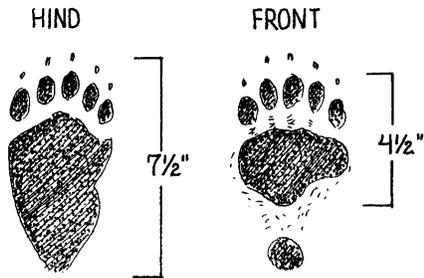




Washington Department of
FISH and WILDLIFE

Managing Bear Conflict:

A Manual for WDFW Field Personnel



Informational sources used in creating this manual:

- (1) Staying Safe in Bear Country, A Behavioral Approach to Reducing Risk (video). Magic Lantern Communications, Toronto, Canada
- (2) Bear Shepherding Guidelines For Safe and Effective Treatment of Human/Bear Conflicts. Wind River Bear Institute, Missoula, Montana
- (3) Sports Afield Magazine, May 2003
- (4) Black Bear Trapping and Restraint. California Fish and Game
- (5) Wildlife Handling and Chemical Immobilization for Wildlife Professionals. Global Wildlife Resources.

Special Note

This manual is intended to be a reference guide for WDFW field personnel involved in managing black bear conflict (wildlife and enforcement programs) and to promote professionalism. However, it is NOT a chemical immobilization manual. Immobilization delivery systems, legal responsibilities associated with chemical immobilization (such as DEA compliance, drug usage, documentation, and storage), drug types, drug effects, and proper dosages are critical topics that are NOT covered in this manual. All field personnel should be familiar with WDFW animal handling protocols and should have attended formal WDFW immobilization training courses provided by WDFW veterinarians before handling any wildlife in the field.

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SECTION 1: BEAR BEHAVIOR AND AVOIDING CONFLICT

Understanding Bears

WDFW field personnel should be familiar with and understand bear behavior, for many reasons. First and foremost, to protect yourself should you encounter a bear in the field. Also, it is important that a clear and consistent message is given to the public statewide. Many WDFW personnel are frequently asked questions about bear behavior, and it is important that our message is consistent and based on science. While Washington likely has less than 20 grizzly bears in the state, and almost all encounters will be black bear related, this guide covers both species.

- The first thing to keep in mind is that bears don't want trouble and will go out of their way to avoid contact with people (grizzly or black bear).
- Second, all but a fractional percentage of bear/human encounters end peacefully. These sentiments have been tempered somewhat by the fact that the chances for an encounter may actually be higher today than it was in past decades. Nonetheless, the encounter statistics are still valid.
- The safest way to reduce risk during a bear encounter is to understand as much as possible about bear behavior and motivation, and then respond properly. The notion of "unpredictability" of bears closes the door to a better understanding of bears and denies a great deal of consistent behavior that we can usefully interpret.
- Remember, knowing the type of bear you encounter is essential:
 - ✓ Grizzlies, which evolved in open country, are more likely to make a stand and defend themselves when threatened.
 - ✓ Black bears evolved in forests and are more agile tree climbers and tend to retreat (but remember, grizzlies can climb too!)
 - ✓ Color and size are not reliable techniques to differentiating between the two species. The most reliable characters of a grizzly bear is that they have a distinctive shoulder hump, a "dished" facial profile (black bears have a straight facial profile), and long "rake-like" claws (black bears have short, curved claws).
- All bears exhibit similar body language clues that you can read to decipher their dispositions and possible intentions. Particularly important are signs of stress, which is the prime motivation behind many charges or attacks.
 - ✓ A lightly stressed bear will display any or all of the following: pause in its activity, stiffen its stance or change its body orientation, or yawn out of context.
 - ✓ A more heavily stressed bear often huffs, moans, or pops its teeth.
 - ✓ A highly stressed bear will put on more aggressive displays, including salivating; rapid, vocal huffing; roaring; open mouthed "jawing"; paw swatting the ground; growling or emitting guttural noises; and charging or false-charging (when a bear stops short of actual contact).

- Do everything you can to avoid encounters. Prevention is the best advice! Stay alert and aware of your surroundings when in bear country. When in bear country, don't surprise a bear (remember, bears are only interested in feeding). Warn them of your presence by making noise as you travel through. Choose campsites carefully, well away from bear trails, food sources (like soft-mast shrubs that have berries on them), and areas known to have bears. Keep a clean camp, free of attractants like food, food odors, garbage, and unwashed dishes and cookware. Never take food or toiletries into tents; remember that the clothes you cooked food in will smell like food so sleep in odor-free clothing.
- ALWAYS REMEMBER..... bears are among the most intelligent of animals and are accomplished problem solvers. Use bear-proof containers to store food when you are in bear country. Don't learn the hard way as thousands of others have before you.
- Human-habituated bears are bears that, because of prolonged exposure to people, have lost their natural fear or wariness around people.
- Human-food-conditioned bears are bears that associate people with food. Such bears can become aggressive in their pursuit of a meal.

