



**A Guidebook:**

**Non-lethal  
Black Bear  
Management**

*Prepared by Sylvia Dolson  
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### **Disclaimer:**

The research and text summary for this project were conducted and prepared by Sylvia Dolson for the J. J. Whistler Bear Society. The author assumes no liability for the use and application of the material contained within.

The approaches suggested in this document have only been used on black bears, not grizzly bears. Although we believe the non-lethal approach is also applicable to grizzly bears, we recommend caution. Furthermore, the Guidebook is intended for use only by trained professionals. It is not intended for use by members of the general public.

# Non-lethal Bear Management Guidebook

## Table of Contents

Executive Summary .....	3
Steve Searles - Unique Approach to Non-lethal Bear Management .....	4
The Theory Behind Non-lethal Bear Management .....	4
Traditional Beliefs.....	5
When Should You Choose Non-lethal Alternatives?.....	6
Effective Use of Tools .....	6
Using Non-lethal Tools in Conjunction with Live Traps and Relocation .....	8
Understanding Front Country vs. Back Country Behaviour .....	8
Underestimating the Bear .....	9
Drawing from the Deck .....	9
Pain vs. Pleasure .....	9
People will be People and Bears will be Bears! .....	10
Some Common Misconceptions .....	10
Dogs and Bears.....	12
Documentation .....	14
Responding to the Public .....	14
Long Term Benefits .....	15
Pitfalls That Can Be Avoided.....	15
Whistler's Pilot Project.....	16
History of Human Bear Interactions.....	16
A Bad Rap! .....	17
Other Proactive Measures.....	18
Why Use Non-lethal Tactics? .....	19
The Final Word! .....	19
Non-Lethal Bear Kits .....	20
References .....	22

*Cover Illustration  
By Evelyn Kirkaldy*

## Executive Summary:

An innovative new approach to bear management has come into use in North America. This cutting edge technique is more promising than any other method that has been utilized to date. It offers wildlife managers a much needed alternative to destroying the animal.

Steve Searles, better known as the Mammoth Bear Man, uses a variety of non-lethal tools combined with aggressive 'alpha' male posturing to send black bears a clear message of who's boss. With his arsenal of rubber bullets, pyrotechnics and pepper spray, problem black bears are taught to stay away from people and non-natural food sources.

Searles' approach requires a new way of thinking for humans. Using his dominance, and demonstrating a body posture and vocalizations that speak the language of the bear, Searles commands the bear's respect and reinstills its natural wariness of humans.

Currently, the most widely used method for control of 'problem' bears is to destroy the animal. This method is an ineffective long-term solution to most human-bear conflicts, because it is reactive rather than proactive. Management efforts must be focused on elimination of situations that create the potential for human-bear conflicts, in particular, bear use of non-natural food sources such as garbage and bird seed. We must focus our efforts on bear-proof waste management, elimination of backyard attractants, extensive public education programs and effective enforcement programs.

When a human-bear conflict situation arises, non-lethal tactics provide an effective management tool. An alternative to destroying the animal is to modify the undesirable behaviour through negative conditioning. The aggressive use of repellents and deterrents can reduce a bear's desire to approach humans and non-natural food sources, by eliciting avoidance responses. It must be stressed that negative conditioning should aid, but not be a substitute for preventive measures that eliminate or reduce the potential for human-bear conflicts. Repellents and deterrents should be considered a second line of defense against bear problems. Live traps, translocation and destruction can be used in conjunction with non-lethal methods, when problem bears fail to respond suitably to negative conditioning or when bear behaviour is believed to pose an *immediate* threat to human safety.

Communities need to decide their level of tolerance toward bears and establish a clear set of rules – when the bear crosses the line, it must be taught to avoid these situations through negative conditioning. We have proven that we can co-exist with wildlife by using non-lethal tools to teach bears the limits of unacceptable behaviour. Urban wildlife can be taught that certain behaviours are unacceptable and will not be tolerated by humans. The program reinstills the natural wariness of humans that animals have lost. We must command respect from bears. We can use non-lethal bear management to impose our will onto the bear.

The needless destruction of our wildlife is an emotionally charged issue that is in the hearts and on the minds of many residents. Community involvement is an integral part of the solution. This bear control program is being enthusiastically supported by the public.

Furthermore, the program creates a safer environment for people living in and recreating in bear country.

## **Steve Searles – Unique Approach to Non-lethal Bear Management:**

Steve Searles of Mammoth Lakes, California has developed a program of non-lethal black bear management techniques. This program is highly effective - zero 'problem' bears have been destroyed in his community since the inception of his program seven years ago.

Searles is not a scientist. Before becoming involved in wildlife management full-time, he was a businessman and owned a glass shop. He is an ex-trapper and hunter, now using his skills to manage wildlife.

Searles' organization, Bear Affairs, has developed alternative techniques of wildlife control other than killing problematic animals. Their goal is to continually improve and expand aggressive non-lethal methods that allow people to co-exist peacefully with wildlife. Searles, the president and founder of the organization, is employed as the Wildlife Management Consultant for Mammoth Lakes, a four seasons resort in the eastern Sierra Mountains of California.

The town's 13 police officers are also trained in wildlife management and carry a Wildlife Management Kit. The kit includes: educational pamphlets, paint pellets (for marking only), Bear Be Gone (smells and looks like a trashcan, but releases pepper spray when activated), Pepper Spray, Pyrotechnics (screamers, bangers, bombers), rubber bullets and lethal slugs. Problem bears are handled immediately as Searles is on a 24-hour pager.

You can learn more about Searles and his program of non-lethal black bear management by accessing his website: [www.bearaffairs.com](http://www.bearaffairs.com).

## **The Theory Behind Non-lethal Bear Management:**

The key to successfully managing human-bear conflict is being able to communicate in a way that facilitates an understanding by the bear. We must begin by looking at the situation through the bear's eyes, instead of ours.

If we observe bears interacting with each other, we can see that they communicate messages through their body posture, vocalizations and odour signals (Egbert & Stokes 1976; Herrero 1980). If wildlife managers use some of these forms of communication in conjunction with non-lethal tools, then they can begin to communicate with bears on a level they can understand and ultimately condition or teach bears to live by our rules. These techniques require humans to think the way the bear is thinking, rather than imposing our way of thinking onto the bear; or trying to impart our own human sentiment onto the bear.

