

Interagency Grizzly Bear Committee

Bear Spray Report

June 2008



In June of 2008 the Interagency Grizzly Bear Committee reviewed their position of bear spray and the contents of their position paper in response to questions from the public.

To do this review the IGBC surveyed bear management specialist from state, federal, provincial, and Parks Canada agencies for comments and suggestions on suggested bear spray guidelines. Their response was based upon their experiences with both black bears and grizzly bears, review of incidents where people were charged including when contact was made. The pattern clearly showed that bear behavior can vary greatly in charging and attacking situations. There is no one set recommendation that can cover any one given charge or attack. The attached document includes the position paper, the original review of bear spray and its use in defending against charging and attacking bears. There is a section of letters of wildlife and land management agency bear management specialists.

-To view this report online go to: www.igbconline.org/html/bearspray.html

Click on: “**Overview, Background, IGBC Partnership With Center For Wildlife Information And Summary Recommendations**” link.

-For printable version of the IGBC position paper go to the bottom of the page and click **Printable Version**.

-For a list of bear spray manufacturers go to: <http://www.epa.gov/Region8/toxics/pests/beardeter.html>

IGBC Bear Spray Recommendations

The IGBC does not endorse, promote or guarantee any commercial product.

The following are only recommendations. The IGBC does recommend the use of bear spray as an effective tool when used in conjunction with proper bear avoidance safety techniques. Bear spray is not a substitute for following proper bear avoidance safety techniques. (Never approach, attempt to follow, interact with, or feed a bear)

No deterrent is 100% effective, but bear spray has demonstrated success in fending off charging and attacking bears and preventing, or reducing injury to the person and animal involved. The proper use of bear spray may reduce human injuries caused by bears, the number of grizzly bears killed in self-defense, and help promote the recovery and survival of the grizzly bear.

Selecting and buying a bear spray:

- To purchase the correct product, ask the sales person specifically for Bear Spray.
- All bear sprays **MUST** be registered with the Environmental Protection Agency (EPA). Purchase products that clearly state "for deterring attacks by bears." The EPA registration number is displayed on the front label.
- The active ingredient is clearly shown on the label and is 1% to 2% Capsaicin and related Capsaicinoids. The active ingredient is what affects the bears eyes, nose, mouth, throat and lungs.
- Personal defense, law enforcement or military sprays, (often referred to as "pepper spray") may not be formulated, contain the correct ingredients or have the proper delivery system, to divert a charging or attacking bear.
- Suggested spray duration of 6 seconds to compensate for multiple bears, wind, bears that may zigzag, circle, or charge repeatedly, and for the hike out.
- Suggested spray distance of 25+ feet to reach the bear at a distance sufficient for the bear to react to effects of the active ingredients in bear spray in time to divert its charge and retreat.
- Each person working or recreating in bear habitat should carry a can of bear spray in a quickly accessible fashion. Bear spray should also be readily available in the sleeping, cooking and toilet areas of a camp.
- Be sure the expiration date on each can of bear spray is current.



©CFWI.org

For a List of Bear Spray Manufacturers visit the EPA's website at:
<http://www.epa.gov/region8/toxics/pests/beardeter.html>

For more information visit: www.igbconline.org/ for the Bear Spray Overview Report-2008 and www.BeBearAware.org.

BEAR SPRAY: OVERVIEW, BACKGROUND, IGBC PARTNERSHIP WITH CENTER FOR WILDLIFE INFORMATION AND SUMMARY RECOMMENDATIONS.

TABLE OF CONTENTS

IGBC BEAR SPRAY REPORT 2008	Page
I. Overview.....	2
II. Background.....	3
III. Findings.....	3
Question #1.....	3
IGBC Position Paper 1999.....	4
Question # 2.....	5
Question # 3.....	5
Question # 4.....	6
Question # 5.....	7
EPA List of Original Bear Spray Manufacturers as of 2000	
EPA List of Bear Spray Manufacturers as of 2010	
Question # 6.....	9
Question # 7.....	9
IV. Summary Report Recommendations to IGBC.....	9
V. Appendices.....	10
Appendix A: Brief History of Bear Spray and Current Literature.....	10
Appendix B: CWI letter dated February 27, 2008 to Jim Claar.....	12
Appendix C: Ethics Officer review statement.....	15
Appendix D: Letters in support of bear spray and the IGBC position on bear spray.....	16
Steven J Fadden, Tongass National Forest.....	16
John S. Waller, Glacier National Park	18
Kerry Gunther, Yellowstone National Park.....	19
Marion Cherry, Gallatin National Forest.....	21
Mike Gibeau, Mountain National Parks of Canada	22
Shawn T. Stewart, Montana Fish, Wildlife & Parks.....	23
Bob Hoverson, Ninemile Ranger Station.....	24

I. BEAR SPRAY OVERVIEW

At the November 28, 2007 Interagency Grizzly Bear Committee (IGBC) meeting in Missoula, several questions were raised by Mark Matheny and Tim Lynch, UDAP-Bozeman, MT, regarding the public education materials produced by Center for Wildlife Information (CWI) in partnership with IGBC. In particular, questions were raised regarding the policy of recognizing partners that provide funds to produce materials about bear spray.

James Claar, USFS National Grizzly Bear Habitat Coordinator, and Doug Zimmer, Chair-IGBC Information and Education Subcommittee were assigned to prepare this background information paper and recommendations for IGBC regarding the concerns and other questions raised at the IGBC meeting in Missoula about bear spray and IGBC education materials on this topic.

Specific questions to be answered include:

1. What is the position of IGBC regarding use of bear spray?
2. Has IGBC endorsed or favored any bear spray producer by partnering to produce educational materials and what is the IGBC policy in this regard?
3. Has CWI endorsed or favored any bear spray producer by placing logos on educational materials and what is the CWI policy in this regard?
4. What was CWI's involvement in the development of the IGBC guidelines on bear spray?
5. Which bear spray products does EPA list and what does their registration mean?
6. Is the USFS Missoula Technical Development Center (MTDC) available to test the bear spray products registered by EPA, specific to physical measurements regarding duration of spray as well as distance and pattern of spray?
7. What is the basis for the IGBC bear spray recommendations of 25 feet minimum spray distance and 6 second duration and should IGBC continue with these recommendations?

Please call it Bear Spray

*Please note that some sections of this report were done in 1999 and the terms "Pepper Spray" and "Bear Pepper Spray" were commonly used. We now know to call it "Bear Spray" so the public is not confused between personal defense spray and actual Bear Spray.

II. BACKGROUND

On June 30, 1999, the IGBC published their bear spray position paper outlining guidelines for selecting a bear spray and explaining when and how to use it (See question 1 below).

