

**2003 Edition  
Living with Predators  
Resource Guide**

***Recreating in Bear, Wolf  
And Mountain Lion Country***



**First Edition**

***Written and compiled by  
Patricia A. Sowka***

**© 2003 Living with Wildlife Foundation, Inc.**

*For more information on the “Living With Predators Resource Guide” series,  
please contact Patricia Sowka at the Living with Wildlife Foundation at:*

*(406) 754-0010 or (406) 544-5307*

*E-mail: [psowka@blackfoot.net](mailto:psowka@blackfoot.net).*

Citation:

Sowka, P. Sowka, P. 2003. Living with Predators Resource Guide Series—Techniques and Refuse Management Options for Residential Areas, Campgrounds, and Group-Use Areas. Produced by the Living with Wildlife Foundation in cooperation with Montana Fish, Wildlife and Parks, Living with Black Bears, Grizzly Bears and Lions Project. First Edition. Swan Valley, Montana.

*Cover photos Courtesy of (clockwise from top left): Tom Mangelsen, Derek Reich, Tom Mangelsen and Keith Highley*

*Thomas D. Mangelsen, Images of Nature  
[www.mangelsen.com](http://www.mangelsen.com)*

*Derek Reich, Zöoprax Productions  
[www.zooprax.com](http://www.zooprax.com)*

*Produced by the Living with Wildlife Foundation*

*In cooperation with*



**Montana Fish,  
Wildlife & Parks**

*Living with Black Bears, Grizzly Bears and Lions Project*

For information on Montana Fish Wildlife and Parks' *Living with Black Bears, Grizzly Bears and Lions Project*, or for information on living or recreating in bear country, please contact one of the following bear management specialists:

Mike Madel  
Choteau, MT  
406-466-5100

Erik Wenum  
Kalispell, MT  
406-752-5501

Tim Manley  
Kalispell, MT  
406-751-4584

Kevin Frey  
Bozeman, MT  
406-994-3553

James Jonkel  
Missoula, MT  
406-542-5508

**Publication Disclaimer**

*This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting or other professional advice. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.*

# ***Acknowledgements***

## **We greatly appreciate the participation of the following individuals:**

Chad Bauer, Browning Ferris Industries  
Max Bauer, Browning Ferris Industries  
Minette Johnson, Defenders of Wildlife  
Seth Wilson, University of Montana  
Scott Tomson, USFS, Lolo National Forest  
Pat O'Herren, Brown Bear Resources  
Mark Johnson, D.V.M., Global Wildlife Resources  
Todd Levine and Greg Price, the Great Bear Foundation  
Jim Claar and Bob Summerfield, U.S. Forest Service  
Grizzly Discovery Center  
Thomas D. Mangelsen, Images of Nature  
Derek Reich, Zöoprax Productions

## **Review comments provided by:**

Kim Barber, Shoshone National Forest  
James J. Claar, USDA Forest Service  
Brian DeBolt, Wyoming Game and Fish Department  
Gale H. Ford, DVM, MS, Grizzly and Wolf Discovery Center  
Kevin Frey, Montana Fish, Wildlife and Parks  
Kerry Gunther, National Park Service, Yellowstone National Park  
John Heine, Grizzly and Wolf Discovery Center  
Stephen Herrero, University of Calgary  
Jamie Jonkel, Montana Fish, Wildlife and Parks  
Dick Karsky, USDA Forest Service  
Mack Long, Montana Fish, Wildlife and Parks  
Tim Manley, Montana Fish, Wildlife and Parks  
Mike McGrath, Montana DNRC  
Bill Noblitt, USDA, Forest Service  
Pat O'Herren, Brown Bear Resources, Inc.  
Derek Reich, Zoöprax Productions  
Laird Robinson, USDA Forest Service  
Richard Shideler, Alaska Dept. of Fish and Game  
Chris Smith, Montana, Fish, Wildlife and Parks  
Bob Summerfield, USDA Forest Service

## **And the financial support provided by the following:**

Montana Fish, Wildlife and Parks, Living with Black Bears, Grizzly Bears and Lions Project  
Great Bear Foundation  
U.S. Forest Service, Lolo National Forest  
Blackfoot Challenge  
Northern Rockies Conservation Cooperative  
Brown Bear Resources  
Sierra Club

## ***Dedication***

*To Chuck Jonkel, Ph.D., Jamie Jonkel, Grizzly Bear & Lion Management Specialist for Montana Fish, Wildlife and Parks (FWP), and Tim Manley, Grizzly Bear Management Specialist with FWP. Chuck introduced me to the world of grizzly bears and inspired me to help preserve these incredible animals for future generations. Jamie and Tim gave me the encouragement and support I needed to compile and produce the Living with Predators Resource Guides. I'd also like to thank others who are working to help people and predators learn to co-exist.*

- Patricia Sowka -

## Foreword

The Living With Predators Resource Guides were compiled by the Living with Wildlife Foundation in cooperation with the Montana Fish, Wildlife and Parks' *Living with Black Bears, Grizzly Bears and Lions Project*. The guides are intended to help minimize conflicts between people and black bears, grizzly bears, wolves and mountain lions. Information has been compiled into three separate volumes to better target specific users. The set consists of the following:

***Techniques and Refuse Management Options for Residential Areas, Campgrounds, and Other Group-Use Facilities,***

***Recreating in Bear, Wolf and Mountain Lion Country,***

***and***

***Predator Behavior Modification Tools for Wildlife Professionals***

The three guides provide ideas on how to reduce bear attractants, deter bears and other predators from developed areas, and information about where to obtain bear-resistant products. Most of the techniques and products listed in the guides were initially developed to reduce human/grizzly bear conflicts; however, many of these techniques and products have also been effective at reducing conflicts with other predators as well.

These resource guides were compiled after a thorough search for products and techniques being advertised as bear-resistant. Products that were not being advertised as being bear-resistant, but might be suitable for use as bear-resistant storage containers, were also included in the guides. It is important to note that not all of the products included in the guides have been tested for use as bear-resistant containers. It is important to note that not all of the products included in the guides have been tested for use as bear-resistant containers.

All of the vendors included in these guides were contacted to verify that products are still available and to obtain permission to include them in the guide. Contact information for vendors who weren't successfully reached was also included, but product information for those vendors may be limited.

***Care has been taken to ensure the accuracy and completeness of the information contained in the Living With Predators Resource Guides; however, the author and Montana Fish, Wildlife and Parks are not responsible for errors contained in these guides and does not guarantee the performance of the products and techniques included in the resource guides.***

## Considerations For Using The Living With Predators Resource Guides

- Not all of the products and designs listed in the resource guides have been tested and proven to be bear-resistant. In addition, products must be used properly and according to the manufacturer's specifications.
- Products that are advertised as "bear-proof" may not be 100% bear-proof. Most products that are advertised as "bear-proof" are most likely "bear-resistant" meaning that under certain circumstances (i.e. under certain weather conditions, after many years of use, if used improperly, or when tested by certain bears) the container may fail and allow a bear to access its contents.
- Please be aware that National Parks, National Forests, and State Parks may have different regulations and requirements for food and garbage storage and disposal. Please consult the appropriate regulatory authority for that area.

Photo courtesy of Thomas D. Mangelsen,  
Images of Nature

[www.mangelsen.com](http://www.mangelsen.com)



***Please report any bear activity near houses, campgrounds, schools, and other public or developed areas, to the appropriate bear management specialist for that area. Even if the bear's activity seems minor at the time, often the behavior escalates to a point where it requires management action, such as the relocation and/or ultimately, the killing of the bear. Please help prevent the need for such actions—***

***you can make a difference!***

# ***Table of Contents***

<b>Recreating in Wild Areas</b>	<b>1</b>
Recreating in Mountain Lion Country	1
Hiking and Mountain Biking in Bear Country	2
Women in Grizzly Country	3
Camping in Bear Country	3
Hunting in Bear Country	4
<b>Securing Your Food, Garbage and Other Gear</b>	<b>5</b>
Interagency grizzly Bear Committee Certified Products	6
Other Bear-Resistant Products	13
Outfitters Panniers	17
Hanging Your Gear	21
<b>Deterring Predators</b>	<b>24</b>
Electric Fencing for Securing Backpacks, Game Meat, and Other Attractants	24
Bear Alarm Systems	33
Bear Pepper Spray	34
Interagency Grizzly Bear Committee Guidelines	34
EPA Approved Brands of Bear Pepper Spray	36
Choosing and Using Bear Pepper Spray	37
List of Vendors Featured in this Resource Guide	41
Other Sources of Information	43
Reference Books and Videos	44



## Guidelines for Recreating in Wild Areas

It is important to identify the kinds of wildlife you could encounter in the area you will be visiting **BEFORE** you head out on your adventure. In this section of the resource guide, you will find basic guidelines and considerations for recreating in areas where grizzlies, black bears, and mountain lions occur. Please note that these are just general guidelines and considerations. Predator behavior is very complex and each animal may react differently based on its own unique life experiences.

After the guidelines and considerations section, we present information on products and techniques currently being used to minimize conflicts with these predators.

**Please contact the local, state or federal regulatory authority to find out what species you could potentially encounter or for more specific information on these wildlife species.**

### Recreating in Mountain Lion Country

- Try to recreate in groups of at least two people.
- Don't assume that just because you don't see them, mountain lions are not around.
- Don't assume that unattended mountain lion kittens are orphaned—often the mother will “stash” them in a safe place while she hunts for food to bring back to them.
- Keep children close to you—they are most susceptible to lion attacks.
- If you see a lion, leave the area, but **DO NOT RUN. If you run, the lion could view you as prey and may pursue you.**
- If the lion attacks, **stand your ground.** Try to make yourself look as big and threatening as possible by shouting, waving your arms, waving sticks in the air, throwing sticks and rocks in the lion's direction, etc.
- If the lion continues its attack, be aggressive and try to fight it off—hit the animal with rocks, sticks or any other blunt, hard object.
- Use bear pepper spray if it's available. Pepper spray has been used successfully to divert confrontations with mountain lions (Bob Weisner, Montana Fish, Wildlife and Parks, personal communication).



Photo Courtesy of Thomas D. Mangelsen

## Hiking and Mountain Biking in Bear Country

Photo Courtesy of Keith Highley



- Try to recreate in groups of at least two people if possible.
- Always let someone know where and when you'll be hiking or biking and what time you plan to be back.
- Always carry an approved brand of bear pepper spray when recreating in bear country.
- Stay on established trails; make plenty of noise, especially when the trail you're on goes through areas of thick brush, or takes a bend and you can't see the path ahead.
- Avoid hiking at dusk or at night; bears are very active during these times and it's too easy to startle a bear when the light is low.
- Watch for signs of recent bear activity—scats (droppings), bear tracks, logs that have been torn apart, large rocks that have been rolled over, trees with claw or bite marks or areas of digging; if you see signs, leave the area.
- Avoid animal carcasses and berry patches—these are potential food sources for bears.
- Keep children and pets close at all times; either leave your dog at home or keep it leashed while hiking. Kids and dogs can excite bears which could result in a defensive or predatory response from the bear.
- Do not take odorous items along on your hike. Bears have a great sense of smell and may be attracted to items that have a strong smell, such as lotions, deodorants, scented soaps, etc.
- Do not leave backpacks, coolers or other gear unattended—hang packs using methods presented in this guide.
- If you encounter a grizzly while hiking or biking, remain calm and quiet. Keep watching the bear but avoid making direct eye contact with the bear. Back up slowly, and speak to the bear in a soft voice. Never turn your back or run from a bear.
- **DO NOT APPROACH BEARS TO GET A CLOSER LOOK OR A BETTER PICTURE!** View bears at a distance using binoculars or your camera lens. Bears can run as fast as 30 m.p.h., and can go from being "far away" to "way too close" almost in an instant. In addition, the bear you're looking at may not be the only bear around—it could be a mother with cubs.
- If you plan to be out overnight, follow the guidelines listed in the section on camping in bear country.

## Women in Grizzly Bear Country

- There is no evidence that grizzlies are more attracted to menstrual odor than to any other odor.
- Practice careful hygiene—use pre-moistened unscented towelettes.
- Use tampons instead of pads.
- Never bury garbage since bears could smell it and dig it up; always pack out discarded feminine hygiene products. Hang garbage at least 10 feet off of the ground and at least 4 feet away from vertical supports while camping.
- Do not use or pack any scented hygiene items.

## Camping in Bear Country

- Use designated camping areas when they are available and follow all regulations.
- Camp in open areas when at all possible.
- Do not put your tent near any potential feeding areas such as: near a carcass, near water or riparian areas, near berry patches, or near trails.
- Store food or other odorous items (including toothpaste, lotion, sun screen, bug repellent, etc.) in an airtight and bear-resistant container; if the bear does get into your pack, it won't get a food reward.
- If camping with pets, be sure to pick up any leftover or spilled food immediately and dispose of it the same way you dispose of your garbage.
- Store pet food in a bear-resistant manner along with your food.
- Hang backpacks and other gear out of the reach of bears—at least 10-15 feet up from the ground and at least 4 feet away from any vertical support (tree, post or pole). *Techniques for hanging gear and other bear attractants are presented later in this guide.*
- **DO NOT STORE FOOD OR ODOROUS ITEMS IN YOUR TENT OR SLEEPING BAG!!**
- Do your cooking, eating and dishwashing at least 100 yards from your sleeping area.
- **Keep your camp clean—do not leave garbage or food unsecured.**
- **Never bury garbage. Pack all food and garbage out when you leave.**

## Disposing of Your Garbage in Bear Country

Proper disposal of all garbage is critical when you're recreating in bear country. Please keep these important points in mind:

- DO NOT bury your garbage. Bears have a great sense of smell and will dig it up.
- Hang your garbage using one of the methods described in this guide while you're camping.
- Pack all garbage out with you or dispose of it in a bear-resistant trash container if one is provided.
- If you burn any of your garbage, make sure it is completely burned before you leave. Dispose of any unburned or partially burned garbage in a bear-resistant trash container or pack it out with you.
- Make sure your camp fire is completely out before you leave your camp.
- If you see other recreationists being careless with their food and/or garbage, please report the situation to a ranger or other authority immediately...**BEFORE** the bears find it!