Bears communicate with each other by establishing a hierarchy or pecking order in situations where they encounter each other (Bunnell & Tait 1981; Egbert & Stokes 1976; Herrero 1985; Rogers et al. 1976). It isn't always size that makes one bear dominant over another, it's the attitude of the dominant bear, or 'alpha', who is always in charge. Bears communicate their dominance by intimidating their opponent. Bears do not fight with each other unless it's absolutely necessary. Fight risks injury, and that is not the bear's desire. It's all about posturing.

Bears do not understand English or French, but they do understand a language of dominance and submission. By posturing or faking the bear into believing the human is in control of the situation, the wildlife manager can assert his dominance. He becomes the 'alpha' bear, if you will, or the one calling the shots. The wildlife manager's body posture and tone of voice can make it perfectly clear to the bear that it is not welcome in an area. If the bear is not being respectful of that message, it gets a 'spanking'. i.e. a rubber bullet in the hindquarter or a shot of pepper spray in its face delivered in an aggressive manner.

Effective use of non-lethal tools requires a whole new way of thinking for humans. You can communicate with a bear in much the same way you might communicate with your pet dog. When my dog strolls through the neighbourhood, all the neighbours pet her and are nice to her - they welcome her to their yards. If, alternatively, all my neighbours yelled at Samantha and sent her home, she would stay away and never visit them. It works the same way with bears.

Steve Searles communicates with bears in a language they can understand. He lets the bear know that HE is the dominant force in the situation - in other words, he is the 'alpha' bear. "I like to think the way bears think. Use the logic a bear uses. I work with the bears in a way they can understand. If we pepper spray or rubber bullet a bear to send a message - that's something they can respect. We're taking our natural spot at the top of the food chain or pecking order", says Searles.

According to Dr. Lynn Rogers, a renowned black bear biologist, we must also learn to interpret the bear's behaviour in terms of their fear as opposed to ours. If a bear blows (expels air loudly) or slaps the ground, it is displaying a nervous reaction. The bear is apprehensive; it is not displaying a threatening behaviour or an indicating an impending attack.

We must also consider the biological significance, if any, of human actions or signals. For instance, a loud siren has no biological significance to a bear. It will in fact usually ignore the siren. However, if the loud siren is accompanied by the aggressive actions of a wildlife manager displaying an intimidating body posture and vocalizing in a tone that communicates that they mean it; then you can expect to get an appropriate and respectful reaction from the bear. A barking dog also has no biological significance to a bear. For the most part, the bear has learned that barking is a harmless threat and the encounter usually ends without incident. If the dog, however, chases the bear then the bear will usually show its submissiveness by climbing a tree.

## **Traditional Beliefs:**

The merits of true aversive conditioning vs. Searles' approach to non-lethal bear management have come under a great deal of debate. Both techniques use repellents and deterrents to modify undesirable behaviour. The theory is that negative reinforcement of undesirable behaviour will elicit avoidance responses and encourage the bear to avoid humans and human food sources.

Traditionally, it was thought that aversive conditioning must be planned to allow for consistent, consecutive presentation of stimulus each time an undesirable behaviour is displayed, until the behaviour was extinguished (Skinner 1953). Based on this premise, it would not be possible to use aversive conditioning in many situations because of the huge investment in time required and the limited supply of available manpower to address the problem effectively.

Although Searles' program of non-lethal bear management uses the same tools, the effectiveness of his program is based on a totally different premise. His approach is effective because the bear is being taught to associate the 'negative' conditioning with human 'dominance'. We are actually reinstilling the bear's natural wariness of humans and teaching it to respect the natural hierarchy – with humans at the top.

## **When Should You Choose Non-lethal Alternatives?**

Searles emphasizes that whenever human safety is in immediate danger, be it a member of the community or an officer at the scene, the bear must be destroyed (humanely and efficiently) before human life is endangered. However, human safety is rarely in immediate danger. Therefore, "if the bear does not cross that line, then there's a wide-open opportunity to deal with the bear in a non-lethal way", says Searles.

Non-lethal tactics should be applied only in an area where bears are not welcome. Once a bear has returned to a wilderness area, delivery of repellents and deterrents should be ceased - that is the bear's reward, the hazing and harassing has stopped. This communicates to the bear which areas are acceptable and which areas are unacceptable places to be.

Again, it is important to note that the approaches suggested in this document have only been used on black bears, not grizzly bears. Although we believe the non-lethal approach is also applicable to grizzly bears, we recommend caution. While black bears are generally a more submissive animal by nature, they respond well to dominant actions. While grizzly bears generally exhibit more defensive behaviour, they will respond differently to dominant actions. It is recommended that all hazing actions on grizzly bears be conducted from a vehicle or vehicle side.

Caution is also recommended when aggressive predacious behaviour is exhibited by blacks or grizzlies. Although, this type of behaviour is extremely rare, it can pose a lethal threat to human life. Predacious actions can be very difficult to determine. Nonetheless, if a bear appears to be stalking a person or someone's pets; approaches or circles in a direct, stiff-legged gait; shadows a person for some distance; attempts to get into someone's tent at night (when there is no food available); or you just get a bad feeling from a bear - take it very seriously. If a person finds themselves suddenly being attacked by a grizzly bear without cubs or a black bear, where the animal does not appear to be defending an animal carcass - it is recommended that they fight back with everything they have.

## **Effective Use of Tools:**

Bears are behaviorally complex mammals and individual responses to repellents and deterrents should be expected (Gillin et al. 1992; Hunt 1984; Roop & Hunt 1986). Factors affecting a bear's response to treatment include temperament, dominance, reproductive status, past experiences with humans, and most importantly, whether the bear is a black or a grizzly. Bears that have become habituated to human presence are generally considered less of a threat.

Naive and young bears will be the most easily and quickly discouraged. As bears gain reward experience from humans they will become more persistent and harder to dissuade to avoid certain situations - but certainly not impossible. In these situations the combination of a variety of stimuli, particularly if they address more than one sense, may contribute to the effectiveness of conditioning.

For most repellents that physically contact an animal; accuracy, range and impact appear to be the critical components. Where projectiles are used, animals should be shot in the rump to decrease the chance of an inaccurate shot damaging vital organs (Clarkson 1989). Use caution as there is a possibility of penetration when rubber slugs are used at a distance less than 25 meters or with smaller bears.