For a brief history regarding the scientific development of bear spray and the basis for guidelines, we included a summary provided by Carrie Hunt, Director, Wind River Bear Institute (Appendix A).

This bear spray topic was on the IGBC website until a new IGBC website went under construction in late 2007. The portion of the new IGBC website for bear spray is currently under construction and will be added later this year. It is an opportune time for IGBC to review the background and basis for bear spray recommendations and policies.

III. FINDINGS

QUESTION #1: What is the position of IGBC regarding use of bear spray?

The following IGBC position statement was issued on **June 30, 1999** based upon extensive review of the situation and science by a panel of wildlife biologists:

The Interagency Grizzly Bear Committee produced this position paper in an effort to provide the public with recommendations on how to select an adequate 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. For more information on how the IGBC formulated these recommendations, please see the Bear Pepper Spray Position Paper Establishment of Guidelines.

BEAR PEPPER SPRAY POSITION PAPER ESTABLISHMENT OF GUIDELINES

June 1999

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

Selecting a bear pepper spray:

Purchase products that are clearly labeled "for deterring attacks by bears:"

- Spray concentration should be 1.0 to 2.0% 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 registered by the EPA

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.

QUESTION #2: Has IGBC endorsed or favored any bear spray producer by partnering to produce educational materials and what is the IGBC policy in this regard?

We did not find any indication that IGBC has endorsed or favored any bear spray producer through its activities or partnerships to produce information and educational materials.

A review of this information was conducted by Matthew Costello, Ethics Officer in Department of Interior at the request of Doug Zimmer and it was concluded there were not any ethics violations in the IGBC actions. Some suggestions were made in Mr. Costello's memo that is included in Appendix C.

Public safety concerns and grizzly bear recovery are primary guiding objectives IGBC has considered in their actions. The following statement is from IGBC records.

BEAR 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 spray in addition to following proper bear avoidance safety techniques.

QUESTION #3: Has CWI endorsed or favored any bear spray producer by placing logos on educational materials and what is the CWI policy in this regard?

The following statement is quoted from a letter received from Center for Wildlife Information (CWI) dated February 27, 2008. The CWI letter is included in Appendix B.

CWI does not provide advertising of any kind on any of its materials. We display the names of people, corporations, foundations, and agencies that contribute to our educational programs and materials. This includes research, development, and field testing of brochures, posters, DVD's, displays, workshops/presentations and bear-avoidance training programs. We developed our policy of placement of participants' logos on our educational materials to acknowledge corporate, foundation, and agency participation and contributions based on public broadcasting and other non-profit organizations' protocol (e.g., "sponsored by" "this program was brought to you in part by..." etc.). CWI receives grants and contributions from agencies and foundations representing agencies, and matching contributions from corporations and foundations are often required as part of the grant agreements with the agencies. The logos of our private sector matching contributors are displayed on the materials to acknowledge their participation. We are not advertising for or advocating any particular products or businesses.

A contribution from a corporation does not grant it exclusivity on our materials. CWI accepts contributions from responsible manufacturers of products related to wildlife conservation whose positions and policies coincide with ours. We include their logos on any bear avoidance and wildlife stewardship educational materials for which they want to contribute matching funding. However, we do not endorse particular products and we work hard to avoid any impression that we support or recommend any particular product over any other.

For example, to avoid the appearance of supporting particular products we do not currently place any bear spray manufacturers' logos on our 11x17 bear spray poster, our 4x9 bear spray educational cards, or our bear spray brochure. Both UDAP and Counter Assault logos are displayed on our bear spray video because both firms contributed to the production of the videos. Our website provides a link to the EPA's list of all registered bear spray manufacturers.

Quoted directly from the February 27, 2008 letter from Chuck Bartlebaugh, CWI to Jim Claar; see Appendix B.

QUESTION #4: What was CWI's involvement in the development of the IGBC guidelines on bear spray, in particular the recommendations of 25 feet minimum spray distance and 6 second duration of spray?

The basic research conducted by Dr. Charles Jonkel-Border Grizzly Project, graduate student Carrie Hunt at the University of Montana and Bill Pounds, founder of CounterAssault formed the scientific basis for the IGBC guidelines and recommendations as well as the science for the EPA registration of bear spray.

In 1998 and 1999, there was considerable discussion at the Yellowstone Grizzly Bear Subcommittee meetings regarding the efficacy of bear spray and what the product specifications should consider. In April, 1998, at the Yellowstone Subcommittee meeting CWI was asked to review bear spray information and share the findings with the Subcommittee. A panel of wildlife biologists was convened that lead to the IGBC recommendations for bear spray and the Center for Wildlife Information involvement is documented below in a letter from CWI-see Appendix B.

The following statement is quoted from the CWI letter dated February 27, 2008-see Appendix B.

ORIGIN OF BEAR SPRAY PERFORMANCE RECOMMENDATIONS

At the April 1998 Yellowstone Ecosystem Subcommittee meeting, the subcommittee members asked the Center for Wildlife Information (CWI) if we would be willing to take on the project of reviewing bear spray and sharing our findings with the subcommittee. Issues they wanted information about included whether there was a difference between pepper spray used on people and the spray used on bears, what constituted an effective bear spray (active ingredients, performance standards such as duration and distance), when and how should bear spray be used, what promotional information was accurate and what wasn't.

CWI was asked to take on this project because we had been studying the issue of conflicts between people and wildlife, especially bears, since the mid-70's, and we had been monitoring the development, testing, and marketing of bear spray since the mid-80's. The Center for Wildlife Information, through the Be Bear Aware and Wildlife Stewardship Campaign, is dedicated to reducing human-wildlife conflict by informing and educating the public about how to enjoy wildlife safely and responsibly, and we had been monitoring bear spray with great interest because of its potential as a non-lethal alternative for protecting people in confrontations with bears.

CWI undertook an extensive review of the available scientific and anecdotal literature and materials on bear deterrent sprays. Our research led us to the research done by Dr. Charles Jonkel and his associates, Carrie Hunt and Don Wooldridge. Their findings formed the basis for our recommendations.

CWI also consulted research by Dr. Stephen Herrero, Dr. Tom Smith, and other researchers and biologists with extensive experience with bears. CWI also conducted extensive interviews with dozens of bear management specialists from state and federal wildlife and land management agencies about bear behavior in charging and attacking situations, what they knew about bear spray and whether or not it worked, and what they would recommend for performance standards (duration and distance) based on bear behavior in charging and attacking situations. CWI also contacted the Environmental Protection Agency (EPA) to gather information about the reasons for their determination to register bear deterrent sprays and what that information means to the purchasing public.