## Hunting in Bear Country

- Try to hunt with a partner or in small groups if possible. Make sure at least one person not on the trip knows where you will be hunting and when you will be back.
- Be alert for signs of bear activity—scats (droppings), bear tracks, logs that have been torn apart, large rocks that have been rolled over, trees with claw or bite marks or areas of digging.
- Avoid hunting in berry patches or near old animal carcasses.
- Do not hunt in low light conditions.
- Follow the guidelines listed above under “camping in bear country” for food and garbage storage and for storing and/or hanging your game meat while you’re in bear country (this also applies to hanging your meat at home if you live in or near bear country).
- Comply with all regulations regarding meat storage for the area you are hunting in; special regulations may apply if you’re hunting in grizzly country.
- If you’re using pack animals, make sure that the livestock feed (grain, corn, oats, etc.) is stored in a bear-resistant container.
- Always have pepper spray within reach while hunting and butchering your game meat.
- Gut, butcher and pack out your meat as quickly as possible—always separate the gut pile from the rest of the carcass while you’re butchering.
- Pack out your meat—do not drag it (dragging will leave a scent trail).
- **DO NOT BUTCHER YOUR GAME ANIMAL OR DISPOSE OF THE CARCASS OR ENTRAILS ON OR NEAR ANY ROAD OR TRAIL—THIS MAY ENDANGER OTHER HUNTERS OR RECREATIONISTS!!!**
- **DO NOT SLEEP IN THE CLOTHES THAT YOU WORE WHILE BUTCHERING YOUR GAME!**
- If you must leave your game carcass in the field overnight, mark the carcass well and leave any unattended meat at least 50 yards away from the gut pile. When retrieving your meat, check your meat cache from a safe distance using binoculars to make sure that a bear isn’t feeding on the carcass. Make lots of noise as you approach the carcass.
- If a grizzly bear is feeding on the carcass when you return, leave the bear and the carcass and vacate the area immediately. Report the location of the carcass and bear to the nearest game warden or wildlife official.
- Consider erecting a portable electric fence around the carcass to discourage bears. See *technique for installing an electric fence later in this guide*.
- There is some evidence that bears may be attracted to gun shots or congregations of ravens after a game animal has been taken—if a bear investigates, stay calm. In most cases the bear will remain at a distance until you leave the area. Pack out as much of the animal as you can in case the bear does approach the carcass after you leave the site.
- It is **NOT** recommended that you shoot at a bear that approaches you or charges you. In many cases the bear is wounded and before dying or leaving the area, it attacks the shooter.
- Report any incident with a bear to the nearest authority as quickly as possible.
- Grizzlies in the Lower 48 States are protected—it is illegal to hunt grizzlies in the Lower 48 States.
- Please report any wildlife poaching to the nearest authority.

## **SECURING YOUR FOOD, GARBAGE AND OTHER GEAR In Bear Country**

While you are recreating in bear country, it is vitally important that you properly store your food, garbage and any other items that have an odor. Bears have a very keen sense of smell and could be attracted to anything that smells interesting to them—whether or not it's food-related. Items such as toothpaste, soap, lotions or bug sprays, deodorant, and any food or garbage items should be stored in a bear-resistant container.

This guide offers product ideas and options for ways to secure items that could be bear attractants. If you will be visiting a national or state park, a national forest, or a wilderness area, please consult with the appropriate regulatory agency to find out what requirements for food and garbage storage may apply in that area. For instance, Yellowstone, Grand Teton, and Glacier National Parks all have regulations pertaining to the storage of food and garbage in grizzly country. Many of the parks have compiled a list of approved bear-resistant products that can be used in that particular recreational area.

Some products are more bear-resistant than others. This resource guide presents a range of products for you to consider, but does not yet provide information on product performance. A formal protocol for testing products using captive grizzly bears is currently being drafted. We hope to implement the testing protocol in the Spring of 2003, and as products are tested, this guide will be updated to provide consumers with up-to-date information on the performance of various products.

## INTERAGENCY GRIZZLY BEAR COMMITTEE CERTIFIED BEAR RESISTANT PRODUCTS

### Background

In 1989, the Interagency Grizzly Bear Committee (IGBC) published minimum design and structural standards, inspection and testing methodology for BEAR RESISTANT CONTAINERS. To structure the testing methodology, the USFS Missoula Technology and Development Center (MTDC) designed an impact-testing machine that closely simulated the pressure a bear can exert on a container. This information formed the basis for the courtesy inspections of commercially produced and personal use (container built by an individual and not for commercial production and sale) containers designed to properly store food and other attractants in bear country.

The inspection and testing of containers for bear resistance and user compatibility is an ongoing process. We continue to refine test procedures as new products and materials are developed. Since 1989, our approach has been to utilize bears whenever possible to help establish engineering standards based on “bear testing” of containers. Once initial field tests are performed with bear(s), then MTDC seeks to duplicate pressures, strengths and leverages with engineering measurements and standards.

To receive the courtesy IGBC certification, **commercially available products** are evaluated at the Forest Service facility in Missoula, Mt. or Cody, Wyoming. This evaluation includes inspection of materials and construction as well as an impact test. Products that are certified by USFS as “bear resistant” receive an individually numbered IGBC decal and a receipt of certification. [Exceptions: Garcia products (2 backpacker models) and Greenlee Mobile Storage Chest – Model 2448 are approved, but do not have the IGBC decal attached].

Courtesy inspection of **containers that are built for personal use** only can be completed in several Forest Service offices in western Montana and Wyoming. Individuals can construct their own containers based on designs provided by the USFS or other sources. These “personal use” containers that pass the courtesy inspection will each receive an individually numbered IGBC decal and inspection receipt. Contact your local Forest Service office in Montana or Wyoming for additional information or one of the contacts listed below.

### Maintenance of Containers

It is very important to check your containers to make certain that latches continue to close tightly and are not broken or malfunctioning. Field use of containers can cause stresses and impacts that can cause damage to latches, hinges, seams, etc.

Containers that are certified “bear resistant” need to have all the latches (catches, fasteners, etc) operating properly to remain bear resistant. If a latch becomes loose or broken, contact the manufacturer for replacement parts or advice on repairing the damage.

If a container is damaged and the lid does not seat or seal properly, that is, there are **gaps or cracks that are ¼ inch or greater**; this may allow a bear to open the lid. Again check with the manufacturer for advice on completing repairs to ensure your container remains bear resistant!

**Please Note:** IGBC certified containers are one of the methods available to meet USDA Forest Service food storage regulations on National Forests in the Yellowstone Grizzly Bear Ecosystem and Northern Continental Divide Grizzly Bear Ecosystem.

When you are in Yellowstone, Grand Teton or Glacier National Parks, check their regulations for food storage requirements and methods.

### **Update #1**

In partnership with the Grizzly Bear Discovery Center (click on “bear test” video) at West Yellowstone, Montana and Montana Department of Fish, Wildlife and Parks, the MTDC again has grizzly bears available to “test” containers. Subsequently, MTDC is developing engineering specifications that closely relate to actual “bear tests” similar to the approach in 1988-89, when the initial standards were developed. Specifically, there are new containers or prototypes being developed that involve new uses of various plastic materials. MTDC is investigating “puncture strength” (that is, bears’ use of claws and teeth) and tear strength of plastic materials as parameters that can be measured and utilized to develop inspection standards.

In addition, IGBC has asked the Forest Service (Karsky, Claar and Barber) to test various sizes and models of dumpsters and garbage containers and subsequently define specifications relative to bear resistance. These products are currently constructed from metal or plastic.

### **Update #2**

In partnership with the National Outdoor Leadership School (NOLS), the USDA Forest Service (Shoshone National Forest) and Wyoming Game and Fish Department cooperated in experimental field tests of an electric fence prototype as an alternative food storage method. During spring, 2003 the USDA Forest Service in partnership with Montana Department of Fish, Wildlife and Parks will perform additional field tests of the electric fence prototype.

### **For additional information or testing of products, contact:**

**Richard Karsky**, Missoula Technology and Development Center (MTDC), 406-329-3921.

**James Claar**, Northern Region, 406-329-3664; Missoula, Montana.

**Kim Barber**, Shoshone National Forest, 307-578-1235; Cody, Wyoming.

**“BEAR RESISTANT” PRODUCTS CERTIFIED BY THE INTERAGENCY GRIZZLY  
BEAR COMMITTEE (IGBC)**

The following companies produce certain containers that have been approved and certified as “bear resistant” through the Interagency Grizzly Bear Committee’s testing methodology. Commercially produced containers that are determined to be “bear resistant” receive an individually numbered IGBC decal and inspection receipt. At this time, photographs are not available for all products that are certified.

This commercial product list is for information only and does not imply any endorsement of one product or source over another.

**SMALL CONTAINERS**

**Garcia Machine**  
14097 Avenue 272  
Visalia, CA 93292  
559-732-3785  
*Backpackers Cache*

[www.Backcountrystore.com](http://www.Backcountrystore.com)  
1-800-409-4502  
*Garcia Backpackers Cache*

[www.campmor.com](http://www.campmor.com)  
*Garcia Backpackers Cache*

**Riley Stove Company**  
P.O. Box 8117  
Townsend, MT 59644  
406-266-5525  
*Grain storage container*  
*Food storage container*  
*Insulated cooler*



[www.rei.com](http://www.rei.com)  
*Garcia Backpackers Cache*  
click on Camp/Hike  
click on Health and Safety  
click on bear protection

[www.bearproof.com](http://www.bearproof.com)  
*Garcia Backpackers Cache*





**Wind River Products**

#4 Absaroka Court Sand Creek Lane  
Dubois, WY 82513 Alcova, WY 82620  
307-455-2464 307-267-3879  
*Backpack Container/Small Pannier*

**Wyoming Outdoor Industries, Inc.**

1231 13<sup>th</sup> Street  
Cody, WY 82414  
1-800-725-6853 or 307-527-6449  
[www.wyomingoutdoor.com](http://www.wyomingoutdoor.com)  
*Backpack Container/Small Pannier*



**BEAR RESISTANT PANNIERS**

**LMI Welding, Inc.**  
PO Box 772  
Cutbank, MT 59427  
[www.lmiwelding.com](http://www.lmiwelding.com)  
(fax)406-337-3023  
406-337-3021  
800-345-5623



**Salem Tent and Awning**

280 Wallace Road NW  
P.O. Box 5274  
Salem, Oregon 97304  
(503) 363-4788  
(800) 892-8659  
[www.salemtent.com](http://www.salemtent.com)



**Wind River Products**

#4 Absaroka Court Sand Creek Lane  
Dubois, WY 82513 Alcova, WY 82620  
307-455-2464 307-267-3879



**Wyoming Outdoor Industries, Inc.**

1231 13<sup>th</sup> Street  
Cody, WY 82414  
1-800-725-6853 or 307-527-6449  
(fax) 307-527-7508  
[www.wyomingoutdoor.com](http://www.wyomingoutdoor.com)

Wyoming Outdoor Industries products can also  
Be purchased at:  
**Sonaoma Mountain Pack Station**  
244 N. Main  
Spanish Fork, UT 84660  
801-794-2082



Buckstich Canvas and Leather  
1107 Sheridan Avenue  
Cody, WY 82414  
[www.buckstitchcanvas.com](http://www.buckstitchcanvas.com)  
307-587-4426  
1-800-268-442



**BEAR RESISTANT PANNIERS**

**Robertson Enterprises**  
P.O. Box 1711  
Cody, WY 82414

Aluminum Panniers

**Teton Welding**  
PO Box 976  
Choteau, MT 59422

Aluminum Panniers

**Ben Notti/Marshall Ridenour**  
1029 Terrace View Drive  
Alberton, MT 59820

Aluminum Panniers

**Koffler Boats Inc.**  
90017 Green Hill Road  
Eugene, OR 97402  
541-688-6093

Aluminum Panniers

**Columbia Construction, Inc.**  
455 4<sup>th</sup> Ave. E.N.  
Columbia Falls, MT 59912  
406-892-3856

Aluminum Panniers

**Metalworks of Montana**  
109 North California  
Missoua, MT 59801

Aluminum Panniers

**Decarteret Pack Equipment**  
30547 Mehrten Drive  
Exeter, CA 93221

Aluminum Panniers

Outfitters Supply  
[www.outfitterssupply.com](http://www.outfitterssupply.com)  
7373 Hwy2 East  
Columbia Falls, MT  
1-888-467-2256

Wind River Products'  
Green Kitchen Panniers

### SPECIALIZED PRODUCTS FOR HANGING FOOD

**Williams Products, Inc.**  
2825 Rehberg Lane  
Billings, MT 59102  
406-652-8930  
1-800-522-8930  
*Hi Stor*



NATPRO, Inc.  
Box 1076  
Lander, WY 82520  
307-332-3068

*Game Hoist with Adjustable Gambrel:*

*(Product uses webbing and rollers, and is available nationally through Sportsman's Guide, Cabela's and Wal-mart)*

## SPECIALIZED PRODUCTS FOR HANGING FOOD

[www.rei.com](http://www.rei.com)

click on Camp/Hike

click on Health and Safety

click on bear protection

*Bear Bag*

*holds 60 feet of line for hanging bag in tree.*



## FRONT COUNTRY STORAGE CONTAINERS

### Greenlee Mobile Storage Chest – model 2448

Available at Home Depot in Billings

Other models of Greenlee may pass the bear resistant test, this is the only model tested to date. Specifics on the model 2448 chest and other greenlee products can be viewed at:

<http://www.greenlee.textron.com/download/archive/287-291.pdf>



## PUBLICATIONS AND REFERENCES

USDA Forest Service, **Bear Resistant Containers – Minimum Design and Structural Standards: Inspection and Testing Methodology - 1989**, Interagency Grizzly Bear Committee.

USDA Forest Service, **Living with Grizzly Bears – Structures That Work, 1991**, Northern Region, WWFRP, PO Box 7669, Missoula, MT. 59807.