The negative conditioning process must effect the perceptive abilities of the bear so as to cause the animal to associate its target behaviour with the occurrence of the officer's aggressive actions and the stimulus being delivered.

Ideally, non-lethal tactics should be applied immediately rather than waiting until the bear exhibits further inappropriate behaviour. The whole conditioning process should be maximally unpleasant for the bear without causing physical damage to the animal.

It is important that non-lethal tools are used only when it is safe to do so. Bears hit with repellents and deterrents must have a safe avenue for escape left open to them.

The effectiveness of all non-lethal management tools depend on the method in which they are applied. The person delivering the stimuli **MUST** assume the position of 'alpha' bear in the negative conditioning incident. His body posture and voice **MUST** be consistent with the negative message being delivered by the repellents and deterrents, which are simply an extension of the person. Do **NOT** use non-lethal tools in a passive manner. This sends the bear a mixed message and reduces the effectiveness of negative conditioning dramatically.

Incomplete hazing is **NOT** recommended. Non-lethal techniques should be applied aggressively until the bear has moved to neutral territory, at which time the delivery of all repellents and deterrents should cease.

The hazing process should begin slowly, but deliberately, applying least force required. Under non-life-threatening circumstances, the officer might begin by simply asserting his physical dominance and using a tone that communicates the seriousness of the conversation. If the bear is not respectful of the officer's request, hazing should be stepped up to the next level. The officer might rush toward the bear, stamping his feet on the ground – essentially bluff charging the bear. Bean bags or rubber slugs could be used to step up the conditioning to the next level. The use of screamers and bangers can be used to extend the officer's reach as the bear is leaving the area. Bears can become conditioned to the effects of non-lethal tools, particularly when they are deployed ineffectively (in a submissive or unconvincing manner). More powerful tools should be used only as they are needed, saving the biggest and most convincing only when absolutely necessary.

If Searles' program is used effectively, the wildlife manager wouldn't necessarily need any tools. He could send the bear a clear message based solely on his own behaviour, demonstrated through his body posture and the tone of his words.

'If you're not using the tools effectively, don't use them at all, otherwise you are just harassing the animal and that's an offence in the state of California,' says Searles. The key isn't what's in the tool kit, it's the method in which the tools are applied.

### **Methodology:**

- only personnel that have completed annual problem wildlife training and the annual firearms qualification should be authorized to haze bears and use deterrents
- members of the public should be secured or not present
- hazing should be administered by a minimum of two personnel (one armed with live ammunition) unless done from a vehicle or from vehicle side (5m or less)
- a safe and obvious escape route must be available to the bear
- cubs should not be hit with rubber bullets
- deterrents and live ammunition should not be loaded in the same firearm
- 12 gauge rubber slugs, screamers and bangers should only be used when a clear line of fire and a safe backstop exists
- 12 gauge rubber slugs will not be used at ranges under 22 meters, bean bags are preferred at closed range

- the preferred target area for pain deterrents is the hindquarter area
- pyrotechnics should not be used during periods of extreme fire danger rating
- an occurrence report should be completed in all circumstances of hazing or use of deterrents
- any bear subject to repeated (more than once) hazing will be evaluated

## Using Non-lethal Tools in Conjunction with Live Traps and Relocation:

If a human-bear conflict situation occurs in a heavily populated area where forested cover is not quickly accessible, the bear may be live trapped or tranquilized for relocation. It is important that the bear is released in its original territory, but away from human settlement. At the release site, the bear should be aggressively hazed and harassed before and during its release. Again, the negative conditioning process should be maximally unpleasant for the bear without causing any physical damage to the animal.

## Understanding Front Country vs. Back Country Behaviour:

When a bear enters a person's home or their vehicle, it is essentially entering their den. This is totally unacceptable bear behaviour and should never be tolerated by humans. A bear would never enter another bear's den. We have allowed the bear to 'cross the line', by making it feel comfortable in our backyards. The problem is - people in the community tend to shrink away and lower their voices to awed whispers in the presence of bears, or maybe worse, offer the bear a food reward for coming closer. The people have behaved submissively and the bear has reacted to their body language and vocalizations accordingly.

This type of human behaviour is not appropriate. Community members should NOT be encouraged to behave passively in the presence of 'front-country' black bears. "A person's house and car, reek of human presence - make no mistake about it, the bear knows it has invaded a human's 'den'", says Searles. To achieve long-term peaceful co-existence, this type of behaviour should not be tolerated. We must command respect from the bear by evicting it, in no uncertain terms. Use of non-lethal tools are very effective in this type of situation.

When you are hiking in the backcountry, however, you are in the bear's territory. Now you must be respectful of the bear's backyard. Here you should follow all the traditional rules for a bear encounter. Hike in a group whenever possible, making lots of noise and avoid known problem areas. Never approach or feed a bear. Remain calm and assess the situation. Is it a black bear or grizzly bear? Is it a lone bear, mother grizzly with cubs or a bear defending a carcass? Walk away, facing the bear and speaking quietly. Do not look directly into the bear's eyes. Act passively. Let the bear know you are not a threat.

If the bear approaches - wave arms and talk louder, so the bear can identify you as human. Leave the area but do not run - running can invoke a chase. If the bear becomes aggressive, do not play dead (unless you have encountered a defensive grizzly bear – in this case, you may have no other recourse). The bear may bluff charge or lunge toward you slapping the ground (particularly a mother *black* bear with cubs) - there is no need to panic immediately. Try to escape to a secure building or car.

If, in the rare case, a black bear attacks, try to fight back with any weapon you can find including stones and branches. Use extreme caution with a grizzly sow that

has cubs (this is when playing dead is recommended) and always back away from an animal defending a carcass – removing yourself as a potential threat. Pepper spray can be very effective when sprayed directly in the bear's face at close range.

## **Underestimating the Bear:**

One of the biggest mistakes a wildlife manager can make is to underestimate the intelligence and resourcefulness of a bear. Most of the time, we don't give bears the credit they deserve. They are highly adaptable animals and they know how to get themselves out of a bad situation with the least amount of energy expended and the least amount of risk to their own injury.