Based on our 12 months of research we developed a report and a series of recommendations capturing what we believed to be the best scientifically-based and field-tested information available on bear deterrent sprays. As requested by the IGBC, CWI presented the results of its lengthy research on bear deterrent spray to IGBC I&E Chair, Laird Robinson, in the form of a series of recommendations in March of 1999.

On June 30, 1999, the IGBC published their bear spray position paper outlining suggested guidelines for selecting a bear spray and explaining when and how to use it. This was in response to news articles, editorials, and inquiries from the public. On July 2, 1999, the IGBC and the Center for Wildlife Information held a press conference regarding the suggested guidelines for bear spray. Laird Robinson, executive assistant to the chair of IGBC and the chair of the Information Education Committee, emphasized that the suggested position paper was prepared by bear biologists out of concern for hikers carrying ineffective cans of bear spray. When the IGBC developed its first website, the Bear Spray Guidelines were incorporated into the web site. When the new website was developed in 2007, the guidelines were moved to the new site.

In developing the recommendations that the IGBC adopted as guidelines, CWI conducted an extensive investigation into the origins, development, and production of bear deterrent sprays. We believe we used the best available science-based and field-tested information to develop our report. We cast a wide net, carefully documented our research, and preserved the materials we used in developing the report. We are confident that we provided the IGBC with the best possible information, and we are prepared to provide supporting materials and documentation to support it upon request. Please see attached list of reference materials reviewed.

Quoted directly from the CWI letter dated February 27, 2008 to Jim Claar-Appendix B

QUESTION #5: Which bear spray products does EPA list and what does their registration mean?

The following information is quoted directly from the EPA website. These are the products that are registered by EPA with individual numbers for product labeling as bear deterrents that contain 1-2% capsaicin and related capsaicinoids.

BEAR DETERRENTS CONTAINING CAPSAICIN AND RELATED CAPSAICINOIDS

Regulated under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

EPA Region 8 – Mountains & Plains

Serving Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations

Below are listed the ACCEPTABLE REGISTERED BEAR DETERRENT PRODUCTS IN UNITED STATES** (as of November 14, 2006)

Source: Dan Peacock, Registration Division,

Office of Pesticide Programs, EPA

Tel 703-305-5407, Fax 703-305-6596

Email peacock.dan@epa.gov

Current List of EPA Registered Deterrents

Last updated on February 25, 2010

<http://www.epa.gov/Region8/toxics/pests/beardeter.html>

<p>1. Counter Assault Bear Deterrent EPA Reg. No. 55541-2</p>	<p>Bushwacker Backpack & Supply 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>2. Guard Alaska Bear Repellent EPA Reg. No. 71545-1</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: www.guardalaska.com</p>
<p>3. Pepper Power Bear Deterrent EPA Reg. No. 72007-1</p>	<p>Universal Defense Alternative Products (UDAP) 13160 Yonder Road Bozeman, MT 59719 Attention: Mr. Mark Matheny Tel: 1-800-232-7941 E-Mail: PepperPower@udap.com Website: www.PepperPower.com</p>
<p>4. Frontiersman Bear Attack Deterrent EPA Reg. No. 72265-1</p>	<p>Security Equipment Corp. 330 Sun Valley Circle Fenton, MO 63026 Attention: Mr. Larry Nance Tel: 1-636-343-0200 E-Mail: info@sabre-sabrerred.com Website: sabre-sabrerred.com</p>

** In addition to these four products, EPA allows relabeled products to be distributed that are identical to the above products but have a different name, address, and an additional five numbers to the registration number. The first six numbers represent the actual formula owner and manufacturer. The second five numbers indicate who is marketing the bear spray under a different name. EPA has no data in its files to show that the differences in the products (such as, amount of active, spray, distance, and time to empty can) affect product effectiveness.

QUESTION #6: Is the Missoula Technical Development Center available to test the bear spray products registered by EPA, specific to physical measurements regarding duration of spray as well as distance and pattern of spray?

Richard Karsky, MTDC engineer, has initiated tests of the 4 bear spray products approved by EPA to measure spray duration in seconds and spray distance and pattern under different temperature regimes. The analysis and report will be available this fall.

QUESTION #7: What is the basis for the IGBC bear spray recommendations of 25 feet minimum spray distance and 6 second duration and should IGBC continue with these recommendations?

The IGBC recommendations are based upon the scientific development of bear spray and the publications summarized in Appendix A. A panel of experts was also convened to review the science and make recommendations regarding bear spray. IGBC adopted these recommendations.

In Appendix D, we present letters from several bear managers, biologists and researchers that support bear spray and the IGBC recommendations.

IV. SUMMARY REPORT RECOMMENDATIONS TO IGBC

- 1- On all future IGBC educational materials insert proper disclaimer statement(s) to clarify that logos printed or company names mentioned only represent sponsorship to produce educational materials, not a product or company endorsement.
- 2- Continue to reference the EPA website as the official location for the list of registered manufacturers of bear spray.
- 3- We recommend that IGBC:
 - a) continue to recommend that carrying bear spray is a good practice in bear country;
 - b) continue to use IGBC recommendations that products spray a minimum distance of 25 feet and have a spray duration of at least 6 seconds.

Prepared by James Claar, USFS National Grizzly Bear Habitat Coordinator, Northern Region, Missoula, MT. and Doug Zimmer, USFWS, Chair, IGBC Information and Education Subcommittee.

Special thanks to Carrie Hunt, Director, Wind River Bear Institute, Florence, MT.; Dr. Charles Jonkel, Missoula, MT.; Kim Barber, Grizzly Bear and Gray Wolf Coordinator, USFS-Rocky Mountain Region, Shoshone NF; Dr. Chris Servheen, USFWS-National Grizzly Bear Recovery Coordinator, and Chuck Bartlebaugh, Director, Center for Wildlife Information.

V. APPENDICES

Appendix A: Brief History of Bear Spray Development and Current Literature

Appendix B: CWI letter dated February 27, 2008 to Jim Claar.

Appendix C: Ethics Officer review statement

Appendix D: Bear Spray: Letters from bear biologists, managers and researchers in support of bear spray and the IGBC position on bear spray.

Appendix A: Brief History of Bear Spray Development.