USDA Forest Service, **Low Impact Food Holsts**, Publication No.9523-2809, Nov. 1994, Missoula Technology Development Center, Building 1 Fort Missoula, Missoula, MT. 59804. 406-329-3935.

USDA Forest Service, **Bear- Proof Food Lockers**, Second Addition, Publication No. 9723-1811, September 1997, San Dimas Technology Development Center, San Dimas, CA 91773 (Attn. Publication Distribution, 444 East Bonita Avenue, 1-909-599-1267 ext. 201).

USDA Forest Service, Recreation Tech Tips, **Modifying Military Medical Boxes for Bear-Resistant Containers**, April 1996, Missoula Technology Development Center, Building 1 Fort Missoula, Missoula, MT. 59801. Telephone: 406-329-3935.

USDA Forest Service, **Animal Resistant Garbage Containers**, Publication No. 9523-1205. San Dimas Technology and Development Center, San Dimas, CA 91773-3198 (Attn. Publication Distribution, 444 East Bonita Avenue, 1-909-599-1267 ext. 201).

USDA Forest Service, Recreation Tech Tips, **Electric Fence Systems: Requirements for Meeting the NCDE Food Storage Special Order**, March, 1999. Missoula Technology Development Center, Building 1 Fort Missoula, Missoula, MT. 59804.

## Other Bear-Resistant Containers

The following products may be useful in deterring bears. Some of the products on the following pages were also included in the pages listing IGBC approved containers. They are included in this section again to provide additional product information. Products that have not yet been tested or approved for use by the IGBC are also included in this section. Please be aware that before you purchase a container, you check with the regulatory agency for the area you will be visiting to find out if they have a list of approved product that can legally be used in that region.

---

### Bearvault

A new light-weight, bear-resistant canister that will be available in 2003.

Contact: [sales@bearvault.com](mailto:sales@bearvault.com) for information on product specifications and product availability.



## Backpacker's Cache

Aka Garcia Machine

[www.backpackerscache.com](http://www.backpackerscache.com)

Phone 1-559-732-3785

Fax 1-559-732-5010



### Specifications

**Weight:** 2.7 pounds

**Dimensions:** 8.8" diameter x 12" long; walls 3/16 thick

**Cubic inch displacement:** 730 cu in (12 L)

**Capacity:** holds approximately 6 person-days of food

- Designed to fit into a backpack
- Can be attached to the outside of a backpack or to a pack animal with an optional carrying case (pictured below)
- \$ 69 (container only) or \$85 with carrying case from Backcountry Equipment

© 1997



Backpacker's Cache pictured next to a 1 gallon water jug to show the size of container.

© 1997

Optional nylon carrying case with zippered access, webbing straps and buckles.

Available for \$18 from Backcountry Equipment.



© 1998



The lid can be opened using a coin, key, thumb nail etc. These containers can be easily twisted open by humans, but not by bears.

Locking Mechanism pictured from the inside of the container.



© 1997

### Backpackers' Cache Authorized Dealers

Backcountry Equipment  
888.779.5075  
[www.backcountry-equipment.com](http://www.backcountry-equipment.com)

REI  
800.426.4840  
[www.rei.com](http://www.rei.com)

Wilson's Eastside Sports  
760.873.7520  
[www.eastsideports.com](http://www.eastsideports.com)

Campmor  
800.226.7667  
[www.campmor.com](http://www.campmor.com)

Sonoma Outfitters  
800.290.1920  
[www.sonomaoutfitters.com](http://www.sonomaoutfitters.com)

Mountain Equipment C  
800.663.2667  
[www.mec.ca](http://www.mec.ca)  
Canada

Sunrise Mountain Sports  
925.447.8330  
[www.sunrisemountainsports.com](http://www.sunrisemountainsports.com)

Planet Explorer  
877.732.5238  
[www.bearproof.com](http://www.bearproof.com)

The Backcountry Store  
800.409.4502  
[www.backcountrystore.com](http://www.backcountrystore.com)

Photos and Information Courtesy of:

[www.backcountry-equipment.com](http://www.backcountry-equipment.com)

### Bear-Resistant Canisters by Purple Mountain Engineering



#### "Tahoe" Model Specifications

- 6061 aluminum; top & lid are T6
- Can body is 6061 heat treated after assembly to T4
- Top is TIG welded to body
- Hinge is stainless steel riveted to top & lid
- Closure is by DZUS fastener rated at 600 pounds closure force
- 8" dia. X 12" long weight: 2 lbs 6 oz
- Approved for use in Yosemite, Sequoia and Kings Canyon National Parks
- Price: \$99.95 plus tax and \$9.95 for shipping



**Purple Mountain Engineering**

**(661) 722-4936**

Photos courtesy of: Purple Mountain Engineering



## Ursack Bear Bags - Bear-Resistant Stuff Sacks

### Ursack TKO Specifications

- Ursack fiber is specially woven to enhance puncture and tear resistance to thwart a bear's teeth and claws
- secured with 5' x 1/8" Kev-Kord with a tensile strength of 1,280 pounds
- Size: 8" x 13"
- Capacity: 650 cu in (10.6 L) holds enough food for one person for up to 6 days
- Weight: 5.8 oz (145 gm)
- offers additional protection for food in situations where the use of a standard bear-resistant canister isn't feasible
- Also offers protection against mice, raccoons, and squirrels
- Sold with a plastic odor-resistant liner
- Approximate price: \$49



This image shows a close-up of the Ursack TKO. Ursack TKO is made of high tech spectra fabric and bolstered with flexible fiberglass ripstop.

Ursack TKO is available on-line from Backcountry Equipment:

[www.backcountry-equipment.com](http://www.backcountry-equipment.com).

**Go to [www.ursack.com](http://www.ursack.com) for a complete list of retail stores that offer Ursack TKO.**



## Bearikade Weekender

### Specifications

- Just the right size for 2 people to escape for the weekend
- Can supply one person for up to 6 days
- 1.8 pounds
- 9" diameter base by 10" length
- 650 cubic inch volume
- Approximate cost \$195

## Bearikade Expedition

### Specifications

- The choice for longer trips or larger groups
- Can supply three people for up to three days or one person up to 9 days
- 2.2 pounds
- 9" diameter base by 14" length
- 900 cubic inch volume
- Approximate cost \$245

**Available at:**

**[www.wild-ideas.net](http://www.wild-ideas.net)**

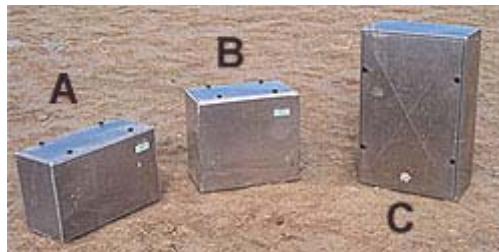
Photo Courtesy of: [www.wild-ideas.net](http://www.wild-ideas.net)



### Bear-Resistant Outfitters' Panniers

Bear-resistant panniers are available from several vendors and these panniers make excellent food and garbage storage boxes. Bear-Resistant panniers can be attached to pack animals to haul gear into the back country or to store food and garbage while "car camping." Some bear-resistant panniers are presented in this section of the resource guide.

#### Bear-Resistant Panniers by LMI Welding Inc.



A. Morgan Style	12 1/2 wide x 16 high x 26 long	\$250.00
B. Regular Pannier	12 1/2 wide x 21 high x 23 long	\$250.00
C. Kitchen Pannier	12 1/2 wide x 35 high x 24 long	\$300.00

#### LMI Welding Inc.

P.O. Box 772  
Cut Bank, MT 59427

1-800-345-5623 or 406-337-3021  
Fax 406-337-3023

[www.lmiwelding.com](http://www.lmiwelding.com)

#### Evans Feed & Livestock Supply Bear-Resistant Pannier



241 South E Street  
Madera, CA 93638  
1-559-673-4345

Photo by P. Sowka

## Bear-Resistant Panniers by Teton Welding & Manufacturing

### Model KP-1: Kitchen Pannier

The aluminum kitchen pannier is contoured to fit a pack animal. Each box measures 22" high and 24" wide with a top depth of 13" and a bottom depth of 10" and weighs approximately 24 pounds. Each box features one shelf and a hinged door that drops down for easy access and use as a work surface. Each box also includes leather straps and buckles for use with either a sawbuck or a Decker pack saddle. Stovetop sold separately.



### Model DS-1: Decker Style



The Decker Style box measures 18" wide X 14" high X 36" long and weighs approximately 32 pounds. This box has no dividers to accommodate oddly shaped and/or large items.

### Model TL-1: Top-load Pannier

The aluminum top-load pannier has no dividers and is also contoured to fit a pack animal. This box shares the same dimensions as the kitchen pannier but weighs approximately 22 pounds. This pannier includes leather straps and buckles for use on a sawbuck or a Decker pack saddle. This box will hold about 100 pounds of horse cake. Both the kitchen and the top-load panniers feature detachable legs for camp use.



### Model KPS-1: Propane Stove



The detachable two-burner propane stove with hose and bottle connection can be removed for easy cleaning. The stove fits onto the kitchen pannier and measures 3 1/2" X 13" X 24" when closed for

**CERTIFIED BEAR-RESISTANT  
FOR THE NORTHERN  
CONTINENTAL DIVIDE AND  
THE YELLOWSTONE  
ECOSYSTEMS BY THE  
U.S. FOREST SERVICE**

For more information on these products, contact:

#### **Teton Welding & Manufacturing LLC**

Bob Facklam, Owner  
P.O. Box 976, 66 Airport Road  
Choteau, MT 59422  
(406) 466-2124 Fax (406) 466-2338  
tetonwelding@montana.com

### Bear-Aware Bear-Resistant Food Storage Containers



#### Medium Dry Box

Model#: 241814DRY  
Size: 24"x18"x14"  
\$190.00 each (with handles)  
\$165.00 each (without handles)



#### Large Dry Box

Model#: 281816DRY  
Size: 28"x18"x16"  
\$210.00 each (with handles)  
\$185.00 each (without handles)

#### Medium Ice Chest

Model#: 241814ICE  
Size: 24"x18"x14"  
\$230.00 each



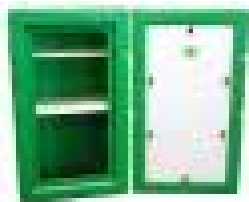
#### Large Ice Chest

Model#: 281816ICE  
Size: 28"x18"x16"  
\$260.00 each



### Specifications

- All boxes are made from .090 (3/32) thick aluminum
- All welded construction (no rivets)
- All ice boxes are insulated top, bottom and sides with 1" thick insulation and comes with a removable drainable poly liner and lid for easy cleaning.
- SIBBWG Approved by Yosemite, Sequoia and Kings National Parks as well as by the Inyo national Forest



#### Bear-Resistant Pack Boxes

- 34"H x 19 1/2"W x 12" D
- 2 removable shelves
- Kelly green with white lids
- Item# PA117 \$469.00/pair

### Outfitters Supply

7373 US Hwy 2E  
Columbia Falls, MT 59912

1-888-467-2256

[www.outfitterssupply.com](http://www.outfitterssupply.com)

## Bear-Resistant Panniers by Wyoming Outdoor Industries



### Bear-Resistant Storage Panniers (#628)

**Available with or without legs**

Size: 23" x 13" x 19" Weight: 18 lb.

Price: \$ 249.99 (without legs)

\$ 297.99 (with legs)

### Slim-Line Version (#628-S)

Size: 23 x 11 x 19 Weight: 16 lb.

Price: \$239.99



### Bear-Resistant Decker Kitchen Box (#670)

Size: 20" x 11" x 34"

Weight: 28 lbs. ea.

Price: \$ 291.99 ea. box



### Bear-Resistant Mountaineer Cooler (#642)

Size: 23" x 12" x 17" Weight: 21 1/2 lb

Price: \$ 326.94



### Bear-Resistant Propane Pannier #621 (on left)

- two 10,000 BTU burners
- Regulator and 2" hose included
- Size: 23" x 13" x 19" Weight: 36 lbs.
- Price: \$ 484.99
- 

### Bear-Resistant Kitchen Pannier (#625) (on right)

- Portable pantry with permanent middle shelf & removable bottom shelf
- Size: 23" x 13" x 19" Weight: 29 lbs.
- Price: \$ 295.99

### Wind River Bear Resistant Plastic Storage Containers



- Airtight, watertight, rodent/bear resistant
- 22"L x 19"H x 13"D tapering to 11"
- 14 1/2 lb each
- Lid opening: 7 1/2" x 12 5/8"
- Closes with 6 threaded screw knobs
- Priced per pair \$419.94

### Wyoming Outdoor Industries

1231 13th Street

Cody, WY 82414

1-800-725-6853

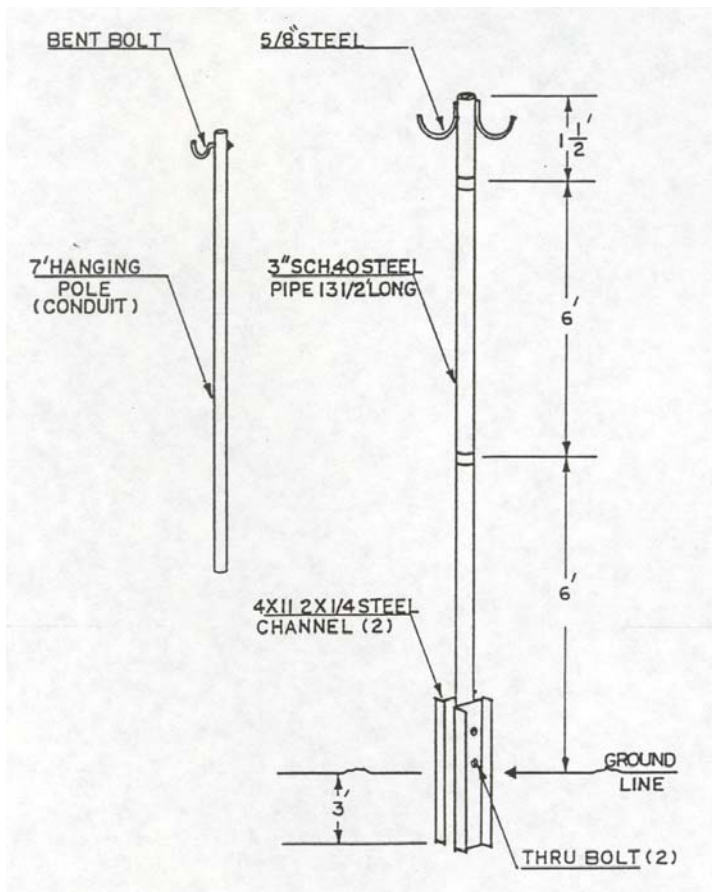
[www.wyomingoutdoor.com](http://www.wyomingoutdoor.com)