At any given time, a bear knows exactly where it is and where it wants to go. It has a built in GPS (global positioning system) or 'compass sense'. Bears are relocated great distances from their original site of conflict, but most inevitably find their way back (Miller & Ballard 1982; Rogers 1986). The point is, the bear can also find its way directly back to the woods from the middle of a residential area, if it is given a clear message to do that.

Town bears learn that human's yards and garbage cans provide a good food source. A mother bear shows her cub the location of a good berry crop, and the cub may return to that same berry crop many years later (Gilbert 1989, 1999).

Why then, can't we use this ability the bear has to remember locations against it? We can actually teach or condition the bear, through negative reinforcement, to stay away from human's cars and homes and furthermore re-instill the bear's natural wariness of humans. We are simply capitalizing on what the bear already has the ability to understand.

## **Drawing from the Deck:**

Bears establish home ranges within an area and some territories may be overlapping (Craighead 1976). Town bears generally visit an area, which includes some residential areas but mostly includes neighbouring forestlands.

If a town bear is destroyed, another one usually moves into the territory. There is no shortage of replacement bears in neighbouring habitats. The best quality habitats, particularly those near human food sources, will always be occupied by bears, especially blacks. Therefore, maintaining a co-existence with bears that have learned or been taught to avoid humans and human food sources is better insurance than dealing with an unknown bear that has just moved in to replace a bear that was destroyed.

Searles compares shooting town bears to drawing from the deck in a game of poker – "there's always a chance of drawing a wild card. Why not condition or train all the bears in your town and then let them do your work for you, as a bear will defend its territory."

## **Pain vs. Pleasure:**

Searles stresses it is NOT the pain from rubber bullets that elicits the desired result. That would be a human assumption. "Bears do not react to pain the way you and I do", says Searles. "It's that we show our dominance and command respect. Through the use of non-lethal tools, my voice can reach out and touch the bear. He thinks I'm God, the biggest baddest bear around, because I've shown him who is boss."

The point is, it's not the pain of the rubber bullet hitting the bear's hindquarter that makes negative conditioning work. It's the fact that the bear can actually feel the wildlife

manager's voice *hitting* him, if you will. Non-lethal tools are simply an extension of the human who is asserting his dominance in the situation. It allows the officer to 'spank' the bear from a safe distance, while demonstrating a body posture and vocalizations that the bear can understand and respect.

The key here is the wildlife manager's ability to take control of the situation, sending the bear a clear message of who is boss. The non-lethal tools simply allow him to do that from a safe distance.

## **People will be People and Bears will be Bears!**

Bears occupy a niche similar to people. And not unlike people, bears are attracted to a certain territory because that habitat supports life. Areas that are rich in food availability, have plentiful water sources and suitable denning/building sites are desired by both bears and people. It is no mistake that animals and humans choose the same areas to live in.

And where there are people, there will be bear attractants. Even if we implement extensive education programs teaching people how to properly deal with attractants, there will always be people who forget or who just don't know any better. Perhaps they will leave their garbage on the porch one night, or they may be away on holidays while their fruit tree ripens and are unable to remove rotten fruit from the ground. Bears will continue to access non-natural food sources because they are ruled by their stomachs. If human-bear conflicts arise from these conditions, we need to have non-lethal alternatives to deal with these situations. If we have failed to train the people on proper behaviour with respect to bears, then sometimes it's necessary to condition the bear to stay away from people and their attractants. Again, we must re-instill the bear's natural wariness of humans through non-lethal bear management techniques.

## **Some Common Misconceptions:**

It is extremely important for officers and wildlife managers to overcome their own apprehension in dealing with bears. It is also important to fully understand bear behaviour and to realize that bear behaviour is highly predictable. If we can accomplish this, then we can avoid reacting out of our own misunderstanding or unfounded fears. For example, if we understand that black bears rarely attack defensively, we can avoid overreacting to 'blustery' behaviour, like huffing or swatting at the ground. We understand that these behaviours are merely posturing acts of a bear reacting out of its own fear, not aggression.

A sow and her cubs: Although a mother grizzly bear will aggressively defend her cubs, mother black bears rarely defend their cubs. Getting in between a mother black bear and her cubs, is not nearly as dangerous as we once believed. The black bear mother will simply tree her cubs for safety.

Treed Bears: If a bear climbs a tree, it is acting submissively - it is trying to get out of an uncomfortable situation. Treed bears are not a threat to human safety. The treed bear will come down and leave once human activity settles down.

Bears on the Porch or Balcony: Again, we don't give bears enough credit - they are far smarter than we'd like to admit. If a bear found its way up onto someone's balcony to eat garbage, it can also find its way down again. When properly motivated, it can do it in two seconds flat. We just need to do a better job of communicating that message to the bear.

The bear needs to know its behaviour is inappropriate and it will not be tolerated. Through the use of aggressive non-lethal tactics, a wildlife manager can easily and quickly deliver that message to the bear.

Natural Crop Failures: Berry crop failures are part of nature's cycle. Eventhough alternative wild foods are usually available, difficulty in finding food may drive bears closer into residential neighbourhoods. But, it does not give the bear the right to feed on garbage or invade a human's home or vehicle. Feeding on garbage or other non-natural attractants should never be tolerated. I am not suggesting that bears shouldn't feed on berry bushes or skunk cabbage at the edge of someone's property. That is something the individual homeowner must decide based on his level of comfort around the animal and whether or not he can trust his small children or pets to behave appropriately around the bear. If a homeowner is uncomfortable with a bear in their backyard, they should 'shoo' the bear away. If they are not prepared to 'shoo' the bear away on their own, then they should phone the local officials to handle the situation for them.

Food Conditioned Bears: Bears that are conditioned to non-natural food sources can be taught to avoid people and non-natural attractants through negative conditioning. Although the officer may have to use more persistence with an already food-conditioned bear, negative conditioning has been highly successful when applied under these conditions. Contrary to previous beliefs, food conditioning is not a precursor for aggressive behaviour. There is no need to destroy a garbage-conditioned bear that has committed no other offence. Searles states, with great certainty, that a garbage conditioned bear can be taught to stop eating trash and he has the track record to prove it.

Habituation: – A habituated bear is a GOOD bear! Contrary to what wildlife managers have thought in the past, habituation is a desirable trait. Habituation is defined as the process of becoming tolerant to the presence of humans in the bear's territory, after repeated (positive) exposure. Habituation does NOT infer garbage-conditioning. Habituated bears are generally less dangerous than wild bears as they have learned to be comfortable in the presence of people and require a smaller personal space.

