

Interagency Grizzly Bear Committee

Bear Pepper Spray Position Paper

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

Selecting a bear pepper spray:

Purchase only products that are clearly labeled "for deterring attacks by bears," and meet the following criteria:

Spray concentration should be 1.4 to 1.8% capsaicin and related capsaicinoids

Spray should be at least 225 grams or 7.9 ounces of net weight

Spray should be derived from Oleoresin of Capsicum

Spray should be in a shotgun-cloud pattern

Spray should be delivered a minimum range of 25 feet

Spray should last at least 6 seconds

Spray should be EPA approved

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.

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.

Bear Pepper Spray Position Paper - Establishment of Guidelines (Background Information)

Our review of reports and newspaper articles covering various types of bear encounters indicate that, in as many as 90% of bear encounters, bear pepper spray worked extremely well. In the remaining 5-10% of encounters, the bear pepper spray has not worked as well but seems to have diminished the severity of the mauling and shortened the attack. The varying behavior of individual bears makes it difficult to predict how a bear will respond in a given situation. In lab studies by the University of Montana Border Grizzly Project (BGP), the pepper sprays stopped and turned away every bear tested (6 grizzlies and almost 60 black bears) during almost 500 tests.

Guidelines for Bear Pepper Spray:

Spray concentration should be 1.4 to 1.8% capsaicin and related capsaicinoids

Spray should be at least 225 grams or 7.9 ounces of net weight

Spray should be derived from Oleoresin of Capsicum

Spray should be in a shotgun-cloud pattern

Spray should be delivered a minimum range of 25 feet

Spray should last at least 6 seconds

Spray should be EPA approved

(Update: the Environmental Protection Agency and the Division of Weights and Measures have determined that formulations should be in net weight not fluid ounces. As of April 30, 1999, we have updated our material to reflect this change.)

Suggested Guidelines for Bear Pepper Spray:

1. Strength of the capsaicin and related capsaicinoids:

1.4 to 1.8% capsaicin was determined as a guideline because that is the strength that was used in the BGP's research (C. J. Jonkel). These concentrations represents the makeup of bear pepper spray most commonly used in documented encounters. Several bear specialists have expressed concern about bear pepper spray being too hot which may result in damage to the bear's mucus membranes. This potential damage may affect the bear's ability to forage for food or relate to it's cubs. No such bear was found in the BGP studies. However, it should be noted that pepper spray hotter than 1.8% has not been tested for potential harmful effects on bears or people.

2. Quantity and Content:

Quantity and content of each spray treatment is based on the history of use of bear pepper spray in actual encounters. Most emphasis was placed on the research done by Dr. Jonkel and bear management specialists in the field, combined with data from field treatments by lay people during bear encounters.

A minimum of **225 grams or 7.9 ounces net weight**, combined with the proper propellant and carrier, enables the bear pepper spray to be **sprayed at least 25 feet** in a **shotgun cloud pattern** and **last a minimum of 6 seconds**. This combination is important because most bear encounters take place within 100 feet, with the bear approaching to within 30 or 40 feet before deciding whether to retreat or charge.

These criteria enable the user to get an initial shotgun blast cloud out ahead of them. Both the sound and the sight of the cloud has caused many bears to retreat immediately.

If the bear continues to approach, even at a full charge, the first blast seems to deter many bears as soon as the bear feels the effects of the initial blast. Further spraying directly towards the face of the bear often deters even agitated and aggressive bears. If the user has too small of a can, or insufficient spraying distance, they will have used up most of their spray in the first blast. The amount of spray is also important in the following situations:

- Windy, rainy or cold days
- A highly protective mother bear
- A bear with a fresh kill
- A long hike (may encounter more than 1 bear)

- More than 1 bear or repeated attacks

Labeling of contents - It is extremely important that bear pepper spray be referred to as a "deterrent." Unfortunately, the word "repellent" is misunderstood by the public. Many people think of a repellent as something you place on yourself or your equipment such as an insect repellent. All of the key factors should appear on the label in readable type on a solid background.

Bear pepper spray as a bear attractant - There is no scientific research showing that bear pepper spray is an attractant when properly used. It is important to remember that all foreign substances, sounds, odors, and colors can potentially attract curious bears. This would hold true for both oleoresin capsicum or synthetic/pharmaceutical grade capsicum if improperly used.

It is also important to remember that for over 15 years of extensive use in the field, bear pepper spray has never appeared to be a problem as an attractant. CWI reviewed this matter with numerous bear specialists and outfitters throughout North America who routinely carry bear pepper spray with them, store canisters in their tents and guests' tents, and place canisters near their cooking areas. No attractant problems have been reported.

3. Fear Marketing of Bear Pepper Spray:

Unfortunately, an emphasis on fear of bear encounters has become a trend for marketing bear pepper spray for a few of the manufacturers. The public is receiving the fear message by two methods: 1) labeling or brochures that feature pictures of growling bears or people that have been injured by bears, and 2) anecdotal observations and bear incident reports are used with self-promoting spin as a scare tactic to promote one product over another. The IGBC does not condone fear marketing tactics.

We are recommending that all federal and state agencies place a high consideration on the intensity of a manufacturer's marketing methods and determine whether marketing methods bring undue, negative imaging of the bear.