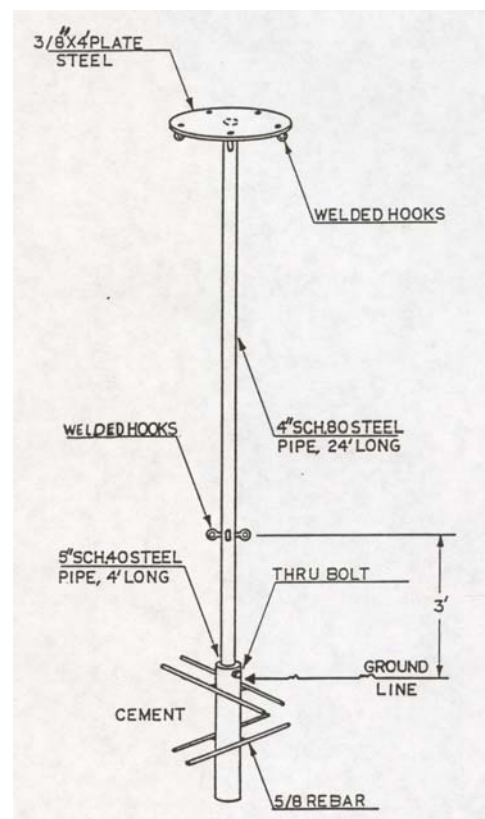
## Hanging Your Food, Garbage and Camping Gear

When camping in the back country, one method of securing your gear is to hang it out of the bears' reach. There are a number of different ways to accomplish this and a few of them are explained in this section of the resource guide. If you are camping in an established campground, there may already be a mounted, locking, food storage box (see picture below on the right) or some kind of an established gear hanging structure for you to secure your gear. Maps showing the various locations of these structures can usually be obtained from a ranger station. Some examples of structures used to hang gear are presented below.

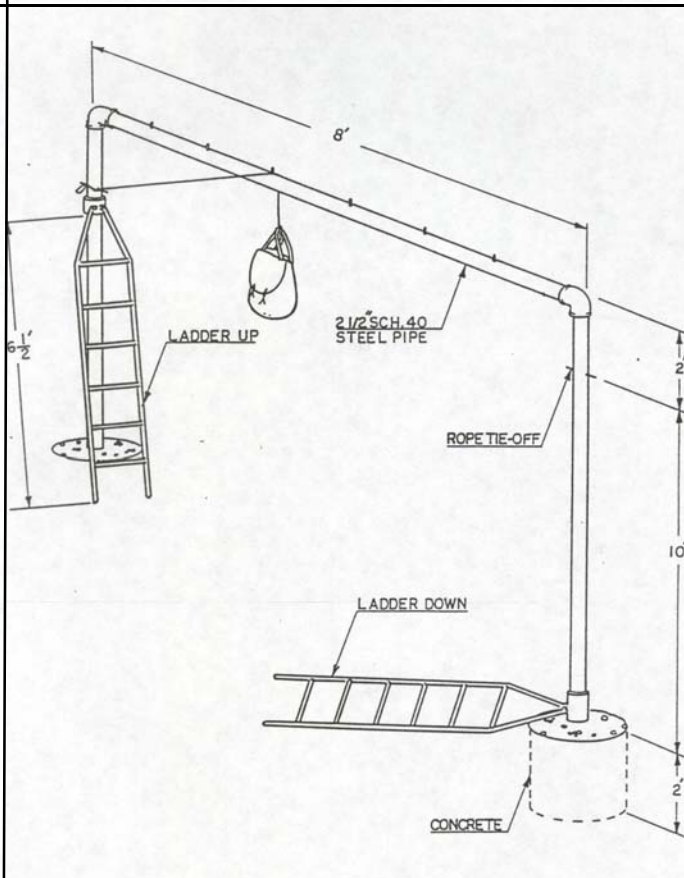
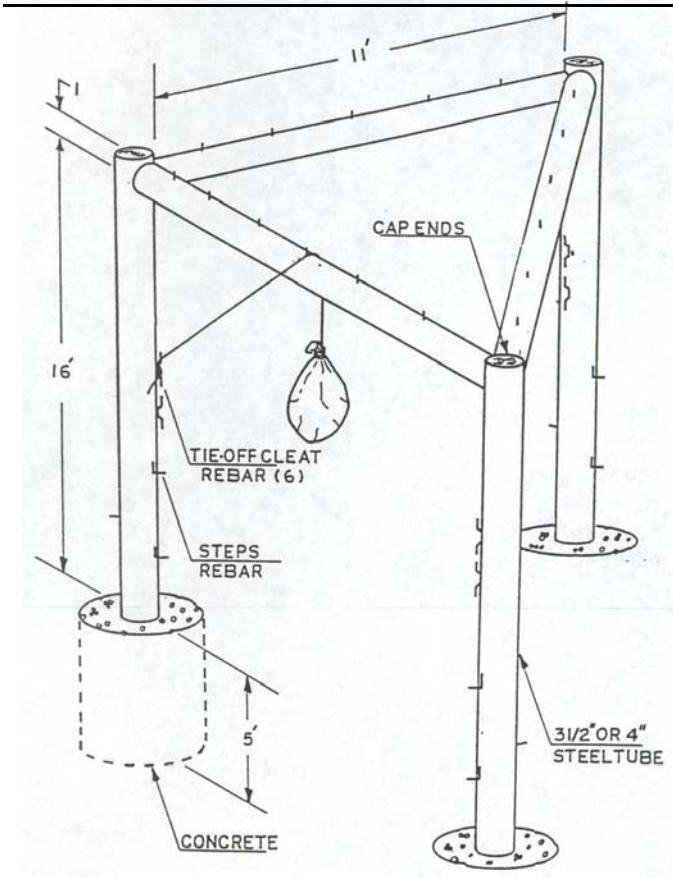
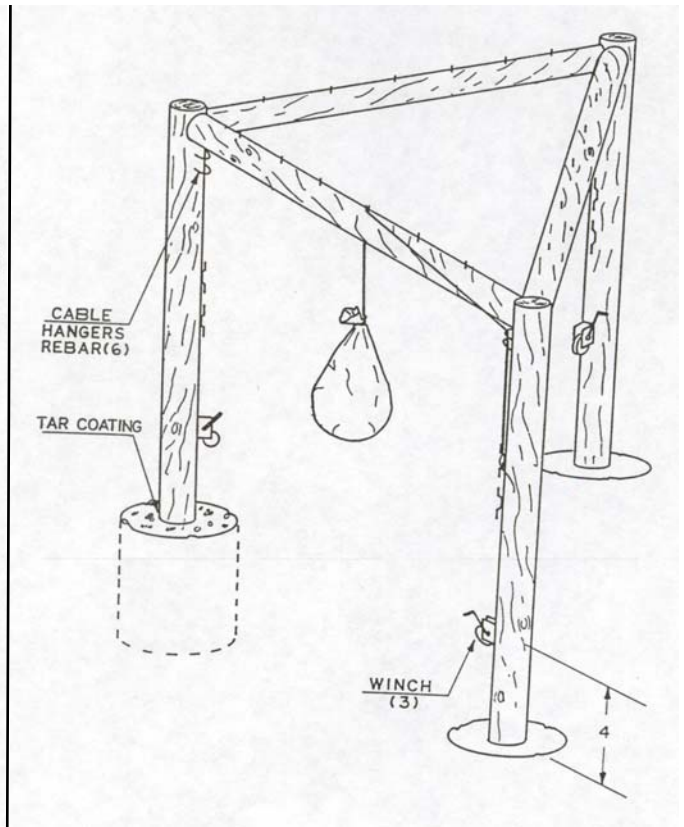
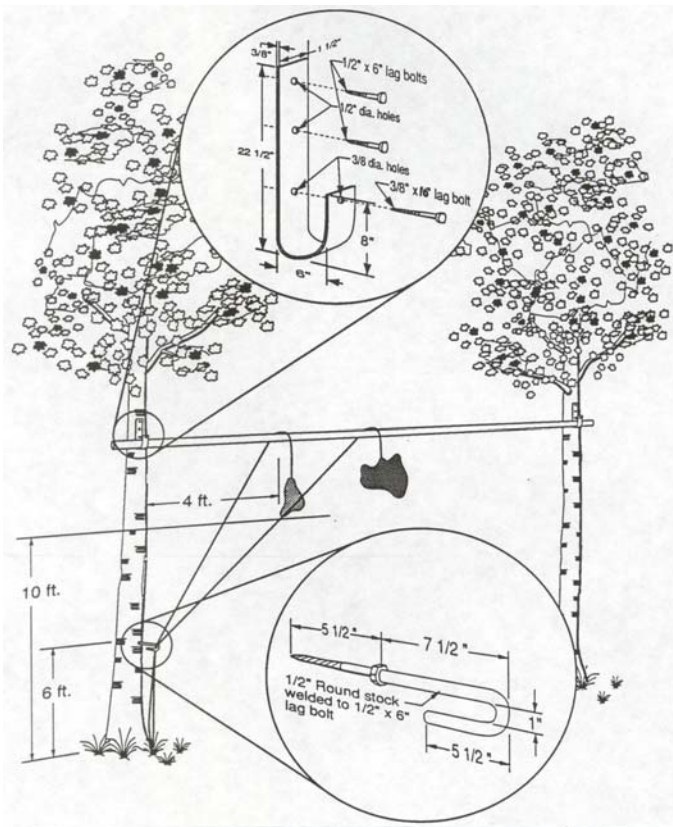
**Hint:** Approximately 50 feet of rope is needed to hang a group of items on one of these poles.



Reprinted from : U.S. Forest Service and U.S. Fish and Wildlife Service, Northern Region. 1991. "Living with Grizzly Bears, Structures that Work."



Reprinted from : U.S. Forest Service and U.S. Fish and Wildlife Service, Northern Region. 1991. "Living with Grizzly Bears, Structures that Work."



If you want to hang your gear to secure it but there isn't an existing hanging structure in place, you can still hang your gear as illustrated in the diagram below. Throwing weights are available for purchase from Terra Tech for \$ 11.75. Please contact them directly to order or for more information on the weights.

### **TERRA TECH INC.**

PO BOX 5547, Eugene, Or. 97405

Call Toll Free: 1-800-321-1037 | Fax Toll Free: 1-800-933-4569

E-mail: [customerservice@terratech.net](mailto:customerservice@terratech.net)

[www.terratech.net](http://www.terratech.net)



Photo Courtesy of Terra Tech Inc.



Another convenient alternative is to use the "Bear Bag" to toss your line over the tree branch. The Bear Bag is small and light-weight and fits easily into a backpack. The Bear Bag pictured here was purchased at REI last year (2001) for \$13.95.

Photos Courtesy of Patricia Sowka



If you do not wish to purchase throwing weights or pack them on your hike, you can carefully secure a rock to the end of a throwing line and toss the rock over the tree branch.

### **Additional information...**

For more information on bear-proofing your camp and hanging your gear, please visit the Princeton Outdoor Action Program. They have excellent references and downloadable diagrams of the Marrison Haul System for hanging your gear in bear country.

Princeton Outdoor Action Program Website: [www.princeton.edu/~oa/index.shtml](http://www.princeton.edu/~oa/index.shtml)

Marrison Haul System: [www.princeton.edu/~oa/training/bearbag.html](http://www.princeton.edu/~oa/training/bearbag.html)

## Electric Fencing

Portable electric fencing is an effective way to secure your backpacks, cooler, campsite and/or game carcass. Studies in Wyoming and Montana have demonstrated that electric fences, when properly constructed and functioning, can be very effective at deterring bears (Brian DeBolt, Wyoming Game & Fish, personal communication). Montana Fish, Wildlife and Parks has been using electric fences to deter bears and other predators from dumpsters, animal pens, calving areas and bee hives with good success.

Several companies sell portable electric fencing that can be packed into the backcountry or set up anywhere there is something that might attract bears. The fences are easy to set up, relatively inexpensive, and can be easily taken down when the bears are hibernating or the attractant has been removed.

Several options for portable electric fencing are presented in this section of the resource guide.







The photo above shows how an electric fence can be used to deter bears from game carcasses and other attractants. Photo courtesy of Montana Fish, Wildlife and Parks.



The photo above shows an example of a portable electric fence that was used by a hunter in Alaska to deter bears from game meat. Photo Courtesy of Montana Fish, Wildlife and Parks.

## Portable Electric Fencing



**For a retailer near you, please contact Gallagher at:**

1-800-531-5908

[www.gallagherusa.com](http://www.gallagherusa.com)

[info@gallagherusa.com](mailto:info@gallagherusa.com)

Gallagher products are available at Quality Supply and Cenex Harvest States. For more information on Gallagher products, please contact:

Larry Feight  
High Country Ag Marketing Inc.  
406-287-5151  
Fax 406-287-3088  
[ucus4shox@in-tch.com](mailto:ucus4shox@in-tch.com)

Quality Supply

406-549-2355

Cenex Harvest States

1-800-773-9000 or  
406-543-8383

**Margo Supplies**

Portable Electric Fence Accessories

**Gate Handles**

This spring gate handle has an extra heavy hook and lots of hand grip.

3021 ..... \$1.60

**Heavy Duty Nail-On Insulator**

This two-nail insulator has adequate water run-off space and a heavy flange to prevent shorting to wet posts.