An Ongoing Dialogue: Training bears to live by our rules is an ongoing conversation or dialogue. One treatment may not always be enough. A bear might require several negative experiences to overcome years of receiving positive food rewards. Eventhough bears are highly adaptable animals and quick learners, the occasional reminder or 'spanking' does not signify a failure of the program. It's not unlike bringing up our own children, occasionally we need to show our persistence to achieve the desired result. Both bears and children can be stubborn, if they think they can get away with it.

An old bear can be taught new tricks:

It is sometimes easier to teach bears than people. Bears are far more adaptable than people and are quicker to change. The fact that there are so many black bears living in and around our communities is indicative of just that. Black bear populations are unnaturally high where ever they come into frequent contact with humans and human garbage - testimony to the black bear's tolerance for people and its ability to survive amongst them.

The use of Hunting to control 'problem' bear activity: Hunting actually has a negative effect on maintaining a well trained resident bear population. Large males are usually the target of a trophy hunter – these are the same bears that are the most desirable to have as residents

in your town population as they keep the other less dominant bears out. Furthermore, according to Dr. Lynn Rogers, “trying to reduce nuisance problems with a general hunt is no more effective than trying to control crime by shooting into a crowd.”

## **Dogs and Bears:**

Karelian Bear Dogs (KBD) have been used for decades to trail and bay game species, particularly grizzlies. KBD's were initially used in Western Russia and Finland to hunt bears and also to guard the ranch and farm and the families that lived in them.

Today, KBD's are used in ‘bear shepherding’ to chase bears out of an area or protect property. Bear conflict specialist Carrie Hunt, heads up the "Partners in Life" program at the Wind River Bear Institute in Utah. Hunt and her team of biologists and KBD's are working from Alaska to Alberta to Montana to modify bear behaviour so that problem bears do not have to be relocated or destroyed. In combination with pepper spray, rubber bullets and on-site trap releases, Hunt teaches bears to change undesirable behaviours. She teaches bears to behave in a manner that does not put them in conflict with humans.

Karelian Bear Dogs have become increasingly popular among wildlife managers. Searles works with a KBD. Most dogs can be trained to help deter bears from entering a yard or backcountry camp. Backcountry hikers with an untrained dog, should be forewarned that their dog could provoke a bear or chase the dog back to its owner creating a potential conflict situation. All dogs should be trained not to chase or harass other non-dangerous wildlife.

### **Hints from Carey Hunt’s “Partners in Life” Program:**

- Always make sure the bear can do what you are asking. Be sure you are giving it a clear, consistent message and options for leaving. Make the right thing easy, and the wrong thing difficult when setting up your lesson!!! Make sure that what you make a bear do is what you want it to learn!
- Remember you are working with a bear’s attitude – that is what is getting it into trouble. Do not attempt to teach a bear to stop at specific distances from people, roads or houses. Instead, teach a bear to choose to move as a ‘wild’ bear would, using cover and moving away from people when confronted.
- Take time to stop and make a safe, meaningful lesson plan.
- Take time to talk to the public about what you are doing and how they can help.
- Know your projectile loads and make them count! Don’t ‘pepper’ (same as nagging) the bear with ‘hits’ that are from too far away. (ie. bean bag rounds at 25 meters are too far – they are made for 5 meters. Use a rubber bullet instead. You lose credibility with the bear. The bear needs to know that it NEVER wants to get hit again – that its not worth it to go back and do it again.) Only take safe shots to the rump of the bear. Place your cracker shell rounds on the ground behind the bear.
- If you use dogs – know your dogs and make sure you have picked the right ones for the job at hand. Three to four dog and handler units is the preferred number to make up a ‘team’ for forcing a bear to move away, two units minimum. Within each team, make sure you have at least one dog that barks well and two dogs that can be turned loose on a bear if necessary. Take into account the species of bear you are working with when choosing which dogs to use.

## **ROADSIDE BEARS**

### **Lessons to be Learned by Bear:**

- to move away from approaching vehicles, stopped vehicles and people on roads;
- to use cover by moving into total cover so that it cannot be seen when confronted by vehicles or people on the road; and
- it can use the roadside when there are no vehicles or people present or in the darkness of night.

### **Tips for Teaching Roadside Bears:**

- Remember you are working with a bear's ATTITUDE – that's what is going to get it into trouble – not the distance it is from the road. If the bear knows you are there and he is not moving off, you should be doing something about it.
- You should action the bear the first time you see it staying out of cover when there are vehicles around.
- Be sure to start your action from the roadside where the bear can see you, yell "Hey bear" before shooting. If it is too far off the road to hit with a projectile, shoot cracker shells and yell "Get out of here bear". If that doesn't move the bear, walk into it to shoot projectiles and yell at it "Get out of here bear" as you walk – this gives it a chance to do the right thing – never sneak up on a bear to shoot at it.
- SHOOT AT THE BEAR ONLY UNTIL THEY GO INTO COVER AND YOU CANNOT SEE IT.
- If bear is trotting toward cover – do not shoot but keep yelling until it goes into where you cannot see it. Shoot if it stops or slows down before in cover.
- If bear is trying to cross the road DO NOT STOP WHERE IT CAN SEE YOU. If it stops roadside while you are there – make it go back in cover and drive on. Then let it cross behind you, GIVE IT TIME TO CROSS BEFORE YOUR NEXT PASS.
- Drive the road immediately following an action and repeat the lesson consecutively as many times as your schedule permits. – the first hour after an initial action is the most important to instill a clear message as to what the bear is doing wrong.
- When making consecutive passes to monitor a bear IT IS VERY IMPORTANT NOT TO STOP TO LOOK FOR THE BEAR – keep driving to reward it for being in cover...until it comes back out. This is critical for success and a very common error.
- Do not work the bear on the roadside after dark.

## **SITE SPECIFIC BEARS (ie. Campground, town site camp, house)**

### **Lessons to be Learned by Bear:**

- to choose not to enter these sites and view them as it would a dominant bear's personal space or 'boundaries'
- to learn that these sites are not worth investigating; and
- to stay in cover out of view from the perimeter of a site.