- In the early 1980's, biologist Dr. Charles Jonkel began an extensive research project funded by the National Science Foundation as part of the Border Grizzly Project at the University of Montana. He and several graduate students were studying ways to prevent or mitigate bear maulings. One of the things they were studying were bear attractants and non-lethal bear repellants, such as boat horns, sprays and non-lethal projectiles. One student, Don Wooldridge, while working on polar bears, incidentally tried pepper spray on a captive grizzly bear in Churchill, Manitoba during his research and had a favorable response.
- In 1981, Jonkel offered University of Montana wildlife graduate student, Carrie Hunt, a chance to test a synthetic skunk spray invented by Mr. Roy Olander, owner of Bear Country Products. Funding for the testing had been provided by Olander. Due to her background as a bear biologist and her interest in the subject, Hunt decided to pursue her MS thesis as a continuation of Jonkel's research into effective repellents and deterrents for bears. Hunt's focus would be to look at repellent and deterrent devices that would minimize human-bear conflicts, including deterring charging bears and food conditioned bears coming into campsites or home areas, as these types of bears were the primary cause for human maulings and fatalities.
- During 1981-1984, Hunt conducted her graduate work in wildlife at the University of Montana under Dr. C. Jonkel and B. O'Gara. She conducted tests on caged and free-ranging black and grizzly bears. Caged bears were tested at Fort Missoula in Missoula, Montana and free-ranging bears were tested in the dumps of Sparwood, British Columbia. From this work, Hunt identified pepper spray as an effective repellent for bears. Hunt's research was funded by Glacier National Park; The National Rifle Association; the Montana Fish, Wildlife and Parks; Bear Country Products (a California owned company) and out of her own pocket. A vehicle and field supplies were provided by the University of Montana Cooperative Research Unit. Building of the bear cages at Fort Missoula was funded by the Border Grizzly Project. Field Supplies and volunteers to help with the tests were provided by the Border Grizzly Project. Traps for marking bears in the wild were provided by the British Columbia Fish and Wildlife Branch. Housing while in the field was provided by the Border Grizzly Project, the U.S. Forest Service, Hungry Horse District; and B.C. Coal, Ltd. Other vital support for the project came from the Confederated Salish and Kootenai Tribes, Flathead Reservation; the Flathead County Health and Sanitation Department; the University of Montana and Yellowstone National Park. In 1984 Hunt completed her thesis entitled: Hunt, C. 1984. *Behavioral Responses of Bears to Tests of Repellents, Deterrents, and Aversive Conditioning*. M.S. Thesis, University of Montana, Missoula. 137 pp.

- During the above research, Hunt observed that commercially available pepper spray (pepper sprays for use on dogs), was briefly tested by Wooldridge on a bear and decided to formally incorporate tests of pepper spray in her research program. During tests of “Halt” (pepper spray for use on dogs) on both captive and free-ranging bears, Hunt observed almost 100% success in repelling bears with no aggressive responses. She noted, however, that although the commercially available products that were available showed promise, they were inconsistent and required the user to have to get very close to the bear in order to get the spray accurately into the eyes, because the substance discharged in a pencil-thin stream and only went about 6 feet.
- October 25, 1981, “*The Missoulian*” ran a 2-page feature article about Hunt’s initial phase of research on captive bears, and her intent to develop an effective repellent or deterrent system. The article states “She envisions a repellent-deterrent device that is portable, inexpensive and effective, that you can carry with you in places where there might be contacts with bears”. Hunt had still not tested pepper spray, but was testing a synthetic skunk spray produced by a California owned company Bear Country Products.
- In 1982, Hunt began the research with a systematic review of the literature and produced an annotated bibliography with 437 literature citations for the National Park Service: Hunt, C. 1983. *Deterrents, Aversive Conditioning, and Other Practices; An Annotated Bibliography to Aid in Bear Management*. National Park Service Report, Glacier National Park, Montana. 136 pp.
- October 4, 1982, “*The Missoulian*” ran a feature article about Hunt’s second phase of research testing repellents and deterrents on free-ranging bears in the dumps in Canada. The article states: “The best repellent appeared to be Halt...The problem with the chemical- a red pepper derivative and frequently carried by mailmen to ward off dogs- is its short, six foot range.”
- In 1982, Bill Pounds, owner of Bushwacker , Backpack and Supply Company and the future founder of Counter Assault, read the October 4, 1982 article in the “*The Missoulian*” and contacted the Border Grizzly Project. He was interested in developing an animal repellent spray specifically for bears, and asked if he could help by developing a canister that would better meet their needs. Based on specific recommendations made by Hunt, following her tests on bears Pounds developed a capsaicin product called “Animal Repel” for bears. In general, the spray was recommended to be at least 3 feet wide, in order to hit a bears face without having to aim, go a minimum of 20 feet in distance to stop a bear before it’s last running step during a charge, and be able to be applied repeatedly in case a bear were to charge more than once. To meet the recommended specs, he added an actuator tab spray mechanism that dispensed the spray in an atomized, expanding, megaphone-shaped cloud rather than the narrow stream that had to be aimed at the animal’s eyes, and also increased the spray duration and distance. Pounds provided samples to Jonkel and Hunt for testing and further developed his product based on the information from their tests. Bill Pounds provided product samples for testing and technical support but did not provide any funding for the research.
- In August 1984, “*Life Magazine*” had a feature article about human-grizzly bear conflicts that included a full page about the Border Grizzly Project, with pictures of Hunt testing pepper spray and summarizing the promising results they were getting from the testing of the bears at Fort Missoula.
- In 1984, following completion of her master’s thesis, Hunt proposed to the U.S. Fish and Wildlife Service, Office of the Grizzly Bear Recovery Coordinator, Dr. C. Servheen, that she complete a report that summarized her findings on repellents and deterrents for bears and that detailed the next step for moving forward. She was subsequently contracted to produce the report. In this report, Hunt

detailed her findings on pepper spray, including her testing of “Animal Repel”, the product developed Bill Pounds, and gave specific recommendations that are the basis for the specs currently required for EPA approved “Bear Spray”. Hunt, C. 1985. *Descriptions of Five Repellent/Deterrent Products for Use on Bears*. Grizzly Bear Recovery Coordinator, U.S. Fish and Wildlife Service, Missoula, Montana. 50 pp.

- In 1984, Lynn L. Rogers of the USDA Forest Service published Wildlife Society Bulletin 12:59-61, *Reactions of Free-Ranging Black Bears to Capsaicin Spray Repellent*. The article discussed having to spray some bears more than once to get them to leave, which indicates a need for more spray duration.

For a recent scientific publication on the effectiveness of bear spray see:
Smith, T.S., et al. *Efficacy of Bear Deterrent Spray in Alaska*. JWM 72(3) pp 640-645.
This article also provides a current list of the scientific literature on this topic.

Appendix B: CWI letter dated February 27, 2008 to Jim Claar.

February 27, 2008

James J. Claar
Grizzly Bear Habitat Coordinator
Northern Region, USDA Forest Service
PO Box 7669
200 East Broadway
Missoula, MT 59807

Dear Jim:

During the winter 2007 meeting of the IGBC in Missoula, a bear deterrent spray manufacturing firm raised a complaint that the Center for Wildlife Information was promoting and providing exclusive advertising for commercial products on taxpayer-subsidized bear avoidance and wildlife stewardship educational materials

The same complainant requested that the IGBC explain the origin of its bear repellent spray policy and recommendations as presented on the IGBC website. In response to that complaint, the IGBC asked CWI to explain their policy of displaying the logos of contributing organizations on educational materials. CWI is happy to clarify our logo policy. CWI was also asked to research the origin of the IGBC’s Bear Repellent Spray policy and recommendations. We are happy to assist the IGBC in clarifying the origin of the information.