3023 ..... \$5.25

**(F) Portable Fibreglass Fence Posts**

These lightweight and highly flexible fibreglass rods are a quick, easy and economical solution to your temporary fencing or strip grazing needs. These fibreglass rods are made of continuous glass filaments and durable resin with sun guard ultraviolet protective coating.

- 3026 – 3/8" x 48" ..... \$1.65
- 3027 – 3/8" x 60" ..... \$1.90
- 3028 – 1/2" x 48" ..... \$2.15
- 3029 – 1/2" x 60" ..... \$2.65
- 3029.1 – 11/16" x 48" ..... \$4.70
- 3029.2 – 11/16" x 60" ..... \$5.00
- 3062 – 11/16" x 96" ..... \$9.25
- 3063.2 – 7/8" x 60" ..... \$6.75
- 3063.3 – 7/8" x 72" ..... \$8.75

**(G) Snapmax Spring Clip**

A galvanized wire clip for use with fibreglass posts. Clip slides onto post easily and stays in position.

- 3024 – For 3/8" Posts ..... \$0.22
- 3025 – For 1/2" Posts ..... \$0.24
- 3063 – For 11/16" Posts ..... \$0.38
- 3063.1 – For 7/8" Posts ..... \$0.45
- 3063.11 – 7/8" Quick Clip ..... \$0.45



**Dare Spin-On Insulators**

These screw tight insulators can be adjusted to height while current is on. There is generous water run-off space and insulators will fit 1/4" to 9/16" round posts.

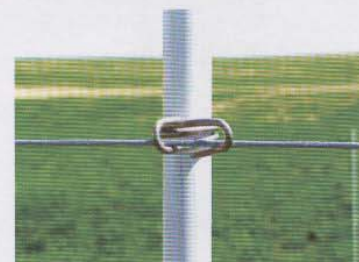
3037 – 25/Bag ..... \$4.20



**Electric Fence Warning Signs**

These signs are made of highly visible, bright yellow vinyl with bold black lettering. There are corner holes for wiring to fence or nailing to post.

3032 – Regular Sign ..... \$0.95  
 3033 – Large Sign ..... \$5.75



**Hook-Up Wire**

This double insulated 14 gauge hook-up wire is available in 50 foot rolls.

3052.1 – 14 Ga. (50' Roll) ..... \$10.50



**Margo Supplies Ltd.**


P.O. Box 5400  
 High River, Alberta  
 Canada T1V 1M5  
 403-652-1932  
 Fax 403-652-3511

## Wyoming Outdoor Industries Inc.

1-800-725-6853

www.wyomingoutdoor.com

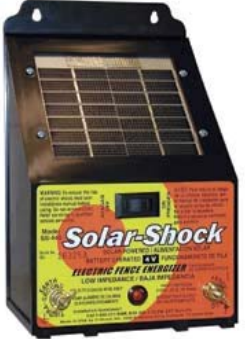
Courtesy of: Wyoming Outdoor Industries



**Portable Electric Stock Fencing**  
A highly effective way of allowing animals to graze without picketing. Great for back country use or to temporarily separate large areas into smaller pastures. Easy to set up and to take down.

**Portable Electric Corral** - This corral-in-a-bag is so convenient. The next time you head for the hills, you won't have to scavenge for all the parts to your electric fence cause it's already in the bag. It contains 20 breakdown rod posts in a protective wrap, 20 pigtail clips, 1 standard porta reel with 660' of polytape, 1 gatehandle, and 1 SM100 energizer in a protective wrap. There's even room left over to carry spare batteries. Weight: 20 Lb.

#1-SM100	.....	\$129.99
#1-SM197	.....	\$2.99
#1-SM67	.....	\$1.50
#1-SM67BD	.....	\$5.50
Protective wrap - for breakdown rod posts	#1-CV67	.....\$9.50
Pigtail Clips - Use on SM67-rod post for fast temporary fencing.	#1-SM68	.....\$0.20
Orange Gate Handle - Features extra large flash plates and non-slip grip. Spring loaded.	#1-SM123	.....\$3.99



**A. Solar Shock** - This compact controller delivers more shocking power to a fence than larger conventional models. Low-impedance technology means 1/3 less drain on the battery. Any type of fence wire can be used, including poly wire and tape. Resists shorts when fence is in contact with weeds and grass. Size: 9 3/4" x 6 1/2" x 6 1/2". Weight: 4 Lb. Range: Up to 5 miles. Rechargeable battery included.

#1-SS440	.....	\$133.99
Replacement Battery - These batteries will last up to 2 years.	#1-SS-BAT	.....\$15.99
Protective Wrap - for Solar Shock	#1-CV400	.....\$8.99


**B. DC Volt Energizer** - Operates on 6 internal "D" cell batteries. Will power 3/4 mile of fence. Can also run off of any DC battery.

#1-SM100	.....	\$129.99
Protective Wrap - for DC volt Energizer	#1-CV100	.....\$5.99



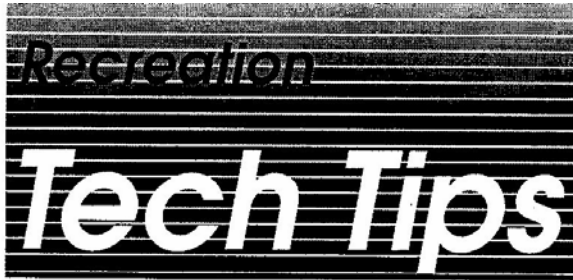
**ACCESSORIES FOR PORTABLE ELECTRIC STOCK FENCING**

Poly Wire 1320' of 6 strand poly wire- White	#1-SM605	.....\$34.99
Poly Tape 660' of 1/2" poly tape w/ White or Orange	#1-SM701	.....\$29.99
Poly Tape 165' of 1" poly tape- White	#1-SM501	.....\$26.00
Standard Porta Reel - Made with a strong metal frame and handle. Features a rough, durable plastic hub and positive mechanical lock. Will hold over 1640' of poly wire or 660' poly tape.	#1-SM190A	.....\$35.99
Extra Large Porta Reel - Same quality features as SM190A. Will hold up to 2640' of poly wire or 1320' of poly tape.	#1-SM190B	.....\$45.99
Heavy Duty Poly Step-In Post - Allows for 36" high fence with 8 wire space options, plus 4 poly tape spaces. Hi-tensile steel ground pin. Blue.	#1-SM197	.....\$2.99
Round Fiberglass Rod Post - 3/8" X 4".	#1-SM67	.....\$1.50
Breakdown Rod Post - Has a threaded coupling installed in the middle of the fiberglass post to break it down to a more packable 25" length.	#1-SM67BD	.....\$5.50
Protective wrap - for breakdown rod posts	#1-CV67	.....\$9.50
Pigtail Clips - Use on SM67-rod post for fast temporary fencing.	#1-SM68	.....\$0.20
Orange Gate Handle - Features extra large flash plates and non-slip grip. Spring loaded.	#1-SM123	.....\$3.99



**The O.K. Corral Kit** - Completely portable and contains everything needed to build up to a 2,500 sq. ft. corral. Kit includes: 1 Energizer - (Takes 4 D cells, not included), 12- 54" fiberglass posts, 1 - 262' spool polywire, 1 post driver, 25 insulators, 4 corner stakes & tie down cords, 2 gate hooks, 1 - 24" ground rod, 1 roll flagging tape, 1 nylon duffel bag. Weight: 12 Lb.

#1-OK-CORRAL	.....	\$169.99
--------------	-------	----------



United States Department of Agriculture  
Forest Service



**Technology &  
Development Program**

March 1999

2300

9923-2321-MTDC

## **Electric Fence Systems**

### **Requirements for Meeting the NCDE Food Storage Special Order**

*Dave Gasvoda, Project Leader*

**S**ince 1995, persons using any portion of the National Forests in the Northern Continental Divide Grizzly Bear Ecosystem (NCDE) have been required to store food, garbage, and other attractants (such as horse feed) in a bear-resistant manner (Special Order No. F10014S95). The area includes wilderness and nonwilderness portions of the Flathead, Lewis and Clark, Lolo, and Helena National Forests south and west of Glacier National Park (see attached map).

Electric fence systems are an acceptable means of meeting the requirement for storage in a bear-resistant manner. Electric fence systems can be used alone or to supplement other forms of bear-resistant storage, such as using bear-resistant containers, or suspending attractants from a support.

### **Inspection**

It is the user's responsibility to operate the system in the field at the required levels. Forest Service employees will inspect electric fences when they are set up in the field.

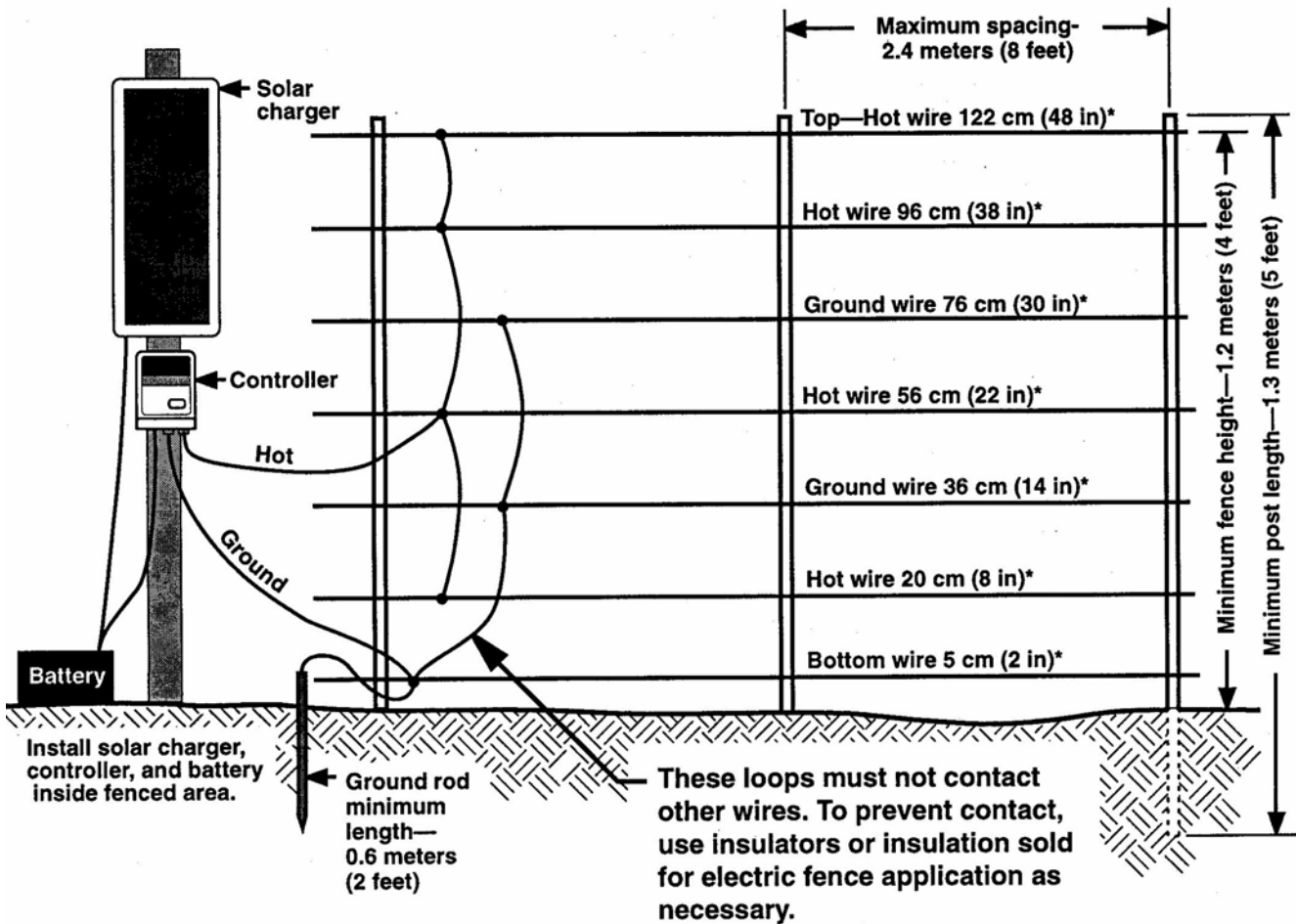
### **Fence System Requirements**

Fence systems must meet the following minimum requirements:

- The minimum height shall be 1.2 meters (4 feet). Posts shall be at least 1.3 meters (5 feet) long and spaced not more than 2.4 meters (8 feet) apart. The fence shall be constructed with seven wires spaced 15 to 25 centimeters (6 to 10 inches) apart as shown in the illustration on page 2. The bottom wire should be no more than 2 inches from the ground and it may touch the ground.
- The conductors (wires) may be either smooth metal fence wire (16 gauge minimum) or Polywire (polyethylene interwoven with at least six strands of stainless steel wire). In order to make the fence more visible, the top wire may be Polytape (polyethylene ribbon interwoven with at least five strands of stainless steel wire and at least 1.2 centimeters (1/2 inch) wide).
- The fence shall be no closer than 1 meter (3 feet) from the items it is protecting.
- A ground wire return fence shall be used. This fence uses alternating hot and ground fence wires. The top two wires are connected to the fence controller's hot terminal. The third wire down connects to the fence controller's ground terminal. The next wire connects to the hot terminal, and so forth. The bottom wire must be a grounded wire and may touch the earth. The ground terminal connects to an earth ground.
- An earth ground shall be constructed using a metal rod 0.6 meters (2 feet) long or longer. The rod should be driven into the earth as deep as practical. Allow a few centimeters (inches) to remain above the ground so the ground lead wire can be attached. The ground rod should be located in a wet spot if one exists.
- Fence conductors (wires) must be under tension, not loose or sagging. Corner supports (posts, trees, etc.) must be sturdy enough to not deflect excessively under the tension. Fiberglass or plastic corner posts may be used, provided that they are

**TD**

**For additional information contact:** Dave Gasvoda, Project Leader, Missoula Technology & Development Center, Building 1, Fort Missoula, Missoula, MT 59804-7294. Phone: (406) 329-3986; Fax: (406) 329-3719; IBM: dgasvoda/wo,mtdc



\* Height above ground; distance between wires may vary from 6 to 10 inches.

adequately braced. All fence wires connected to the hot terminal of the fence controller must be supported using suitable electric fence insulators. Separate insulators are not required on fiberglass or plastic supports.