### **Tips for Teaching Site Specific Bears:**

- PREVENTION IS KEY FOR SITE SPECIFIC PROBLEMS – Get rid of attractants if possible. If not, make sure all bear attractants are secure from bears. TALK TO THE PUBLIC about what you are trying to do.
- Decide what your site perimeter is that you will not allow the bear to be inside. DON'T LEAVE THE BEAR INSIDE THIS PERIMETER WHEN WORKING IT – this is confusing to the bear.

- When working the bear to get it out of a site, DO NOT SHOOT AT IT ONCE IT HAS EXITED YOUR PERIMETER – BE SURE YOU STOP AT THE PERIMETER. You must signal the bear as to what is 'safe'. This is a common error.
- If a bear begins to show itself near the perimeter but outside of a site, ask it to use cover and teach it as you would a roadside bear.
- Bears must be worked night or day to teach them to stay out of sites.
- Be sure to yell "Hey bear" before shooting, and continue to yell "Get out of here bear" while chasing it out.
- NEVER GO LOOKING FOR A BEAR IN A 'SAFE' PLACE! Do not push a bear you are working with OUT of a good spot by driving into a 'safe' spot for the bear to get a radio location or a visual. GET YOUR RADIO LOCATIONS FROM PLACES YOU DO NOT WANT THE BEAR TO BE...OR WHERE THE BEAR IS NOT. THIS IS ONE OF THE MOST COMMON MISTAKES MADE and it is very confusing for the bear!!

You may contact Carrie Hunt at:

P.O. Box 307  
 Heber City, Utah 84032  
 Phone/Fax: (435) 654-6644  
 Website: [www.beardogs.org](http://www.beardogs.org)

## Documentation:

It is important that all complaints are properly documented on standardized forms. If the complaint is attended, the following information should be noted:

1. date & time officer arrived/departed
2. location of incident
3. reason for complaint
4. name, phone number & address of person complaining
5. description of bear including identifying characteristics
6. nature of bear behaviour on arrival
7. non-lethal techniques used - number & type of devices deployed and order of deployment - was bear marked?
8. description of bear's reaction to hazing
9. follow-up action required (if any) ie. ensure removal of bear attractants (if cause)

All documentation should be organized and filed. Summary information should be produced regularly and distributed to all interested parties. Information should be reviewed by all those involved and evaluated to determine where improvement is necessary. Officers should review any new calls or incidents at the beginning of a shift.

## Responding to the Public:

In order to facilitate good public relations policy and a general atmosphere of cooperation, it is important that members of the community are dealt with in an appropriate manner.

Officials fielding telephone calls from the public should encourage and thank the caller - make the caller feel that he is part of the solution.

If a caller is simply advising the official of a bear passing through the neighbourhood, then they should be thanked for the information. The caller should be advised to remove any bear attractants from their property. This is an excellent opportunity to educate the caller. You should also ask the caller to speak to their neighbours and pass along this important information. Lastly, the caller should be asked to report back if and when they witness that bear eating garbage or threatening human safety, property, or pets and livestock.

If a caller is reporting aggressive behaviour, an officer should be sent out immediately to evaluate the situation – particularly if the caller reports any behaviour suggestive of a predacious bear such as stalking, chasing or acting strange towards humans or their pets. In the mean time, the caller should be asked to stay safely indoors.

Officers should always attend a call with back up. Back up officers should provide crowd control and be prepared with lethal means in the event that human safety is in immediate danger. Risk of injury to the public is very minimal, as bears will almost always flee a confrontational situation rather than fight.

As responsible wildlife managers, we must learn to give bears the benefit of the doubt more often. A bear should only be destroyed when there is clearly an *immediate* risk to human safety.

The public not only supports this type of bear control program, but are demanding non-lethal bear management alternatives. The use of this program will enhance the reputation of wildlife managers in the eyes of the public and furthermore build a system of mutual trust and respect.

## **Long Term Benefits:**

Non-lethal bear management techniques contribute to a more stable and natural population size, reducing population fluctuations. By eliminating bears' access to non-natural food sources through responsible bear-proof waste containment and reducing availability of backyard attractants; the bears' reproductive capacity will subside and in time curtail unnaturally high populations.

Furthermore, if we destroy a bear in an area, a new bear will simply move into that habitat niche. But if we properly train the resident bear population, they will also help us do our job by keeping other bears out, especially the younger subadult males (teenage trouble-makers).

The use of non-lethal bear management techniques results in a smaller population of longer-lived unconditioned bears that cause significantly fewer problems and thus require less manpower to deal with. People and bears can start to co-exist peacefully, because we will have re-instilled the bears' wariness of man and returned the natural balance to the ecosystem.

## **Pitfalls That Can Be Avoided:**

When a community electric fences their landfill and installs bear-proof waste containers, bears are displaced from many of their calorie-rich garbage sources. Normally after access to human garbage is eliminated, the number of bears that get into trouble goes up dramatically, resulting in a higher than average rate of destruction (Craighead &

Craighead 1971). Use of non-lethal bear management can be successfully used to offset these tendencies, as it was in Whistler, BC and Mammoth Lakes, CA. Hiring a wildlife liaison officer for a period of one to two years is recommended to aid in educating the community and facilitating an understanding of the transition period.

## **Whistler's Pilot Project:**

Beginning in 1999, Whistler RCMP, the Squamish District Conservation Officer Service and the Whistler By-law Enforcement Department were the first in the province of British Columbia to undertake this program of non-lethal bear management. Officers were trained and equipped with non-lethal kits containing rubber bullets, bean bags, bangers, screamers and pepper spray. The program has been very successful in Whistler and is now being recommended for use province wide.

The number of complaints received has declined significantly, resulting in far fewer 'problem' bears being destroyed.

From 1993 to 1998, on average, one bear was either destroyed or relocated for every 4.8 complaints received. In 1999, after implementing non-lethal management tactics, one bear was destroyed or relocated for every 11.9 complaints received. That is a better than two-fold improvement, even though the number of complaints received during 1999 increased dramatically (doubling over last year). In 2000, one bear was destroyed for every 92 complaints received and in 2001, one bear was destroyed for every 20 complaints received.

Non-lethal tactics were used in approximately one quarter of complaints attended. In the majority of cases, no action was necessary because the bear was G.O.A. (Gone on Arrival).