Appearance of Logos on Center for Wildlife Information Materials:

CWI does not provide advertising of any kind on any of its materials. We display the names of people, corporations, foundations, and agencies that contribute to our educational programs and materials. This includes research, development, and field testing of brochures, posters, DVD’s, displays, workshops/presentations and bear-avoidance training programs. We developed our policy of placement of participants’ logos on our educational materials to acknowledge corporate, foundation, and agency

participation and contributions based on public broadcasting and other non-profit organizations' protocol (e.g., "sponsored by" "this program was brought to you in part by...." etc.). CWI receives grants and contributions from agencies and foundations representing agencies, and matching contributions from corporations and foundations are often required as part of the grant agreements with the agencies. The logos of our private sector matching contributors are displayed on the materials to acknowledge their participation. We are not advertising for or advocating any particular products or businesses.

A contribution from a corporation does not grant it exclusivity on our materials. CWI accepts contributions from responsible manufacturers of products related to wildlife conservation whose positions and policies coincide with ours. We include their logos on any bear avoidance and wildlife stewardship educational materials for which they want to contribute matching funding. However, we do not endorse particular products and we work hard to avoid any impression that we support or recommend any particular product over any other.

For example, to avoid the appearance of supporting particular products we do not currently place any bear spray manufacturers' logos on our 11x17 bear spray poster, our 4x9 bear spray educational cards, or our bear spray brochure. Both UDAP and Counter Assault logos are displayed on our bear spray video because both firms contributed to the production of the videos. Our website provides a link to the EPA's list of all registered bear spray manufacturers.

Origin of Bear Spray Performance Recommendations

At the April 1998 Yellowstone Ecosystem Subcommittee meeting, the subcommittee members asked the Center for Wildlife Information (CWI) if we would be willing to take on the project of reviewing bear spray and sharing our findings with the subcommittee. Issues they wanted information about included whether there was a difference between pepper spray used on people and the spray used on bears, what constituted an effective bear spray (active ingredients, performance standards such as duration and distance), when and how should bear spray be used, what promotional information was accurate and what wasn't.

CWI was asked to take on this project because we had been studying the issue of conflicts between people and wildlife, especially bears, since the mid-70's, and we had been monitoring the development, testing, and marketing of bear spray since the mid-80's. The Center for Wildlife Information, through the Be Bear Aware and Wildlife Stewardship Campaign, is dedicated to reducing human-wildlife conflict by informing and educating the public about how to enjoy wildlife safely and responsibly, and we had been monitoring bear spray with great interest because of its potential as a non-lethal alternative for protecting people in confrontations with bears.

CWI undertook an extensive review of the available scientific and anecdotal literature and materials on bear deterrent sprays. Our research led us to the research done by Dr. Charles Jonkel and his associates, Carrie Hunt and Don Wooldridge. Their findings formed the basis for our recommendations. CWI also consulted research by Dr. Stephen Herrero, Dr. Tim Smith, and other researchers and biologists with extensive experience with bears.

Jim Claar
February 27, 2008

Page 3

CWI also conducted extensive interviews with dozens of bear management specialists from state and federal wildlife and land management agencies about bear behavior in charging and attacking situations, what they knew about bear spray and whether or not it worked, and what they would recommend for performance standards (duration and distance) based on bear behavior in charging and attacking situations.

CWI also contacted the Environmental Protection Agency (EPA) to gather information about the reasons for their determination to register bear deterrent sprays and what that information means to the purchasing public.

Based on our 12 months of research we developed a report and a series of recommendations capturing what we believed to be the best scientifically-based and field-tested information available on bear deterrent sprays. As requested by the IGBC, CWI presented the results of its lengthy research on bear deterrent spray to IGBC I&E Chair, Laird Robinson, in the form of a series of recommendations in March of 1999.

On June 30, 1999, the IGBC published their bear spray position paper outlining suggested guidelines for selecting a bear spray and explaining when and how to use it. This was in response to news articles, editorials, and inquiries from the public.

On July 2, 1999, the IGBC and the Center for Wildlife Information held a press conference regarding the suggested guidelines for bear spray. Laird Robinson, executive assistant to the chair of IGBC and the chair of the Information Education Committee, emphasized that the suggested position paper was prepared by bear biologists out of concern for hikers carrying ineffective cans of bear spray. When the IGBC developed its first website, the Bear Spray Guidelines were incorporated into the web site. When the new website was developed in 2007, the guidelines were moved to the new site.

In developing the recommendations that the IGBC adopted as guidelines, CWI conducted an extensive investigation into the origins, development, and production of bear deterrent sprays. We believe we used the best available science-based and field-tested information to develop our report. We cast a wide net, carefully documented our research, and preserved the materials we used in developing the report. We are confident that we provided the IGBC with the best possible information, and we are prepared to provide supporting materials and documentation to support it upon request. Please see attached list of reference materials reviewed.

Sincerely,



Chuck Bartlebaugh
Executive Director
Center for Wildlife Information

Appendix C: Department of Interior Ethics Officer review statement.

----- Forwarded by Douglas Zimmer/WWO/R1/FWS/DOI on 03/31/2008 11:29 AM

Matthew_J_Costell
o@ios.doi.gov

01/14/2008 09:47
AM

edavis@fs.fed.us

Douglas_Zimmer@fws.gov

To

cc

Subject

Re: Inter-agency Grizzly Bear
Committee question

Doug,

After review of your e-mail and subsequent discussions with my staff, I do not see any ethics violations in anything the IGBC has done. However, I would like to make a few suggestions for the future based on appearance issues. One, any further materials which are produced for the IGBC should limit the logos and names of organizations listed in the materials, to the members of the IGBC and the organization which has done the production. I would recommend that if the IGBC continues to use CWI for its publications and other materials, that CWI only include the organizations within the IGBC and the CWI logo and do not include organizations which are aligned with CWI but not necessarily with the IGBC. Secondly, I would make sure that any further materials produced with a picture of bear spray on it continue to not show the full commercial label of the manufacturer of the spray. I hope this helps, and please contact me if you have any further questions or concerns.

Matt

Matthew J. Costello
Ethics Specialist
U.S. Department of the Interior
1849 C ST NW Room 4356

Washington, DC 20240

(202) 208-4110

Appendix D: Bear spray: letters from bear biologists, managers and researchers in support of bear spray and the IGBC position on bear spray.

