieces. Snap pieces onto top and middle wires: at least four pieces on the top wire per fence section, and three pieces on the middle wire per section.



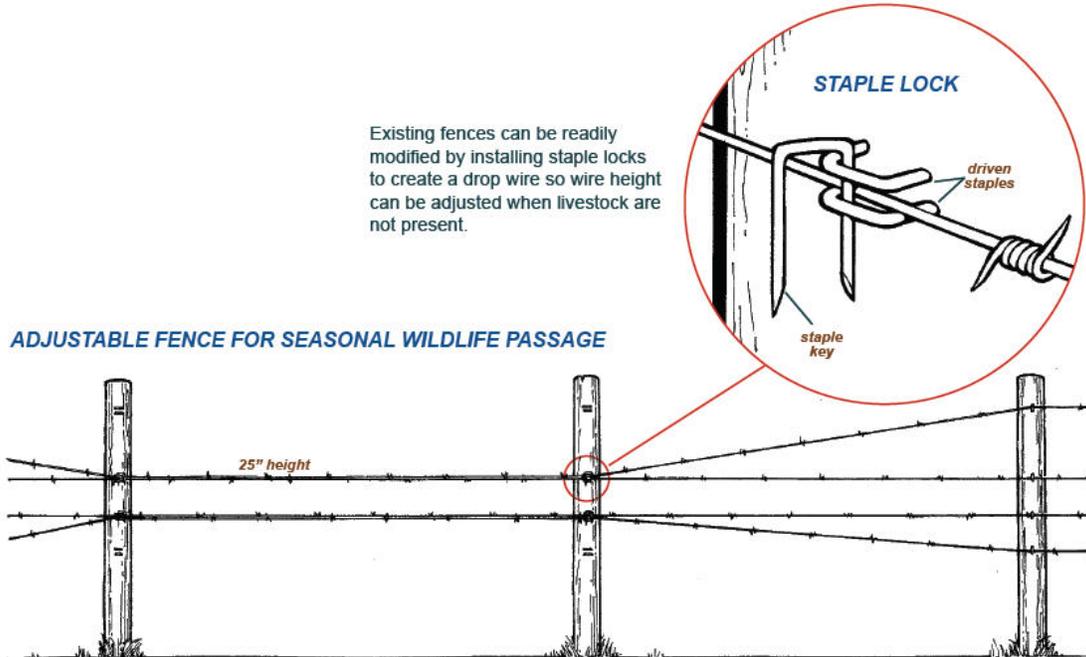
Christine Paige



Christine Paige

Durable and lightweight fence markers can be cut from strips of vinyl siding trim. The trim strip has a lip that easily snaps onto fence wires.

DROP-DOWN FENCES: *adjustable wire fence* allows animals to cross during migration periods if livestock aren't present. Lowering the top wire to 25" or less allows elk and deer to hop over easily in almost all conditions. Raise the lowest wire in the same way to help wildlife crawl under. A simple staple lock allows wires to be rapidly adjusted from one level to another and the wires can be adjusted by only one person.



A PVC underpass can be created by simply gathering the bottom two wires in a PVC pipe to make a higher clearing for pronghorn of any age or fawn deer to crawl under. Cut several 6' to 12' lengths of PVC pipe. With a table saw, cut a 1/4" slot the length of each PVC pipe. Note that a 1/4" cut can be made by matching up two 1/8" wide blades and using a wood guide. Grip the bottom two fence wires together, and feed the PVC pipe onto the wire from one end of the pipe. If the pipe gets hung up on a barb at the fore-end, work barb into end of pipe and continue. Once the pipe has been adequately started, grip the pipe near the fore-end and begin pulling down the length of the wire. Space these underpasses intermittently along the fence and especially in fence corners where pronghorn may be directed by the run of fence.



References

Paige, C. 2008. A Landowner's Guide to Wildlife Friendly Fences. Landowner/Wildlife Resource Program, Montana Fish, Wildlife and Parks, Helena, MT. 44 pp. <http://fwp.mt.gov/content/getItem.aspx?id=34461>

Colorado Division of Wildlife, 2007. Fencing with wildlife in mind: understanding the impact on wildlife when fencing your property. Colorado Division of Wildlife Living With Wildlife Program. Brochure, 9 pp. Online: <http://wildlife.state.co.us/NR/rdonlyres/B0D65D61-6CB0-4746-94F1-6EE194E1C230/0/fencing.pdf>

NRCS. 2008. Natural Resources Conservation Service General Standard and Specification Fence. Fence (Feet) Code 382. January 2008. Natural Resources Conservation Service Idaho. Online: <http://efotg.nrcs.usda.gov/toc.aspx?CatID=3958>

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