In addition to the introduction of non-lethal bear management, the Municipality of Whistler installed bear-proof waste containers, electric fenced its landfill, implemented extensive public education programs and a rigorous bylaw enforcement program.

## **History of Human Bear Interactions:**

During the last century, our attitude toward bears has differed many times. Throughout history the bear has been revered by many cultures, who believed the bear possessed wisdom and power. Among native peoples, few other animals were honoured with as much ritual attention as the bear.

Early settlers, however perceived the bear as a threat to their meager resources and considering them incompatible with human habituation, settlers killed them in defense of their crops and livestock. After the frontier mentality wiped out vast numbers of bears, even causing them to become extinct in certain areas, people's attitudes again began to change. People started taking an interest in protecting some of our last remaining natural resources and many National Parks were formed. During the 40's and 50's, bears became a roadside attraction and were often hand-fed. Park wardens set up feeding stations with bleachers, where interested onlookers watched in amazement.

Then when bears began looking to people as a provider of food (just as we had taught them to do), government officials decided that this too was not an appropriate situation. So we began striking fear into the hearts of people, threatening them with loss of their life, if they befriended these dangerous and unpredictable animals. So as

you can see, we have fluctuated from one extreme to other several times.

It is time to teach the truth. I firmly believe we must stop lying to the public about the true nature of bears. Not only are we doing them a dis-service, but we will eventually lose credibility. Anyone who has spent considerable time in the company of bears, with a good understanding of bear behaviour, and an open mind - not paralyzed by fear, knows that bears are not as dangerous as most would have us believe. Bears are not mean or malicious. We know that bears, particularly blacks, are passive by nature and they are not normally aggressive.

The truth is finally surfacing in literature and video. The newly released IBA video, *Staying Safe in Bear Country*, states that "bears are more predictable than most of us think. Labeling them as unpredictable shuts the door to understanding."

## A Bad Rap!

Bears have long suffered from an unearned bad reputation. Fear of bears permeates our belief systems. During the last century, civilized man has developed an ambivalent love-hate relationship with bears. People are almost schizophrenic about bears. We love them and fear them; we are fascinated by them, yet weary at the same time.

Cute and cuddly teddy bears adorn every child's bed, yet fierce and ferocious bears torment us in our nightmares. We love to see bears near us, but we prefer the safety of a secure metal enclosed vehicle between us and them just in case.

In reality, bears pose only a very minor threat to human safety. It is the people who must overcome their fears before we can co-exist together peacefully.

Fear of bears is truly unjustified. According to researcher Dr. Lynn Rogers, wildlife danger is often highly exaggerated. Folks love to tell scary stories around the campfire, embellishing their stories for entertainment value.

The media prefers to focus its attention on a few rare attacks, rather than the thousands of incidents annually where the bear avoided the people. According to a study done by Stephen Herrero and Andrew Higgins (1960-1997), the probability of a human suffering serious injury from black bears and grizzlies is one in a million in B.C.

People who don't spend a lot of time in the company of bears, tend to misread or misunderstand a bear's intentions. A bear can not relate to a human by speaking English; instead they must use body postures, gestures and vocalizations to express themselves. All too often officers, particularly those that are less experienced in dealing with bears, misunderstand the bear's communications. For example, a mother black bear may *bluff* charge to defend her young. But, it is just that - a bluff.

This misinterpretation of bear behaviour, combined with a learned fear of these potentially powerful creatures, has unjustly put the bear on our most dreaded list.

Being face to face with a bear - despite a well-meaning attempt at rational thought - fear may overcome you. Unfortunately it is the bear that is most often the loser in these situations. *Bears are usually destroyed not for what they have done, but for what we are afraid they might do.*

When black bears are hesitant or nervous near people, they may lunge and explosively expel air while slapping the ground or surrounding vegetation. Researcher, Dr. Lynn Rogers and others, have witnessed this startling and sometimes frightening display many times. Never however, during 35 years of study, has this display been followed by an attack. Rogers says it means the bear is nervous and apprehensive.

Black bears are actually very accepting of people and practice amazing restraint in their presence. They are extremely tolerant of humans and their actions, even when those

humans misbehave or show poor judgement. People often tell of 'close calls' with dangerous wildlife. It's amazing, however, how many of those 'close calls' never ended in an attack. Dr. Lynn Rogers prefers to characterize the black bear much more by restraint than by ferocity.

"Most interactions between bears involve considerable tolerance and restraint. They usually display the same tolerance towards people. Most bears avoid people without the person even knowing it was there. Each year countless interactions occur between people and bears without harm. A meeting... a mutual departure... no attacks, no injury, no news. But on rare occasions a meeting between a bear and a person results in human injury or death. Sometimes it's necessary to destroy bears in defense of life and property, but each year, hundreds of bears are also shot needlessly." (Staying Safe in Bear Country Video, 2000)

Bears have attacked and injured or killed people. In B.C., from 1960-1997, there were 22 attacks by black bears and 49 by grizzlies leading to serious human injury or death. Most of these attacks were by adult female grizzly bears. The most serious or fatal grizzly bear incidents seemed to involve the bear being startled at close range (<50m). Attacks by black bears are usually by males (50% adult/50%sub-adults) and in most cases the motivation was possible predation. (Herrero and Higgins 1998)

These rare attacks need to be put into perspective. The odds of being struck by lightning or killed by a bee sting are many times greater than being attacked and killed by a bear. You are 67 times more likely to be killed by a domestic dog. For every person killed by a black bear, there are approximately 17 deaths from spiders, 150 deaths from tornadoes, 180 deaths from bees and wasps, 374 deaths from lightning, and tens of thousands of homicides. (Rogers 1994) It is far more likely you'll be killed in a vehicle accident on the way to the wilderness than by a bear.

## **Other Proactive Measures:**

To achieve a peaceful co-existence between man and wildlife, the Ministry of Water, Land and Air Protection needs to amend its policies - problem wildlife should not be destroyed unless it clearly poses an immediate threat to human safety. That threat must be professionally documented and recorded.

We must encourage our communities to address the problem in a proactive manner. Reactive measures, such as destruction, have never solved long-term problems. They cause extreme public outrage. The communities of British Columbia must be encouraged to bear-proof their waste containment and to educate the people on the dangers of food-conditioning. Governments at all levels should provide incentives to share the cost of such initiatives.

