

# Unwelcome Mats

Help Keep Bears Wild

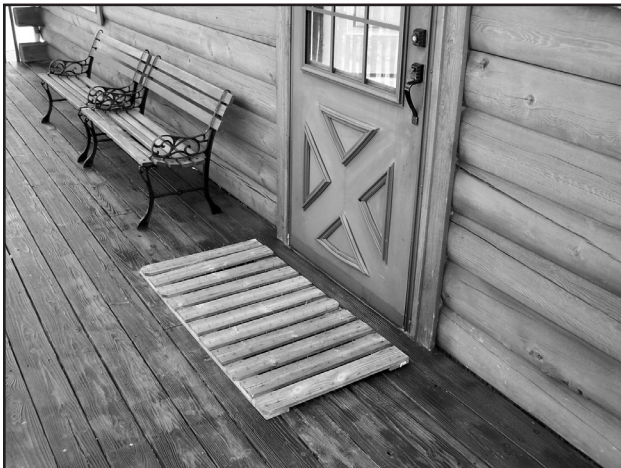


## Check Regulations Before Installing an Unwelcome Mat

Please check your homeowner's and community's regulations to make sure unwelcome mats are permitted in your area. As with electric fencing, you should put up a sign letting human visitors know that an unwelcome mat is in use.

## How to Make an Unwelcome Mat

Unwelcome mats must be large enough to keep a bear from leaning from one edge and reaching a door or window. Ideally they should extend past the sides of the door or window a minimum of two feet. A 4' x 4' sheet of plywood will protect a single doorway; a 4' x 8' will protect most patio and double doors and windows.



It's very important that unwelcome mats be made to black bear specifications; some designs you might find on the Internet are intended for grizzly bears, which are generally considerably bigger than black bears and have bigger paws and longer claws. A black bear can be seriously injured by spikes or nails that are too long or spaced too far apart.



Use full or half sheets of the thickest plywood available. Nails should be long enough to stick out of the wood  $\frac{3}{4}$  - 1". Nails should be nailed into the board approximately 2" apart. Drawing a grid on the board makes it easier to stay on track.

## How to Make an Electric Unwelcome Mat

Safe, effective bear unwelcome mats are easily constructed from materials available from Feed or Farm and Ranch supply stores. A properly constructed, installed and maintained electrified unwelcome mat will deliver a short, non-lethal, deterring shock when the bear steps on it. Construction time is 1-2 hours depending on how handy you are.



# Electric Unwelcome Mat

## Materials List:

- Heavy gauge, 4"x 4" square mesh wire panel. This is typically sold as wire fencing. The finished size depends on your needs. If the mat is for a sliding door or double French doors you may want to use a larger piece, but a 4' x 4" section works well for single doors or in front of most windows.
- Thick rubber mat. Stall mats, or 3/8th inch rubber on rolls are available at Farm and Ranch stores. The purpose of the mat is to provide electrical insulation between the wire mesh and the earth. Thin rubber or non-insulating materials such as tarp or fabrics will cause the mat to malfunction. While not dangerous, the mat won't work.
- Electric fence charger (one). A Gallager M80 or B75 is optimal, but any electric fence energizer will work. Chargers vary by energy output (the shock delivered) and the energy required to operate them. Options include battery, solar/battery, or plug-in styles. 110 volt plug-in styles are the lowest maintenance.
- Ground wire (6-feet). Typical ground wire is a bare (no insulation or covering), heavier 10-gauge copper wire.
- "Hot" wire (length determined by installation). This wire delivers electrical energy from the charger and the wire mesh panel. Typical hot (live) wire is 12 or 10 gauge, insulated, braided or solid strand copper wire.
- Copper ground rod (4-8 feet). This rod serves as the "earth ground" connection for the fence charger and is essential for proper charger operation.
- Ground rod clamp (one). This secures the ground wire coming from the fence charger to the ground rod.
- Alligator Clip. Clip will be used to secure "hot" wire to mesh wire panel.

## Tools Required:

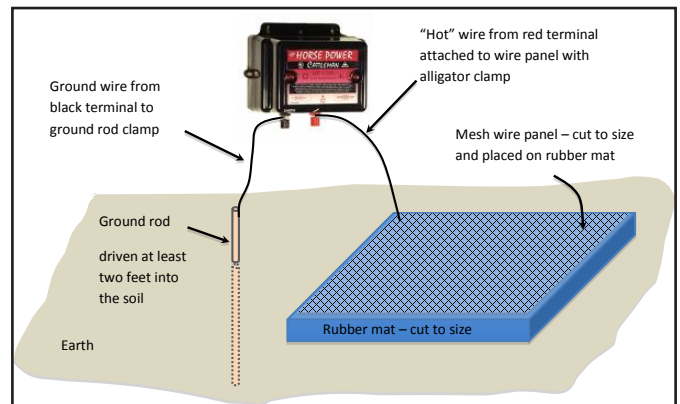
- Hacksaw or circular saw with carbide blade - to size mesh wire panel
- Saw - to cut rubber mat to size
- Hammer - to drive copper ground rod into the earth
- Wrench (or screw driver) - to fasten ground rod clamp and ground wire to ground rod

## Assembly Steps:

1. Cut mesh wire panel to appropriate size.
2. Cut rubber mat 1" to 2" bigger on all sides than wire mesh panel so panel doesn't hang over mat edge.

3. Place rubber mat where it will be used. Center mesh wire panel on mat. It doesn't need to be formally attached to mat, but can just lie on top.
4. Install fence charger per manufacturer's directions. Consideration should be given to locating your power source.
5. Drive ground rod into the earth next to charger. Keep soil around ground rod moist to maximize charger effectiveness.
6. Run one wire from the Black charger terminal ground rod and attach with the ground rod clamp.
7. Run a second wire from the Red charger terminal to the wire panel and attach with the alligator clip.

## Installed Components:



**Warning signs** are a good idea, particularly if children or the general public has access to the mat.

For the mat to deliver a shock, an animal has to have at least one point of contact with the earth or soil next to the mat. So if a cat or bird landed fully on the mat without simultaneous contact with the adjacent ground, no shock would be delivered.

Humans or pets coming into contact with the mat will experience the same brief shock as the bear might. While uncomfortable, it is not debilitating and certainly not lethal.

Plants or moisture that bridge between the mesh wire panel and the ground can cause an electrical "short", detectable by an audible "snapping" or "clicking" sound and a visible spark at the point of contact. If due to moisture, the condition will self-correct when the mat dries out. Make sure no branches or vegetation come in contact with the wire mesh panel.

## Please Do Your Part to Keep Bears Wild

Visit [www.wildlife.state.co.us/bears](http://www.wildlife.state.co.us/bears) for more information or call your local Division of Wildlife Office.