- The fence controller must be specified by the manufacturer to have a minimum stored energy of 0.7 joules. Its minimum peak output voltage must be specified as being at least 6000 volts.

- The user must have an electric fence tester on site that is capable of displaying voltage measurements from 600 to 5000 volts. Both multiple glow lamp and digital display types are acceptable. The digital display units are likely to be more accurate and easier to read. The inspection testing shall be made using a Forest Service digital meter. It shall be used to determine that the minimum requirements are met.

- Test the fence voltage as far as possible from the fence

controller. Connect the meter's ground terminal to one of the fence's ground wires and touch the meter's hot terminal to a hot fence wire. Test each hot wire by touching the meter's hot terminal to the wire. Test each ground wire by connecting the meter's ground terminal to the ground wire being tested while touching the meter's hot terminal to any hot wire.

Each conductor must have a tested minimum of 5000 volts. The voltage must appear at least 40 times a minute.

## Discussion of Requirements

The fence must be high enough that a bear cannot walk or jump over it. The wires must be close enough together so that a bear cannot get its head through without contacting the wires.

The top fence conductor may be high-visibility fence ribbon (Polytape) to decrease the chances of accidental human contact.

A ground wire return fence is effective when the earth is too dry to be a good conductor and make a good electrical connection to the bear's feet. The grounded wires in the fence provide a direct electrical return path to the fence controller's ground terminal. Because the bear must make good contact with two wires to get a shock, the bear may apply considerable force to the fence before the conductors work through the fur and contact its skin. This is why the ground wire return configuration requires strong fence wire and sturdy corner posts. Also, Polywire needs to be pulled tight to prevent sagging that could short hot conductors to ground conductors.

The ground rod provides an electrical circuit using the earth as the return path under wet conditions. A bear will get shocked when it contacts any hot conductor while standing on wet soil.

Grass and weeds should be cut short so most vegetation around the fence perimeter does not contact any hot wires, even in windy conditions. Wet vegetation conducts some of the electric current to ground and will decrease the shock delivered to a bear. Fences that contact wet

vegetation are unlikely to produce the 5000 volts required by the inspection test.

## Choosing an Electric Fence Controller

Manufacturers refer to fence controllers as "energizers," "chargers," and "fencers." It is difficult to compare the controllers from different manufacturers because specifications have not been standardized. The controllers being marketed for pet control are not likely to be suitable.

Gallagher Model B50 (which has been superseded by Model B75) and Model B150 have been used successfully for bear fences by the Montana Department of Fish, Wildlife & Parks.

Other models stated by their manufacturers to meet the 6000 volt and 0.7 joule specifications are:

- Fi-Shock \_\_\_\_ *Model SS-7000*
- Parmak \_\_\_\_ *Model MAG.-12 SP*
- Red Snap'r \_\_\_\_ *Model LIB-15*
- Speed-Rite \_\_\_\_ *Model SB 1000*  
                                   *Model SB 1500*  
                                   *Model SB 5000*

Manufacturers whose literature does not specify stored energy in joules must specify in writing the models that meet the minimum stored energy requirement of 0.7 joules.

Very high energy controllers are not recommended because they are expensive, large, and heavy, especially when the battery requirements are considered. They can deliver a nasty or perhaps

even fatal shock to humans who might accidentally contact the fence.

Solar-powered fence controllers are recommended for most installations. The battery life for most non-solar powered controllers depends on the capacity of the battery and the power used by the fence controller. Solar panels will usually eliminate the need to charge or replace batteries, allowing smaller, lighter batteries to be used.

A solar-powered unit should be located so it will be in direct sunlight most of the day.

## Choosing a Fence Tester

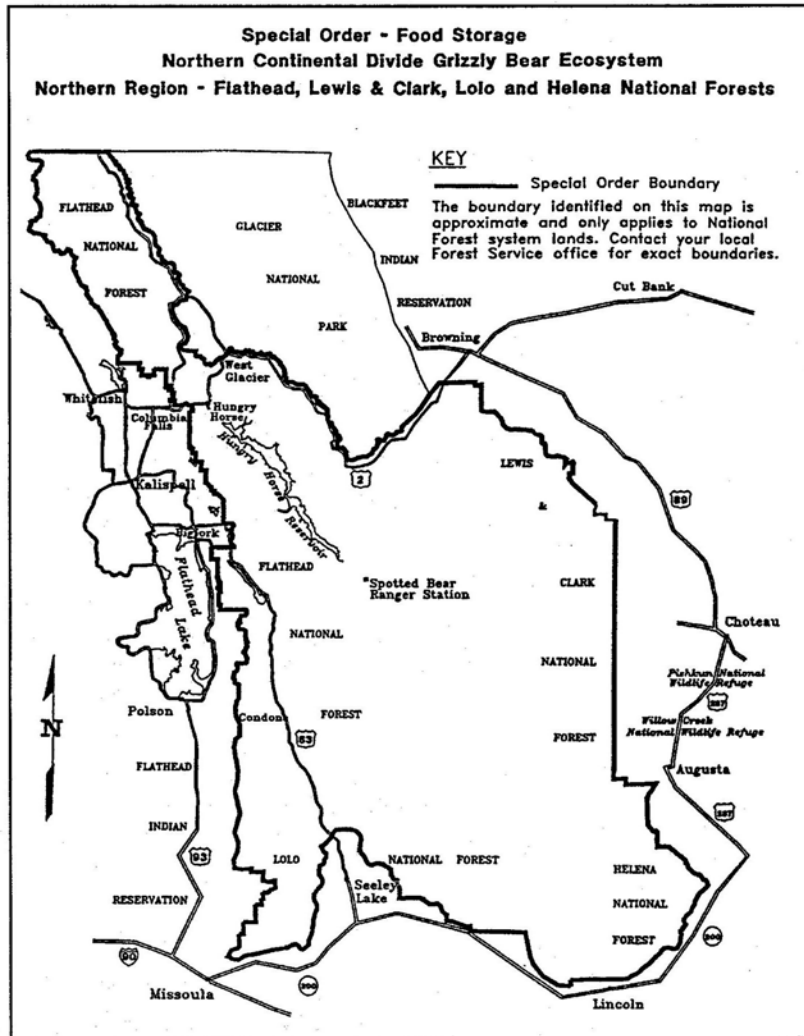
Two types of suitable electric fence testers are available. The least expensive types use five to eight glow lamps that progressively light for increasing voltage. They can not be read in direct sunlight.

Digital volt meters are more expensive, but are considerably more accurate and are easy to read. Some digital meters are considerably better than others. Units that are polarity sensitive are not recommended. These require that the meter leads be reversed to obtain an accurate reading with some fence controllers. Therefore, the ground lead must be connected to the hot fence wire. This is awkward and greatly increases the chances of the operator being shocked.

The Gallagher Model G503 Digital Volt Meter is recommended for use by Forest Service personnel when they inspect the bear fences.

## Summary of Fence Specifications

- Minimum fence height \_\_\_\_\_ 4 feet
- Minimum post length \_\_\_\_\_ 5 feet
- Maximum spacing between posts \_\_\_\_\_ 8 feet
- Conductors must be:
  - Smooth metal fence wire (16 gauge minimum)
  - or
  - Polywire (at least six strands of stainless steel wire)
- For visibility, the top conductor may be Polytape (at least five strands of stainless steel wire, at least 1/2-inch wide)
- Minimum distance between fence and items inside \_\_\_\_\_ 3 feet
- Ground wire return fence must be used (alternating hot and ground wires)
- Minimum length ground rod (earth ground mandatory) \_\_\_\_\_ 2 feet
- Minimum stored energy of the fence controller \_\_\_\_\_ 0.7 joules
- Minimum tested peak output voltage on every conductor \_\_\_\_\_ 5000 volts
- Minimum shocks per minute \_\_\_\_\_ 40
- Minimum number of wires \_\_\_\_\_ 7
- Distance between wires \_\_\_\_\_ 6 to 10 inches



## Acknowledgments

The author would like to acknowledge the contributions of Mike Madel, Bear Management Specialist for the Montana Department of Fish, Wildlife and Parks in Choteau, Montana. Mike's work helped establish the requirements that must be met to successfully deter grizzly bears.

### Additional single copies of this document may be ordered from:

USDA Forest Service  
 Missoula Technology and Development Center  
 Building 1, Fort Missoula  
 Missoula, MT 59804-7294  
 Phone: (406) 329-3900  
 Fax: (406) 329-3719  
 IBM: pubs/wo,mtdc  
 E-mail: pubs/wo\_mtdc@fs.fed.us

### For additional technical information, contact Dave Gasvoda at the address above.

Phone: (406) 329-3986  
 Fax: (406) 329-3719  
 IBM: dgasvoda/wo,mtdc  
 E-mail: dgasvoda/wo\_mtdc@fs.fed.us

### An electronic copy of this document is available on the Forest Service's FSWeb intranet at:

<http://fsweb.mtdc.wo.fs.fed.us>

The Forest Service, United States Department of Agriculture, has developed this information for the guidance of its employees, its contractors, and its cooperating Federal and State agencies, and is not responsible for the interpretation or use of this information by anyone except its own employees. The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader, and does not constitute an endorsement by the

Department of any product or service to the exclusion of others that may be suitable. The United States Department of Agriculture (USDA), prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who

require alternative means for communication of program information (Braille, large print, audiotape, and so forth) should phone USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue SW, Washington, DC 20250-9410, or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.



## Bear Alarm Systems



### (A) Bear Alert Alarm System

Maximize the effectiveness of your bear proof electric fencing system. The alarm system is activated when the bear touches the hot wire. The bear receives a shock which causes a short on the fence wire, simultaneously tripping the siren. The audio stimulation frightens the bear and, more importantly, alerts camp personnel of the bear's presence. This system comes complete with alarm control box and siren. It can be rigged with any alarm device (ie. lights, security monitors, etc.) that is triggered by a switch closure. Also ideal for monitoring the perimeter of game (deer/elk) fencing.

4001 ..... \$150.00



### (B) Trip Wire Fence System

The trip wire fence system is effective in detecting intruding bears or other wildlife. This compact system is simple to set up and operate. It is the most practical solution for fly camps and other situations which preclude the use of electric fencing. This lightweight (16 lbs.) system comes complete with 10 fiberglass posts, wire hangers, 200 m of trip wire, alarm controller, siren and 12-volt power supply.

4002 ..... \$157.50



### (C) Critter Gitter

Using passive infrared, body heat and motion detection, Critter Gitter detects animals moving into its protected area. It then makes ear piercing sounds (and flashing lights) to send them fleeing. Once the animal has cleared the area Critter Gitter automatically resets itself. This detector changes its sound and light patterns with each intrusion and protects a diagonal area of up to 40' (depending on the size of the animal). It comes complete with a 9-volt alkaline battery and a protective weather bag.

The strobe siren enhancer is an auxiliary and separate source of light and sound greatly augmenting the effect of the device.

1001 - Critter Gitter ..... \$69.00  
 1001.1 - Strobe/Siren Enhancer .. \$29.00

Courtesy of: Margo Supplies

## Margo Supplies Ltd.

P.O. Box 5400  
 High River, Alberta, Canada T1V 1M5  
 Tel. (403) 652-1932  
 Fax (403) 652-3511  
 info@margosupplies.com

For more information or to order any of these items, please contact:

## Bear Pepper Spray

*The following information on bear pepper spray was provided by the Interagency Grizzly Bear Committee (IGBC) Please visit the IGBC web site at : [www.fs.fed.us/r1/wildlife/igbc](http://www.fs.fed.us/r1/wildlife/igbc) or the web site for the Center for Wildlife Information at: [www.BeBearAware.org](http://www.BeBearAware.org) for more information on bear pepper spray.*

**The IGBC does not promote or endorse any particular commercial product. The following are only recommendations and the IGBC does not guarantee the effectiveness of any product. However, the IGBC does recommend the use of bear pepper spray in addition to following proper bear avoidance safety techniques.**

***Remember: bear pepper spray is not a substitute for following proper bear avoidance safety techniques.***

### **When to use bear pepper spray:**

- **Bear pepper spray should be used as a deterrent only in an aggressive or attacking confrontation with a bear.**
- **Bear pepper spray is only effective when used as an airborne deterrent sprayed as a cloud at an aggressive animal. It should not be applied to people, tents, packs, other equipment or surrounding area as a repellent.**

***- continued on the next page -***

**How to use bear pepper spray:**

Each person should carry a can of bear pepper spray when working or recreating in bear habitat. Spray should be carried in a quick, accessible fashion such as in a hip or chest holster. In your tent, keep bear pepper spray readily available next to your flashlight. You should also keep a can available in your cooking area. Spray should be tested once a year. Do not test spray in or near camping area. Be sure to check the expiration date on your can of bear spray.

- Remove safety clip
- Aim slightly down and towards the approaching bear. If necessary, adjust for cross wind.
- Spray a brief shot when the bear is about 50 feet away.
- Spray again if the bear continues to approach.
- Once the animal has retreated or is busy cleaning itself, leave the area as quickly as possible (don't run) or go to an immediate area of safety, such as a car, tree, or building. Do not chase or pursue the animal.

*No deterrent is 100% effective, but compared to all others, including firearms, bear spray has demonstrated the most success in fending off threatening and attacking bears and preventing injury to the person and animal involved. The proper use of bear spray will reduce the number of grizzly bears killed in self-defense, reduce human injuries caused by bears, and help promote the recovery and survival of the grizzly bear.*

**Selecting a bear pepper spray:**

- Purchase products that are clearly labeled "for deterring attacks by bears."
- Purchase products that are registered with the Environmental Protection Agency (EPA).