April 25, 2008
Patti Sowka
Montana Fish, Wildlife & Parks
PO Box 200701
Helena MT 59620-0701

Dear Patti:

I am the Forest Wildlife Biologist and Wildlife Program Manager on the Tongass National Forest in southeast Alaska. The Tongass National Forest (TNF) is the largest National Forest in the United States and is comprised of 17 million acres of temperate rainforest.

I am taking this opportunity to write you because I want to comment on the use of bear spray and make some suggestions for a recommended minimum spray duration and distance. We have both black bears and coastal brown bears on the TNF, and bear spray is an important safety tool in our program of work. In many incidents it has provided better defense than a firearm because thick cover can interfere with a clear shot and on some occasions we encounter bears on fish streams and in the alpine in sudden chance encounters. Recently, an employee defended themselves and a field crew with a firearm. She shot a bear three times and any one of the three shots would have been fatal. Although the bear was mortally wounded, before it died, it was still able to maul the employee.

The TNF has a large number of tourists visiting every year, many with little or no outdoor experience, especially in consideration of bears. We have experienced several maulings and one fatality among residents and visitors to southeast Alaska. I suggest that a lack of outdoor experience among many is one very good reason for recommending visitors carry a bear spray with minimum spray duration of 6 seconds and a minimum spray distance of 25 feet. There is likely to be erratic spraying in an intense bear charge/attack situation, and having sufficient spray to be able to adjust for this is crucial. Also, I suggest a 2-3 second burst of spray is needed to build up a significant barrier cloud of spray for the bear to have to pass through, but it's important to still have some spray left in the can in case it's necessary to spray again. In the recent paper by Tom Smith and Steven Herrero, they point out that in about 25% of the incidents where bear spray was used in selfdefense, the bear had to be sprayed more than once. The more spray in a can of bear spray, the better.

Patti Sowka
April 25, 2008
Page 2

Many bear attacks do involve sudden close encounters, but certainly not all of them, and for those situations where a bear is charging from a distance, a spray distance of 25-30 feet can make the difference between a mauling and a diverted charge. The farther away the bear is when it encounters the bear spray, the longer time the spray has to affect the bear and cause it to divert its charge.

While there are common aspects to bear confrontations, each situation is unique because of numerous variables. The number of bears, whether there is a mother with cubs involved, whether a bear is protecting a kill, whether a bear is food conditioned and habituated to people are all variables that will affect a bear's behavior. Wind, heat, and cold can all effect how well bear spray works. Having sufficient spray duration and distance to accommodate a wide variety of situations is very important for those who use bear spray for self defense. It is our responsibility as wildlife and land management agency employees to help make sure our visitors our well-informed about bear behavior and how they can avoid confrontations with bears. If the general public is going to use bear spray, how can they use it best to protect themselves is paramount in the establishment of guidelines on this important issue.

I hope this letter helps in the IGBC's review process. Thank you for the opportunity to provide input.

Sincerely,

/s/ Steven J Fadden
Tongass National Forest

NATIONAL PARK SERVICE
Glacier National Park
West Glacier, Montana 59936

14 May 2008

Interagency Grizzly Bear Committee
200 East Broadway
Missoula, Mt 59807

Dear Chairman:

It has come to my attention that some are questioning the validity of the IGBC-recommended distance and duration guidelines for bear pepper spray. As you know, Glacier National Park is home to a large population of black and grizzly bears as well as high public visitation during the summer months. Bear pepper spray is successfully used to deter attacking bears nearly every year within the park. I believe that this product has prevented many injuries and even fatalities. Glacier National Park provides bear pepper spray to its staff and encourages hikers to carry this product as well. Glacier National Park has adopted the current IGBC guidelines for selection, use, storage, and replacement of bear pepper spray, and incorporate those standards into our Bear Management Guidelines.

I believe the current IGBC guidelines are appropriate. While we cannot foresee all circumstances in which bear pepper spray may be used, it is likely that the product may need to be used against multiple animals, (bears often travel in family groups), or used repeatedly against a single animal (initial deployment may be adversely affected by wind, rain or vegetation), or both. The IGBC minimum recommended spray duration of 6 seconds would supply 3 2-second bursts. I can guarantee that if charged repeatedly by an angry grizzly bear, this will seem a minimum indeed. Anything less would truly be insufficient. Similarly, a minimum spray distance standard of 25 feet is not excessive for an animal that can charge at 44 feet/second. I cannot think of a reason for reducing these standards. Why would we want a less-effective defensive product?

Glacier National Park will continue to advocate for the protection of grizzly bears and the public. We see bear pepper spray as an important contribution to meeting both these goals. Gaining public acceptance of this product requires that it be effective. Reducing its effectiveness will erode public support and thus impede attainment of our conservation and safety goals.

Best regards,

/s/

John S. Waller, PhD
Carnivore Biologist

-----ORIGINAL MESSAGE-----

FROM: KERRY_GUNTHER@NPS.GOV [MAILTO:KERRY_GUNTHER@NPS.GOV]
SENT: WEDNESDAY, MAY 28, 2008 4:32 PM
TO: PSOWKA@MT.NET
SUBJECT: RE: FW: BEAR SPRAY

PATTY,

RECENT CRITICISM BY THE PUBLIC OVER THE EFFECTIVENESS OF BEAR SPRAY IN STOPPING AGGRESSIVE BEHAVIOR IN BEARS HAS PROMPTED ME TO WRITE WITH MY VIEWS. I HAVE WORKED WITH GRIZZLY BEARS AND BLACK BEARS IN YELLOWSTONE NATIONAL PARK FOR 25 YEARS. I CARRY BEAR SPRAY WHILE WORKING IN THE PARK AND REQUIRE MY STAFF TO CARRY IT AS WELL. I ALSO CARRY BEAR SPRAY WHILE HIKING AND BACKPACKING ON MY DAYS OFF. I AM CONFIDENT IN THE ABILITY OF BEAR SPRAY TO STOP AGGRESSIVE BEHAVIOR IN BEARS. BEAR SPRAY HAS BEEN EFFECTIVE IN MOST OF THE SITUATIONS WHERE IT HAS BEEN USED ON GRIZZLY BEARS IN YELLOWSTONE NATIONAL PARK. I BELIEVE THAT BEAR SPRAY IS A VALUABLE TOOL THAT BACKCOUNTRY USERS CAN CARRY TO DETER AGGRESSIVE BEHAVIOR BY BEARS.