Governments should initiate a rigorous advertising campaign to help people understand the dangers of attracting wildlife to non-natural food sources - including improperly stored garbage, bird feeders, dirty barbecues, smelly compost, pet food stored outdoors, backyard fruit trees, and bee hives. This advertising campaign could include radio and TV spots; mailouts of pamphlets and flyers in known problem areas; posters; and educational kits provided to help educators teach our next generation. Governments should encourage community involvement by partner-shiping with animal welfare foundations to share in their initiatives.

Enforcement programs must accompany these proactive measures. Persons with bear attractants on their properties must be heavily fined – a zero tolerance policy should be our ultimate goal.

## Why Use Non-lethal Tactics?

1. Teaching bears the limits of unacceptable behaviour creates a safer environment for people living in and recreating in bear country.

2. Non-lethal means - rubber bullets, pyrotechnics and pepper spray - are one more tool wildlife managers will have in their arsenal of bear management techniques. Most importantly, non-lethal tools provide the officer with another option - an alternative to lethal means. If you don't have the tools, you don't have any options.

3. This program has proven to be a useful public relations tool, enhancing the public's perception of officers and their commitment to behave responsibly and ethically. This non-lethal bear control program is being fully supported by the public. Members of our communities are very unhappy with the high number of bears being destroyed each year. They are angry and they want our governments to seek alternative management methods.

## The Final Word:

### What we know:

1. Where there is suitable habitat, bears will continue to exist, particularly blacks.
2. The human population will continue to grow and encroach on bear habitat.
3. *People will be People* - they will continue to make attractants available to bears either intentionally or unintentionally. (Bear-proof waste containment, education and enforcement programs will reduce the availability of attractants dramatically - do not overlook these proactive measures.)
4. *Bears will be Bears* - they are ruled by their stomachs and will continue to seek out non-natural food sources if we permit them to.

### How we've tried to solve the problem so far:

1. Do nothing - doesn't work
2. Relocation - has had limited success
3. Destruction - doesn't work

### The Answer:

Managing undesirable bear behaviour with non-lethal tools is the primary "responsible" option - there should be no debate. It is a NO LOSE choice. Relocation can also be employed as a secondary non-lethal option where appropriate – particularly when combined with Searles' techniques at the release site.

According to Searles, "If the tools & methods don't work, you still have the option of destroying the bear - it's a 5 cent, 2 second solution. The point is, you will rarely have to choose that option."

The community members, who are the owners of our wildlife, support non-lethal options. Let's do the responsible thing!

## Non-Lethal Bear Kits:

Each kit contains:

- 1 Waterproof Carry Case
- 50 .22 cal blanks
- 50 Bangers
- 50 Screammers
- 50 Flaming Whistlers
- 25 12 gauge Shell Crackers
- 10 Rubber Slugs - 12 gauge
- 3 Bean Bag - 12 gauge
- 3 Marking Device – 12 gauge
- 2 12 gauge lethal slugs

Equipment required to deploy devices:

- 12 gauge shotgun
- 15 mm pistol launcher

Bangers - These devices are launched from a 15mm pistol using a .22 cal blank. These cartridges explode with a loud bang after traveling 25m. The acoustics are very loud, providing a very good noise stimulus and are very consistent. The disadvantages are that they are slow to reload and cumbersome in low light conditions.

Screammers - These are launched from a 15mm pistol. With a reported range about 75m, screamers produce a loud screeching noise through complete travel, with a visual effect in low light. They can have an inconsistent range and be very unpredictable. They provide a very good noise stimulus but share the same disadvantages as the bangers.

Flaming Whistlers – Also launched from a 15mm pistol, they have a loud pronounced whistling with a highly visible sparkling tracer effect. High Fire Danger.

12 Gauge Shell Crackers - These shells are designed to be used with the standard issue 12-gauge shotgun. Shell Crackers explode with a loud bang at the end of travel. They have an extremely long range (approx. 75m) and were found to be very consistent in range and accuracy, during practice. Caution must be exercised as the cardboard sometimes sticks in the barrel.

12 Gauge Rubber Slugs - These slugs are designed to be fired from the standard issue 12-gauge shotgun. They are very accurate up to a range of 75m; however, there is the possibility of penetration if used at a distance of less than 25m. Rubber slugs are not recommended for use on small or underweight bears. Follow-up shots can be made quickly.

12 Gauge Bean Bags - Two types of beanbags can be used, one marking and one non-marking. Both beanbags were designed to be fired from a 12-gauge shotgun. The marking beanbags contain a yellow dye designed to 'mark' the bear. Experience with these found them to be ineffective at leaving a distinguishable mark. They are accurate to 25m and are designed to be fired at a range less than that distance, ~ 6m.

## OPTIONAL TOOLS:

Pepper Spray - A very effective repellent for bears, when sprayed directly to the eyes of a bear. Capsicum is a local irritant of sensory nerve endings. Toxicity tests have shown no lasting harm to the skin or eyes of humans, dogs or rabbits. The effect of the spray lasts about 15 minutes and can be washed off with soap and water. Strength of the spray varies - 10% capsicum solution is recommended. Spray range also varies from 3m to 8m - check the directions carefully. It should be noted that wind, vegetation, or other factors may decrease the product's effectiveness. In several test studies, virtually 100% of bears were repelled by pepper spray - the bears turned immediately and ran away. Only in rare cases were aggressive responses noted. Herrero's evaluation indicates that pepper spray is more effective when used on grizzlies as opposed to black bears.

Paintball Gun – Paintball guns are effective for marking bears – paint is water soluble. Also effective for gently herding a bear through a busy residential area - stray pellets are not as likely to cause harm to bystanders.

For more information or additional copies of the guidebook, please contact:

Sylvia Dolson, Executive Director  
J. J. Whistler Bear Society  
204-3300 Ptarmigan Place  
Whistler, BC V0N 1B3  
Phone/Fax: (604) 905-4209  
email: [sdolson@bearsmart.com](mailto:sdolson@bearsmart.com)

Steve Searles, President  
Bear Affairs  
P.O. Box 8619  
Mammoth Lakes, CA 93546  
Phone/Fax: (760) 934-6742  
email: [steve@bearaffairs.com](mailto:steve@bearaffairs.com)

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