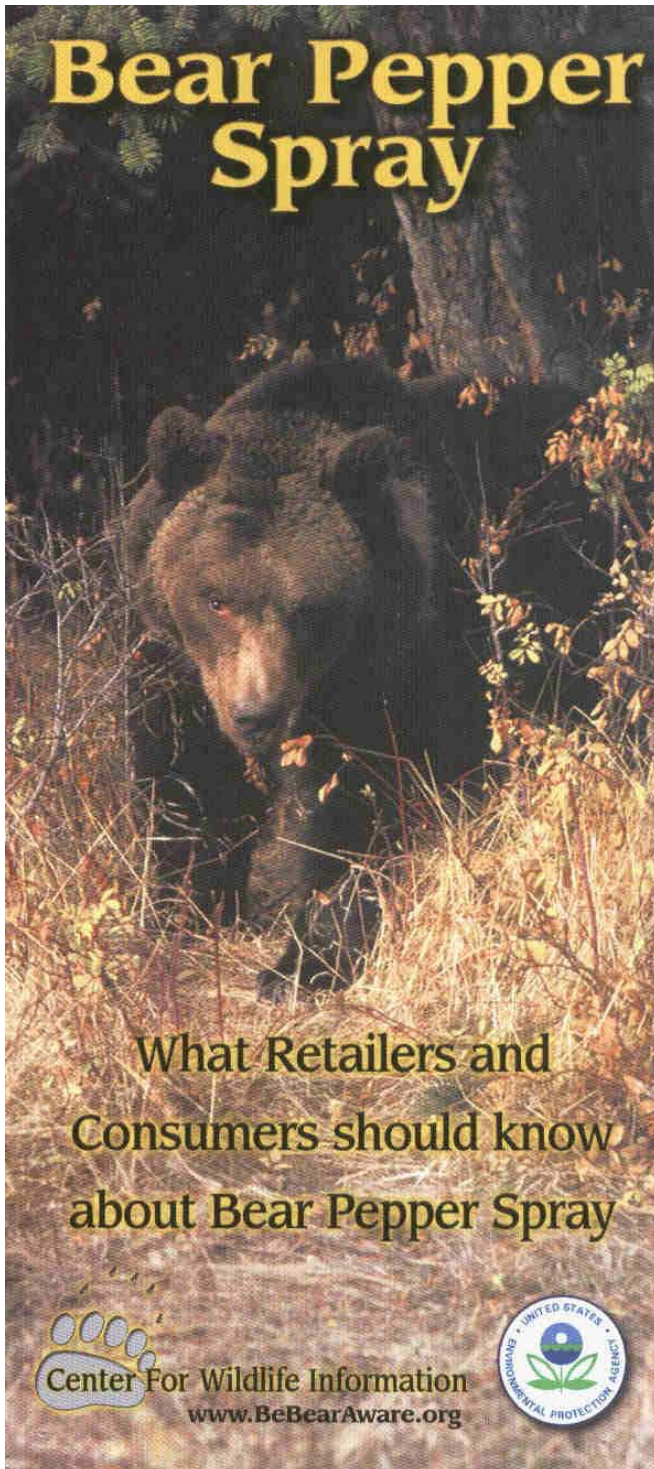
The EPA bear deterrent web site lists registered bear pepper spray manufacturers: ([http://www.epa.gov/region08/toxics\\_pesticides/pests/beardeter.html](http://www.epa.gov/region08/toxics_pesticides/pests/beardeter.html))

This information is reproduced on the following page for reference.

**Environmental Protection Agency (EPA) Registered Bear Pepper Sprays**  
**(As of November 2000)**


<p><b>Counter Assault Bear Deterrent</b></p> <p><b>EPA Reg. No. 55541-2</b>  Application received 7/22/97  Registered May 12, 1998</p>	<p>Bushwacker Backpack &amp; Sup. Co. Inc.  120 Industrial Court  Kalispell MT 59901  Attention: Mr. Pride Johnson  Tel: 1-800-695-3394  E-Mail: original@counterassault.com  Website: counterassault.com</p>
<p><b>Guard Alaska Bear Repellent</b></p> <p><b>EPA Reg. No. 71545-1</b>  Application received 7/13/98  Registered December 22, 1998</p>	<p>McNeil River Enterprises Inc.  750 West Diamond, Suite 203  Anchorage  AK 99515  Attention: Mr. Randy Prater  Tel: 1-888-419-9695  E-Mail: randy@guardalaska.com  Website: guardalaska.com</p>
<p><b>BearGuard</b></p> <p><b>EPA Reg. No. 71920-1</b>  Application received 12/16/98  Registered March 18, 1999</p>	<p>Guardian Personal Security Products Inc.  21639 North 14th Ave.  Phoenix AZ 85027  Attention: Mr. Karl Scholz  Tel: 1-800-527-4434  E-Mail: guardianproducts@worldnet.att.net  Website: guardianproducts.com</p>
<p><b>UDAP Pepper Power</b></p> <p><b>EPA Reg. No. 71920-1-72007</b>  [A subregistrant of BearGuard]</p>	<p>Universal Defense Alternative Products (UDAP)  13160 Yonder Road  Bozeman MT 59715  Contact: Mark Matheny  Tel: 1-800-232-7941  E-Mail: bearman@udap.com  Website: udap.com</p>
<p><b>Bear Peppermace</b></p> <p><b>EPA Reg. No. 71920-1-61311</b>  [A subregistrant of BearGuard]</p>	<p>MACE Security International Inc.  160 Benmont Ave.  Bennington VT 05201  Contract: Eric Crawford  Tel: 1-802-447-1503  E-Mail: mace@sover.net  Website: mace.com</p>
<p><b>Frontiersman Bear Attack Deterrent</b></p> <p><b>EPA Reg.No. 72265-1</b>  Application received 02/22/99  Registered July 17, 2000</p>	<p>Security Equipment Corp.  330 Sun Valley Circle  Fenton MO 63036  Attention: Mr. Larry Nance  Tel: 1-314-343-2000  E-Mail: sabre@stlnet.com  Website: sabredefensesprays.com</p>


The following brochure on bear pepper spray is included in this guide courtesy of the Center for Wildlife Information. For more information on bear pepper spray and staying safe in bear country, please visit their website at [www.BeBearAware.org](http://www.BeBearAware.org).

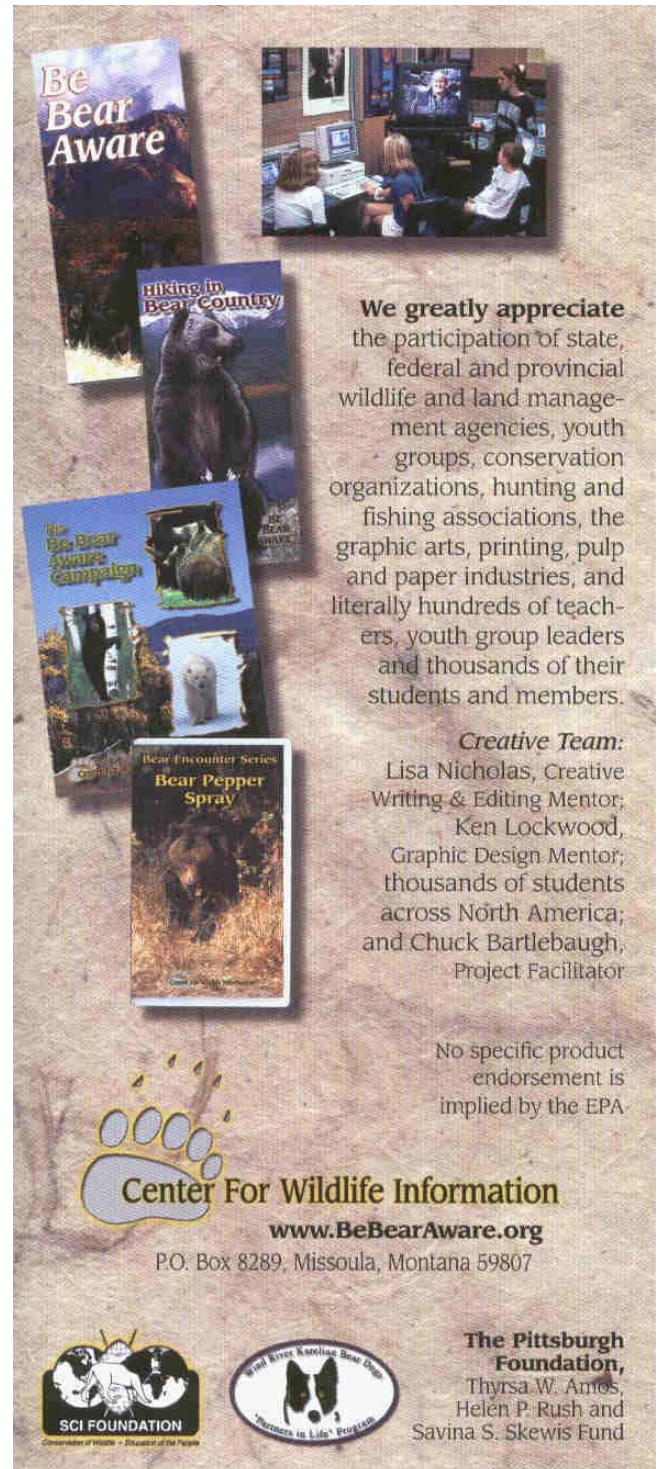


# Bear Pepper Spray

**What Retailers and Consumers should know about Bear Pepper Spray**


**Center For Wildlife Information**  
[www.BeBearAware.org](http://www.BeBearAware.org)





**Be Bear Aware**

**Hiking in Bear Country**


**The Be Bear Aware Campaign**



**Bear Encounter Series: Bear Pepper Spray**

**We greatly appreciate** the participation of state, federal and provincial wildlife and land management agencies, youth groups, conservation organizations, hunting and fishing associations, the graphic arts, printing, pulp and paper industries, and literally hundreds of teachers, youth group leaders and thousands of their students and members.

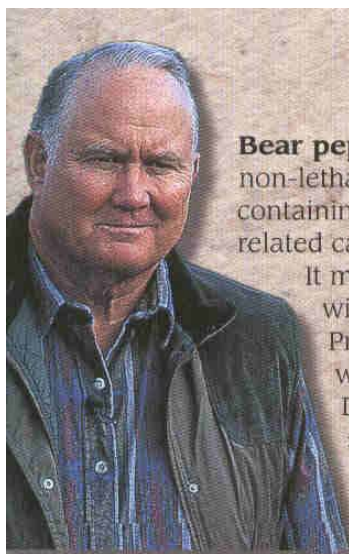
**Creative Team:**  
 Lisa Nicholas, Creative Writing & Editing Mentor;  
 Ken Lockwood, Graphic Design Mentor;  
 thousands of students across North America;  
 and Chuck Bartlebaugh, Project Facilitator

No specific product endorsement is implied by the EPA

  
**Center For Wildlife Information**  
[www.BeBearAware.org](http://www.BeBearAware.org)  
 P.O. Box 8289, Missoula, Montana 59807

**The Pittsburgh Foundation,**  
 Thyrsa W. Amos,  
 Helen P. Rush and  
 Savina S. Skewis Fund



**Bear pepper spray** is a non-lethal bear deterrent containing capsaicin and related capsaicinoids.

It must be registered with the Environmental Protection Agency and with the Agricultural Department of each state.

The Environmental Protection Agency and the Center for Wildlife Information

have prepared this brochure to help guide you in becoming an informed consumer when purchasing **bear pepper spray**.

General H. Norman Schwazkopf  
National Spokesman for the Be-Bear Aware  
and Wildlife Stewardship Campaign  
[www.BeBearAware.org](http://www.BeBearAware.org)



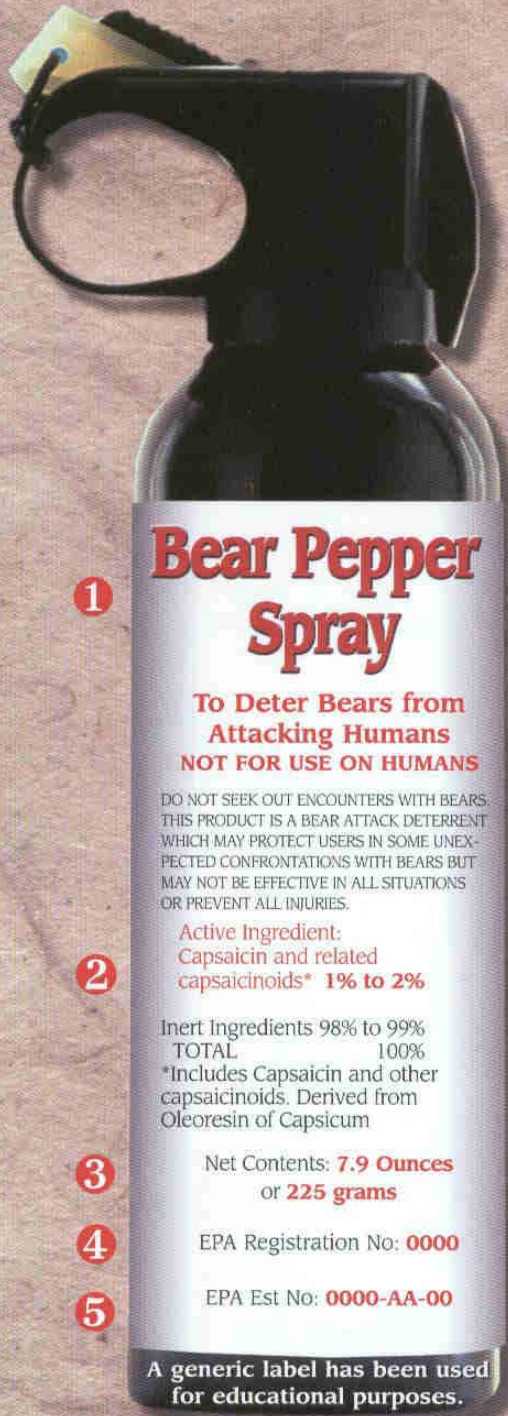
## *Read the Label Carefully*

To determine if you are **purchasing or selling an actual bear pepper spray**, read the label carefully. The label provides information unique to and **only allowed on bear pepper spray deterrents**.