I BELIEVE THAT THERE SHOULD BE STANDARDS THAT REGULATE WHAT CAN LEGITIMATELY BE SOLD AS BEAR SPRAY. THESE STANDARDS SHOULD BE BASED ON THE BEST AVAILABLE SCIENCE AND INFORMATION SO WE CAN PROVIDE THE PUBLIC ACCURATE INFORMATION. THE CURRENT STANDARDS SET BY THE EPA APPEAR TO BE WORKING WELL, AS I HAVE NOT HEARD OF ANY INCIDENTS IN YELLOWSTONE NATIONAL PARK WHERE BEAR SPRAY FAILED DUE TO PRODUCT QUALITY OR DESIGN. I BELIEVE THAT A CAN OF BEAR PEPPER SPRAY SHOULD DELIVER A LARGE EXPANDING CLOUD PATTERN OF SPRAY. A NARROW STREAM OF SPRAY WOULD MAKE IT DIFFICULT TO ACCURATELY HIT A CHARGING BEAR AND WOULD REQUIRE PRECISION AIMING UNDER HIGHLY STRESSFUL CIRCUMSTANCES.

A MINIMUM SPRAY DISTANCE OF 25 FEET APPEARS ADEQUATE, BUT ADDITIONAL DISTANCE MAY GIVE AN ADDED MARGIN OF SAFETY. I DO NOT KNOW OF ANY SCIENTIFIC DATA THAT COULD BE USED TO DETERMINE THE MOST ADEQUATE SPRAY DURATION, BUT IN CASE OF MULTIPLE CHARGES OR MULTIPLE BEARS, THE LONGER THE SPRAY DURATION THE BETTER. OBVIOUSLY AT SOME POINT THERE IS A TRADE-OFF BETWEEN SPRAY DURATION, THE WEIGHT OF THE CAN, AND THE PRACTICALITY OF BEING ABLE TO CONVENIENTLY CARRY THE BEAR SPRAY IN THE BACKCOUNTRY.

Kerry Gunther
BEAR MANAGEMENT OFFICE
YELLOWSTONE NATIONAL PARK
307-344-2162

May 19, 2008

Patti Sowka
Montana Fish, Wildlife & Parks
PO Box 200701
Helena MT 59620-0701

Dear Patti,

You may remember me from the Montana Chapter of The Wildlife Society meetings. I am the Forest Biologist for the Gallatin National Forest in Montana where I have held this position for almost 20 years. I received my MS in Wildlife Science specializing in animal behavior at Utah State, and I have been very interested in bear safety for over 30 years. Our Forest is part of the Greater Yellowstone Area where grizzly bears were recently delisted under the Endangered Species Act. We tend to have a number of bear encounters on our Forest, primarily in the fall hunting season, and in recent years, have had a number of humans mauled and grizzly bears killed in self-defense or for other reasons. Often by hunters somewhat unfamiliar with the area and unaware of the risks of hunting in grizzly bear country. Many times they do not carry bear spray.

The issue of bear spray is critical for both human safety and for grizzly bear recovery in the Yellowstone Area as well as other areas. Bear spray can save both people and bears when the proper bear spray is used in the proper manner. We have had many bear encounters occur between both black and grizzly bears and humans. We had one employee mauled by a black bear a number of years ago. We have learned from past experience, and we believe that bear spray is essential to our employee safety as well as public safety, and to decrease needless mortality of bears. On our Forest, we require all employees to take bear identification and safety and bear spray classes before beginning the field season. This training is required every 2 years of our employees.

A number of publications and information available on bear spray suggests a minimum of 6 seconds duration and a spray distance of 25 feet for the spray to be effective. I believe that 6 seconds is a minimum, but would prefer that cans actually have a longer duration. The spray has to reach a distance of at least 25 feet for it to be effective in many situations. Many situations also require multiple spray blasts (Smith et al. 2006). One of the most frightening things about bear encounters is their unpredictability. Human fear and inexperience may cause the individual using the spray to spray it all in one initial blast. There are many variables over which there is little control. It is best to at least have control over the bear spray you are carrying and know that it is of sufficient duration to last through the encounter.

Patti Sowka
May 19, 2008
Page 2

As some have said in the past, “Bear spray is not brains in a can” (but it can save your butt). Most encounters are sudden and at close quarters. There is little time to think. You don’t need to be afraid that you may not have the bear spray that will work for as long as you need it and cover the distance needed.

Smith et al. (2006) found that only 2% of people using bear spray were injured by bears, and those injuries were not serious. That is an incredible statistic based on a good sample size of encounters. They also found that wind did not have nearly the effect suspected, probably due to the fact that most encounters were physically close, and that the spray exits the can at high velocity.

The bottom line is that bear spray can save humans from injury or death, and it can save bears from being removed from the population. Bear spray that is approved or certified should not have less than a 6 second duration and a 25 foot distance. Decreases in those factors could significantly reduce the efficacy in many situations where more than one spray burst is needed up front, or if a bear returns to the site. A human that has been involved in a confrontation with a bear should not have to exit the area of the encounter with an empty can of bear spray.

Please contact me if you have any questions about my input on this subject.
Thank you for the opportunity to comment.

Sincerely,

Marion Cherry

Marion Cherry
Forest Biologist
Gallatin National Forest
P.O. Box 130
Bozeman, MT 59771
(406)587-6739 office
(406)600-9971 cell
mbcherry@fs.fed.us

Smith, T.S., S. Herrero, T.D. Debruyne, and J.M. Wilder. 2006. Efficacy of bear deterrent spray in Alaska. *Journal of Wildlife Mgmt.* 72(3): 640-645.

Interagency Grizzly Bear Committee 14 May 2008
200 East Broadway
Missoula, Mt 59807

Dear Chairman:

Recent criticism and controversy over the use of bear pepper spray has prompted Parks Canada to write with its views. The mountain National Parks of Canada considers bear pepper spray as a useful tool for enhancing personal safety to counter or deter a bear attack. We recommend that all individuals who recreate or work in National Parks carry bear pepper spray and know how to use it. In fact those precise words “carry bear pepper spray and know how to use it” is the message we convey on all our printed bear-related information to the public. In addition, all our staff working outdoors in the mountain National Parks must carry bear pepper spray.

To be effective bear pepper spray should be derived from oleoresin of capsicum at a 1.0 to 2.0 % concentration. A can of bear pepper spray should be able to deliver an expanding cloud pattern to a minimum of 25 feet. Experience and the literature tell us that in some cases both black or grizzly bears may have to be sprayed more than once. To ensure there is sufficient volume in a can of bear pepper spray to do this, we suggest minimum volume should be 225 grams and be able to deliver a spray for at least 6 seconds. All of these parameters are important because many individuals who carry and use bear pepper spray are not highly trained professionals but rather visitors to our National Parks with little or no outdoor experience. Additionally, every bear encounter, whether black or grizzly bear is unique in some manner. The combination of weather, wind, the number of bears, food conditioning, protection of cubs, etc. will all play a factor in an encounter. Bear pepper spray must be able to accommodate this wide variety of situations to be effective.