Types of Bear Encounters

First, it is important to provide a clear definition of an encounter. A bear sighting should NOT be considered an encounter. An explanation of an encounter is: a situation in which the presence of one or more people causes a change in the behavior (response) of one or more bears. If you encounter a bear on a trail, or if one approaches, knowing the distinction between the "defensive" and "non-defensive" nature of a bear is key to your response and can affect the outcome of the situation. Remember, most bears will avoid you if possible. But, when they don't, there are usually reasons why, and they can be grouped into 2 categories:

- First, are *defensive encounters*, in which the bear is threatened by your presence. It could be because you entered its space, surprised it or made it feel crowded. A defensive bear might also be protecting itself, cubs, or food. Such a bear will appear agitated and show obvious signs of stress (see above for signs of stress). Almost always, defensive attacks on humans involve a grizzly bear surprised at close range, feeding on a carcass, or protecting its cubs.
- Second, are *non-defensive encounters*, and they can occur for several reasons. A bear may be simply curious; its approach slow and hesitant, ears and head raised as it sniffs the air. Or, a bear might be human-habituated, unconcerned with the normal activities of people (the bear could turn aggressive if it feels crowded). Human habituated bears are, of course, looking for a meal; they can be bold and deliberate and hard to dissuade. Sometimes, a bold bear will approach a human to test its dominance.

- ❖ Another type of non-defensive encounter, although extremely rare, is a predatory encounter in which a bear sees you as a potential food source. This type of encounter is discussed below, but may likely never be observed.

What To Do If You Encounter A Bear

This is probably the most asked question that WDFW field personnel will get in the field regarding bears. Again, it is extremely important that a clear and consistent message is given to public statewide and it is based on science. While no response is uniformly successful 100% of the time, the suggestions below are made up of the best available science regarding bear encounters.

- If you see a black bear or grizzly bear, stop, remain calm, and assess the situation. If the bear seems unaware of you, move away quietly when it's not looking in your direction. Continue to observe the animal as you retreat, watching for changes in its behavior.
- Don't shout at a grizzly that is unaware of you; that could provoke an attack. If the grizzly becomes aware of you, you need to let it know you are human and not prey. Wave your arms slowly and talk to the bear in a low voice. Try to slowly increase your distance from the bear, moving upwind if possible to give the animal your scent. If the bear seems unconcerned, leave the area slowly and steadily. Never run – that could invite pursuit.
- Never intentionally approach a black bear or grizzly bear, even if it seems calm. Proximity can invoke an aggressive response.
- Often, a grizzly bear or a black bear will move away when it realizes your human. It's also best to leave the area yourself, but if you must continue on (to get back to civilization), give the bear time to gain some distance. Proceed alertly and cautiously, making noise as you travel (to let the bear know your whereabouts).
- If you hear bear sounds and vocalizations, or if you see cubs or yearlings, leave the area, leaving the way you came. Protection of cubs is serious business to a bear.
- A bear that intentionally approaches you is giving evidence of a more serious encounter. Stop, stay calm, and assess the situation. Is the bear acting defensively (see above for defensive description)? Don't run; unless of course safety is very near and you are absolutely certain you can reach it (knowing that bears can run about 35 mph).
- If encounters involve more than 1 person, it's best to group together to present a more intimidating front. If you have a weapon or deterrent (such as pepper spray) have it prepared and ready. (If you purchase pepper spray, make sure it has pepper content between 1.3 and 2%; these strengths have proven effective with grizzly and black bears, as well as cougars). Remember, clapping your hands loudly is an effective way to scare a black bear.

