

# FREQUENTLY ASKED QUESTIONS

Can I electrify an existing fence?

Yes! You can retrofit many types of barrier fencing with an energizer and other electric fence components.

Can I electrify a barbed wire fence?

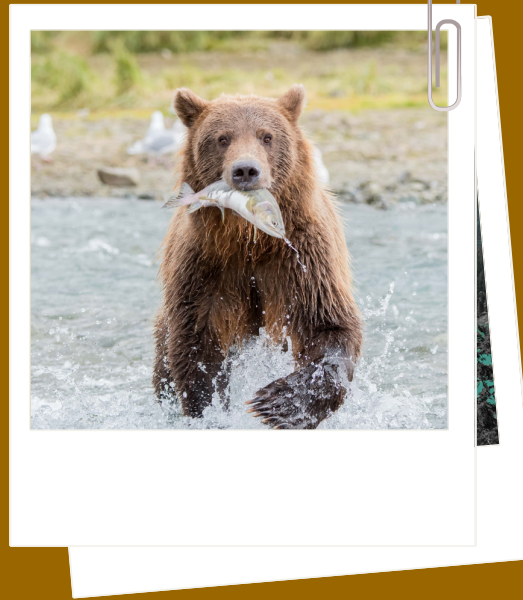
Never use barbed wire as part of an electric fence. Electrified barb wire or barbed wire combined with electric fencing poses a significant safety hazard to people, animals, and wildlife.

Are electric fences safe?

Modern electric fence energizers are designed to be painful but non-injurious. You should always exercise caution around electrical systems.

Are electric fences expensive?

Electric fences can be expensive or inexpensive depending on the size of the area you want to enclose and the building materials you choose. Small scale electric fence projects typically cost \$200- \$800.



# ELECTRIC FENCING FOR BEGINNERS

*For more information regarding electric fences, their construction, and their use; see the following web pages and articles or contact Defenders of Wildlife via email: [AlaskaDefenders@Defenders.org](mailto:AlaskaDefenders@Defenders.org)*

“Deterring Bears with Electrified Fencing: A beginner’s guide” – Montana Fish, Wildlife & Parks

“Electric Fence Installation Guide”- Zareba Systems

“Electric Fences as Bear Deterrents”- Alaska Department of Fish and Game



Electric Fence Incentive Program



CREATED BY DEFENDERS OF  
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# WHAT IS AN ELECTRIC FENCE

Electric fences are a type of fence that use electricity to reinforce a boundary. Electric fences create both a physical and psychological barrier for wildlife using pain stimulus.

## HOW DO I GET STARTED?

The following are the basic parts of an electric fence. You can find these materials at local hardware stores and online.

ITEM	APPROXIMATE COST*
1 Joule Energizer	\$100 - \$150
14 Gauge Steel or Aluminum Wire	\$40 - \$70 / 1/4 mile
5 ft Metal Fence Post	\$6 - \$8
Plastic T-Post Insulators	\$10 / 25pack
6ft Steel Grounding Rod	\$16 - \$20
Insulated Wire	\$22 / 50 ft
Voltage Tester	\$14

\*prices vary based on location, brand, material, and shipping fees.

## ENERGIZERS

Produce electrical energy measured in joules. Energizers have a storage and output capacity. The stored joule capacity will always be higher than the output capacity. When buying an energizer, **pay attention to the output joules.** Defenders of Wildlife recommends choosing energizers with at least a **0.7 J output** to deter bears.

## CHOOSING THE BEST ENERGIZER FOR YOU

While all types of energizers can produce the necessary power to deter bears or other animals, some may be better suited to your specific location.

AC Powered/Plug in: Most stable power source because it plugs into a wall or power strip. Outlet must be between 110-220 volts. This is not an ideal energizer for a remote location.

DC Battery Powered: Ideal for remote areas. Powered by batteries that can be re-charged. Battery level must be monitored.

Solar Re-Chargeable Battery: Ideal for remote areas. The batteries are recharged by the solar panel. However, in places that experience little sunlight, the panels may not collect enough energy for recharging.

## WIRE

The best choice of wire depends on the purpose of your fence. For long-standing or permanent fences, 14 gauge galvanized steel or aluminum wiring is best. If you want a fence that is easy to take apart and rebuild each year, polywire is the most practical choice. You will also need insulated wire to connect the energizer, grounding rod, and fence wire to one another.

## FENCE POSTS

Posts can be wooden, metal, or plastic. While wood can make a sturdier fence, keep in mind that it will rot in wetter climates. Fences for bears should never be shorter than 4ft and ideally should be 5-6ft tall.

## INSULATORS

Insulators keep the fence wires from touching the posts and prevent electrical leakage. They are usually made from plastic or ceramic and are either nailed, clipped, or screwed into fence posts.

## GROUNDING ROD

Grounding rods act as an antenna that collect the energy released into the soil and deliver it back to the energizer. The length of the rod corresponds to how many joules of energy it can collect and hold. An electric fence should have a minimum of 3-6 feet of grounding rod per Joule. It is impossible to have too much ground, but not creating enough of a ground will significantly limit the power of your fence.

## VOLTAGE TESTER

Voltage testers allow you to determine the precise voltage output of your fence. Testers can be used to find weak points or determine if electricity is leaking.