The below information must be clearly displayed on the label of the can.

- 1** **Bear pepper spray** will clearly display on the label identifying terms such as **bear deterrent** or **for use in deterring attacks by bears**. The word "bear" can only be used on EPA registered bear pepper spray.
- 2** This indicates the amount of the active ingredients, **capsaicin and related capsaicinoids**, which should be between **1% and 2%** of net contents.  
  
These active ingredients cause reduced breathing and irritation to the eyes, nose, mouth, throat and lungs, disabling and distracting the bear from its charge.
- 3** The **minimum net content** for bear pepper spray is 7.9 ounces or 225 grams.
- 4** Identifies the owner of the **EPA-registered formula**.
- 5** Identifies the **actual manufacturer**, the **state** in which it was manufactured, and the **number** indicating the order of registration.

Bear pepper spray also contains inert ingredients, such as oils, propellant and solvents.



**Bear Pepper Spray**

**To Deter Bears from Attacking Humans**  
**NOT FOR USE ON HUMANS**

DO NOT SEEK OUT ENCOUNTERS WITH BEARS. THIS PRODUCT IS A BEAR ATTACK DETERRENT WHICH MAY PROTECT USERS IN SOME UNEXPECTED CONFRONTATIONS WITH BEARS BUT MAY NOT BE EFFECTIVE IN ALL SITUATIONS OR PREVENT ALL INJURIES.

Active Ingredient:  
 Capsaicin and related  
 capsaicinoids\* **1% to 2%**

Inert Ingredients 98% to 99%  
 TOTAL 100%

\*Includes Capsaicin and other capsaicinoids. Derived from Oleoresin of Capsicum

Net Contents: **7.9 Ounces**  
 or **225 grams**

EPA Registration No: **0000**

EPA Est No: **0000-AA-00**

A generic label has been used for educational purposes.

**What is Bear Pepper Spray?**

Bear pepper spray is a chemical formula designed specifically to deter aggressive or attacking bears. It must be registered with the Environmental Protection Agency and individual states. Bear pepper spray must contain between **1% to 2% of the active ingredients capsaicin and related capsaicinoids.**

**Capsaicin and related capsaicinoids** are the active ingredients that cause rapid eye closure, heavy watering of the eyes, and severe irritation to the nose, mouth, throat and lungs. This results in difficulty breathing and usually causes a bear to be distracted from its charge.

For backup, consider carrying two cans of bear spray, in case you are charged by more than one bear, have more than one incident, or to compensate for wind. Bear pepper spray should only be used to deter an aggressive or charging bear.



### Registration Process

Prior to sale to the public, the Environmental Protection Agency (EPA) and individual states must first **register** each **bear pepper spray** product. EPA Federal registration requires each company to submit or reference extensive and acceptable chemistry, toxicity and effectiveness data. It is also required that the canister label informs the user of the product's active ingredients, as well as how to store, use and dispose of the product properly without exposing the user or the environment to unreasonable adverse effects.

EPA and states do not register personal defense or law enforcement spray. It is illegal to sell such products for bears. Such untested products may contain insufficient active ingredients and propellant force to be an effective bear deterrent.

### Enforcement Monitoring

EPA and the states monitor the sale of bear spray products. Companies selling **unregistered** bear spray will have the product "stop saled" and recalled immediately to protect unsuspecting potential buyers. Companies selling **registered** bear spray will have their products sampled from retail outlets or manufacturing establishments periodically to verify that the product has the approved amount of active ingredients and approved labeling.

The manufacturer must maintain records verifying that the bear spray actually contains the active ingredients **capsaicin and related capsaicinoids**.



When in bear country, bear spray should be carried on your person at all times and should **only** be used to deter **charging or attacking bears**

### How and When to Use Bear Pepper Spray

**Prior to entering bear country, make sure that everyone:**

- knows basic bear safety techniques
- reads all bear spray instructions carefully
- understands how and when to use bear spray
- has an individual can of bear spray
- has bear spray quickly accessible (e.g., in a holster, not in a pack)

**When to use:**

- use only to deter charging or attacking bears

**How to use:**

- point container at bear, aiming slightly downward
- if possible, give bear a short warning blast about 40 feet away (bear must pass through the cloud created)
- if bear continues to charge, keep spraying until bear changes direction
- leave area at once, but do not run

**How not to use:**

- **do not** apply to people, tents, packs or ground as a repellent



## Vendors Featured in this Resource Guide:

Bearvault  
sales@bearvault.com  
(Page 13)

Backpacker's Cache (Garcia Machine)  
1-559-732-3785  
Fax 1-559-732-5010  
www.backpackerscache.com  
(Page 14)

### Authorized Dealers of Backpacker's Cache:

Backcountry Equipment 888.779.5075 www.backcountry- equipment.com	Planet Explorer 877.732.5238 www.bearproof.com
Campmor 800.226.7667 www.campmor.com	REI 800.426.4840 www.rei.com
Mountain Equipment 800.663.2667 www.mec.ca Canada	Wilson's Eastside Sports 760.873.7520 www.eastsidesports.com
Sunrise Mountain Sports 925.447.8330 www.sunrisemountainsports. com	Sonoma Outfitters 800.290.1920 www.sonomaoutfitters. com
	The Backcountry Store 800.409.4502 www.backcountrystore. com

Purple Mountain Engineering, Inc.  
41236 Elsdale Pl.  
Palmdale, CA 93551  
(661) 722-4936  
Thorn@qnet.com  
(Page 15)

Ursack  
www.ursack.com  
(Page 16)

Wild Ideas (Bearikade)  
805-693-0550  
Fax 805-688-1497  
www.wild-ideas.net  
(Page 16)

LMI Welding Inc.  
P.O. Box 772  
Cut Bank, MT 59427  
1-800-345-5623 or  
406-337-3021  
Fax 406-337-3023  
www.lmiwelding.com  
(Page 17)

Evans Feed & Livestock Supply  
241 South E Street  
Madera, CA 93638  
1-559-673-4345  
(Page 17)

Teton Welding & Manufacturing LLC  
Bob Facklam, Owner  
P.O. Box 976  
66 Airport Road  
Choteau, MT 59422  
(406) 466-2124  
Fax (406) 466-2338  
tetonwelding@montana.com  
(Page 18)

Bear-Aware Food Storage Containers  
Jeff Berns  
1-800-568-8990  
jmberns@bear-aware.com  
www.bear-aware.com  
(Page 19)

Outfitters Supply  
7373 US Hwy 2E  
Columbia Falls, MT 59912  
1-888-467-2256  
www.outfitterssupply.com  
(Page 19)

Wyoming Outdoor Industries Inc.  
1231 13th Street  
Cody, WY 82414  
1-800-725-6853  
www.wyomingoutdoor.com  
(Page 20)

Terra Tech Inc.  
PO BOX 5547  
Eugene, OR 97405  
1-800-321-1037  
Fax: 1-800-933-4569  
customerservice@terratech.net  
(Page 23)

Gallagher Electric Fencing Products  
www.gallagherusa.com  
Contact: Larry Feight  
High Country Ag Marketing Inc.  
406-287-5151  
Fax 406-287-3088  
ucus4shox@in-tch.com  
(Page 26)

To purchase Gallagher products, contact:

Quality Supply                      OR  
406-549-2355

Cenex Harvest States  
1-800-773-9000 or 406-543-8383

Margo Supplies Ltd.  
P.O. Box 5400  
High River, Alberta  
Canada T1V 1M5  
403-652-1932  
Fax 403-652-3511  
info@margosupplies.com  
www.margosupplies.com  
(Page 33)

Counter Assault  
120 Industry Court  
Kalispell, MT 59901  
406-257-4740  
Fax 406-257-6674  
1-800-695-3394  
original@counterassault.com  
www.counterassault.com  
(Page 36)

Universal Defense Alternative Products  
13160 Yonder Road  
Bozeman, MT 59715  
1-800-232-7941  
pepperpower@udap.com  
www.udap.com  
(Page 36)

Guardian Products (BearGuard)  
1-877-248-3835  
Fax 1-877-984-8324  
info@guardianproducts.com  
www.guardianproducts.com  
(Page 36)

McNeil River Enterprises, Inc.  
750 W. Dimond, Suite 203  
Anchorage, AK 99515  
907-346-4999  
Fax 907-349-7818  
www.guardalaska.com/bearspray  
(Page 36)

MSI Mace Security International  
160 Benmont Avenue  
P.O. Box 679  
Bennington, VT 05201  
802-447-1503  
Fax 802-442-3823  
www.macebrand.com  
(Page 36)

Security Equipment Corporation  
330 Sun Valley Circle  
Fenton, MO 63026  
636-343-0200  
1-800-325-9568  
Fax 636-343-1318  
info@sabre-sabrered.com  
www.sabredefensesprays.com  
(Page 36)

Zöoprax Productions  
Derek Reich  
303-883-0000  
1-800-797-7612 (Pin #12)  
d.reich@zooprax.com

Images of Nature  
Thomas D. Mangelsen  
P.O. Box 45429  
Omaha, NE 68145-0429  
Toll-free 1-800-228-9686  
Local 402-330-0132  
Toll-free fax 1-800-832-4571  
Local fax 402-330-1260

## Other Sources of Information

### **Montana Fish, Wildlife, and Parks**

[www.fwp.state.mt.us](http://www.fwp.state.mt.us)

### **Interagency Grizzly Bear Committee**

[www.fs.fed.us/r1/wildlife/igbc](http://www.fs.fed.us/r1/wildlife/igbc)

### **Alaska Department of Fish and Game**

[www.state.ak.us/adfg/adfghome.htm](http://www.state.ak.us/adfg/adfghome.htm)

### **City of Juneau, Alaska**

[www.juneau.org](http://www.juneau.org)

### **U.S. Forest Service**

- [www.southernregion.fs.fed.us/resources/features/Feature-bears-p2.htm](http://www.southernregion.fs.fed.us/resources/features/Feature-bears-p2.htm)
- [www.fs.fed.us/r3/coronado/scrd/nathist/nature/blackbear.htm](http://www.fs.fed.us/r3/coronado/scrd/nathist/nature/blackbear.htm)

### **The Tahoe Donner Association**

[www.tahoedonner.com](http://www.tahoedonner.com)

### **Pitkin County Government, Roaring Fork Bear Awareness Team**

[www.pitkingov.com/sitepages/pid154.php](http://www.pitkingov.com/sitepages/pid154.php)

### **Colorado State University Cooperative Extension**

[www.coopext.colostate.edu/wildlife/vendors\\_of\\_supplies.html](http://www.coopext.colostate.edu/wildlife/vendors_of_supplies.html)

### **Defenders Of Wildlife**

[www.defenders.org](http://www.defenders.org)

### **Bear Aware Initiative**

C/o Sierra Club  
P.O. Box 263  
Jackson, WY 83001

### **Center for Wildlife Information**

[www.BeBearAware.org](http://www.BeBearAware.org)

### **Brown Bear Resources**

406-549-4896  
[www.brownbear.org](http://www.brownbear.org)

### **Bear Info. Site**

[www.bearinfosite.com](http://www.bearinfosite.com)

### **Sierra Interagency Black Bear Group**

[www.sierrawildbear.net](http://www.sierrawildbear.net)

### **Northwest Territories Resources, Wildlife and Economic Development**

[www.nwtwildlife.rwed.gov.nt.ca](http://www.nwtwildlife.rwed.gov.nt.ca)

### **Govt. of British Columbia, Ministry of Water, Land and Air Protection, Bear Smart Program**

[Http://wlapwww.gov.bc.ca/wld/bearsmart/bearsmintro.html](http://wlapwww.gov.bc.ca/wld/bearsmart/bearsmintro.html)



Photo courtesy of Thomas D. Mangelsen, Images of Nature  
[www.mangelsen.com](http://www.mangelsen.com)

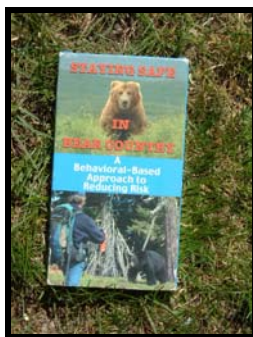
## Reference Books and Videos

### Books

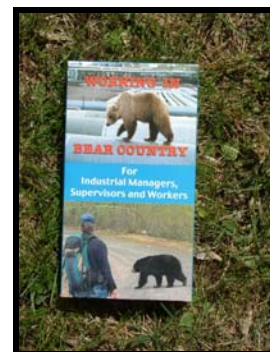
Bear Attacks—Their Causes and Avoidance by Stephen Herrero. Published by Lyons Press, 1985 and revised in 2002. ISBN 1-58574-557-X. Contact Lyons Press at [www.lyonspress.com](http://www.lyonspress.com).

Bear Aware—A Falcon Guide by Bill Schneider. Published by The Globe Pequot Press in 2001. ISBN 0-7627-1188-4. Contact The Globe Pequot Press at [www.falcon.com](http://www.falcon.com).

### Videos<sup>1</sup>



***Staying Safe in Bear Country***



***Working in Bear Country***

***Staying Safe in Bear Country*** and ***Working in Bear Country*** are distributed by Magic Lantern Communications Ltd. To order in Canada west of Ontario call 1-800-263-1818 or e-mail [west@magiclantern.ca](mailto:west@magiclantern.ca); from the United States or in Canada east of Ontario call 1-800-263-1717 or e-mail [east@magiclantern.ca](mailto:east@magiclantern.ca); Internationally, call 1-800-667-1500 or e-mail to [info@micworld.com](mailto:info@micworld.com).

***Bear Attack: The Predatory Black Bear*** and ***Bear Attack: Encountering Grizzlies*** were produced and are sold by Ellis Vision, Toronto, Canada. Call 416-924-2186 or e-mail [sales@ellisent.com](mailto:sales@ellisent.com).

<sup>1</sup> Herrero, Stephen. 2002 *Bear Attacks, Their Causes and Avoidance*. Lyons Press, Guilford, CT. ISBN 1-58574-557-X. Contact Lyons Press at [www.lyonspress.com](http://www.lyonspress.com).