Parks Canada is committed to providing the public with the best bear related information possible. We will continue to advocate the use of bear pepper spray in all our printed material and staff will continue to carry spray as part of their safety gear. Parks Canada certainly supports and welcomes a coordinated information and education campaign that informs the public about how bear pepper spray works and the proper use of the product under a variety of conditions.

Sincerely,

Mike Gibeau PhD
Carnivore Specialist
Mountain National Parks of Canada

May 5, 2008

Patti Sowka
Montana Fish, Wildlife & Parks
PO Box 200701
Helena MT 59620-0701

Dear Patti:

As a wildlife biologist for Montana Fish, Wildlife and Parks stationed in the Beartooth Mountains of south-central Montana I have had a few opportunities to gain some experience with bear spray relative to black bears. While I have not had any experience with grizzlies I'm sure some of the same principles apply.

When dealing with food conditioned black bears it is often necessary to spray the offending bear more than once, though I have never had to spray a bear twice. That said it is critical that the canister be sufficiently large to deal with a bear at least twice. My Counter Assault cans contain about 8 ounces or 230 grams. That should be considered the minimum requirement as far as a standard recommendation.

A few years ago when dealing with food conditioned bears at Stillwater Mine the company bought some "bear spray" without my input. I don't recall the name of the maker, but it did not repel bears because the company went a bit light on the capsicum – or maybe there was no capsicum. Bear deterrents must be EPA approved and derived from Oleoresin of Capsicum. It should be 1% to 2% capsaicin and related capsaicinoids though I prefer the 2%.

Some of the people at Stillwater Mine were not necessarily used to being around bears. Some were a bit nervous when dealing with these habituated animals. With this lack of experience the bear repellent itself had to be easy to use. It was preferable that the spray be delivered in a cloud pattern. The canister should be able to deliver the spray a minimum of 25 to 30 feet. In order to lay down a sufficient cloud of spray the duration of spray should be at least 6 seconds.

Bear spray is a great deterrent with many uses. I have managed to keep bears from returning to beehives with just one remote application. But the spray must meet the minimum requirements or it will not be effective.

Thanks for the opportunity to comment.

Shawn T. Stewart
Area Wildlife Biologist
Montana Fish, Wildlife & Parks

June 11, 2008

Patti Sowka
Montana Dept of Fish, Wildlife, & Parks
P.O. Box 200701
Helena, MT 59620-0701

Dear Patti,

This letter is in regard to recent discussions and information I have received concerning the use of bear spray. I am currently employed by the USDA Forest Service and my position is that of Program Manager of the Northern Region Pack Train and the Ninemile Wildlands Training Center. My home unit is the Ninemile Ranger District on the Lolo National Forest located near Missoula, MT.

A significant portion of my duties with the pack train and training center programs is to inform and educate the public on “state of the art” techniques, practices, and equipment relating to low impact (Leave No Trace) camping and stock use practices. Appropriate methods for camping, traveling, and hunting in bear country are a very important part of our Leave No Trace message. Through the training center we annually conduct formal Leave No Trace training courses where training in bear country travel is emphasized. We also have a traveling display which we use at various outdoor sport shows to educate and provide information to hundreds of people each year.

I should point out that neither I, nor the individuals that normally assist me in putting on these bear safety programs, are wildlife biologists. We are **messengers**, spreading the word of what competent wildlife biologists are telling us in terms of the “state of the art”. Our bear awareness program speaks to five general topics: bear identification; bear behavior; food storage; hunting in bear country; and use of bear spray. Unfortunately, not all wildlife biologists are on the same page when it comes to bear management. I’m sure each one of these topics could be debated for days, however, with this letter I would like to share my thoughts and concerns specific to use of bear spray.

The first question usually asked of us is, “does bear spray actually work?” I believe we have enough information available to us where we can confidently reply “yes it does.” Next we are asked how the bear spray is used. Although techniques have changed a bit over the years, I believe we can adequately explain and demonstrate proper technique on how to use bear spray, as well as, how not to use bear spray. The next questions asked are usually, “what is bear pepper spray made of and what product do we recommend?” In other words, what specifications should one be looking for when buying bear spray? This is where our reply begins to get a little fuzzy and confusing. Keep in mind that in many cases we are trying to convince someone that they should rely on bear spray rather than a firearm for protection against a bear attack!

Patti Sowka
June 11, 2008
Page 2

In answering these questions we talk about human defense spray versus bear spray, we talk about 1-2% Capsaicin and related Capsaicinoids, and we talk about EPA approval being needed for bear spray but not human defense spray. These discussions are often foreign and somewhat puzzling to folks, especially those bent on using a firearm rather than bear spray. We also talk about weather and wind influence on the spray, and we discuss scenarios involving multiple bears and/or multiple charges. Now we hit them with the idea that a six second spray duration and a minimum 25 foot spray distance is all that is recommended. It is at this point that we often lose people's interest in converting to bear spray versus a firearm. Added to this point is the idea currently surfacing that an even smaller bear spray product may be marketed with less spray duration and maybe less spray distance. Personally, I would have a hard time endorsing a product that is less than the current recommended minimums. If anything, I would like to see the current recommendations **increased, and certainly not decreased!**

It is my understanding Patty, that you are the individual at FWP responsible for receiving comments relative to potential changes in recommendations about bear spray. If this is incorrect, please forward these comments to the appropriate individual. Thank you for the opportunity to comment on this issue, and please don't hesitate to contact me if you wish to discuss this matter, or if you have additional information that I might use in upcoming training sessions or public presentations.

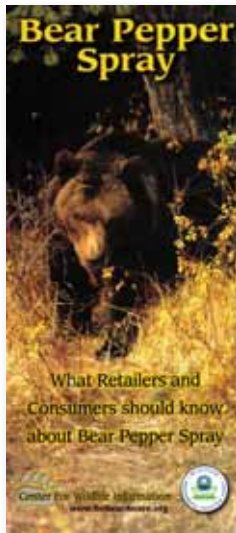
Sincerely,

/S/ BOB HOVERSON

Bob Hoverson
Ninemile Ranger Station
20325 Remount Road
Huson, MT 59846

Phone: (406) 626-5409
Email: rhoverson@fs.fed.us

Center for Wildlife Information Bear Spray Educational Products



8 Page Brochure



DVD



Educational Card 4x9



Educational Poster 11x17



Read the Label Poster 11x17



Bear spray educational materials are available for youth groups, hunter ED classes, staff training, workshops and community bear avoidance events.
For more information you can go to IGBCOnline.org or BeBearAware.org.