- What you do next depends on whether the bear is acting defensively or non-defensively.
 - ✓ Remember, a defensive bear is a stressed bear; your aim is to reduce that stress, not increase it. Experts advise to stand your ground and appear non-threatening by speaking in a low voice. Don't shout or throw things at a defensive bear – that increases stress and could provoke an attack. You can try to back away slowly, but only when the animal is not moving in your direction. Since you have entered the animal's space, increasing your distance is the best way to resolve the situation. Usually, the bear will retreat, but if it continues to approach stand your ground and speak calmly. Even if it charges, hold your ground; remember most charges are bluff charges and the animal will stop short of making contact. If you have pepper spray, use it if the bear seems intent on approaching.
 - ✓ If you are attacked by a grizzly (where actual contact is made), experts suggest you fall to the ground at the point of contact. It is important that you do not play dead if you only visually observe a grizzly, or if the bear appears to be aggressive and is not attacking – stand your ground in that situation and use a deterrent (like pepper spray). If attacked, lie on your stomach with your legs spread slightly apart and your hands locked behind your head. This position protects your face and neck, which are primary defensive bear targets. If the bear flips you over, continue rolling until you are back in that position. Don't struggle or cry out; that will tell the bear to continue. A grizzly bear will stop attacking when it thinks you are no longer a threat. Stay still and wait for the bear to leave before moving.
 - ✓ A non-defensive type of situation occurs when a bear deliberately approaches, showing no sign of stress. Such a bear is either curious, habituated, food-conditioned, asserting dominance, or predatory.
 - ✓ With a non-defensive bear, stop, remain calm, talk in a firm voice (notice a firm voice here and a calm voice in a defensive situation). Move away from the bear's path, off the trail (uphill) if you can. That may be all the animal wants. If the bear follows with its attention directed at you, stop and stand your ground. At this point, all but an aggressive or predatory bear will halt or move away. Any bear that continues to approach is a serious threat. Now is the time to act aggressive yourself, letting the bear know you will fight if attacked. Clapping your hands loudly is effective with black bears. However, the more it persists the more aggressive your response should be. Shout, stare the animal in the eye, stand tall and wave your arms, stamp your feet, take a step or two forward toward the bear. If you can move slowly uphill, or stand on a log to look taller, do so. If you have pepper spray or a firearm, use it. If the bear attacks, fight back (kick, punch, and go for the eyes). In essence you are fighting for your life.
 - ✓ If a bear enters a tent or a building, it should be considered non-defensive and dangerous. Don't play dead; fight the bear as loudly and aggressively as you can.

Tips To Avoid A Negative Bear Interaction at Home

- Garbage: Store it in closed, sturdy cans kept inside a shed or garage. Do not put garbage out for collection the night before; wait until the morning of pick-up. Keep shed and garage doors closed at night.
- Pet Food: Feed pets indoors. Store pet food in secured containers. Remember, pet food on the porch is like ringing the dinner bell to a bear.
- Bird feeders: Bird feeders are powerful bear attractants. Try to use bird feeders only when bears den (Nov-March). Set out only enough food to last through the day. Take hummingbird feeders in at night.
- Fruit Trees: Plant trees away from occupied dwellings. Fruit should be picked as it ripens. Spoiled fruit on the ground should be removed, as it will attract bears.
- Woodpiles: Keep wood away from the house. It attracts rodents, which bears eat.
- Compost piles: Keep them away from the house. Do not put melon rinds or other fragrant fruit in compost piles. Adding lime to compost piles reduces odors that may attract bears.
- Barbeques: Clean them thoroughly after each use. Store them in a shed or garage and keep the door closed.

Don't fear bears, respect their behaviors, abilities, and habitat. Educate yourself on how to reduce the risk of interaction. Simple precautions can be taken to avoid conflict.

Brochures on "Living with Wildlife" are available at any Washington Fish and Wildlife office, statewide, or call the headquarters in Olympia at 360-902-2515.

SECTION 2: TRAPPING / IMMOBILIZING BEARS AND TRAP SAFETY

Trapping / Immobilizing Black Bears

Trapping bears should only occur under certain circumstances. When dealing with bear / human interactions, emphasis should be placed on removing the attractant rather than removing the bear. While there are reasons WDFW personnel may need to trap and/or immobilize bears, there are also reasons why NOT to trap and/or immobilize bears. ***Knowing when and where to trap and/or use immobilizing drugs is the key to success!!*** Below are a couple of field situations to help aid your decision-making in the field (also see Appendix B & C).

- A bear attracted by food wanders into a populated area, becomes frightened, and climbs a tree or power pole in the residential area (or campground). If there isn't already, you

should expect a large crowd to gather and possibly even TV cameras. Making the right decisions now will affect the outcome later.

- ✓ If the bear is relatively close to a forest boundary, ***consider allowing the bear to retreat***. WDFW personnel may be able to relieve the situation simply by giving the bear some space (a minimum of 50 yards). Move people back, remove barking dogs from the area, turn off flashing lights on patrol vehicles, and reduce as much noise as possible. In many cases the bear will retreat and head in the direction of cover. Positioning personnel and vehicles away from the desired direction of the bear's retreat is a great way to *direct the bear* to the forested habitat.
- ✓ If you have to immobilize a bear in a tree there are many things to consider. First, do you have a way of catching the bear should it fall (i.e. a safety net)? Second, you should know that smaller bears will almost always climb higher when frightened (like when hit with a tranquilizer dart). Larger bears may be less reluctant to climb but can readily do so. If the bear falls, it may be from a lot higher than you expected and you may risk injury or death to the bear. Or, if the bear falls asleep in the tree and you have to go get it, you may be climbing a lot higher than expected; are you prepared to insure your safety as well as the bear's? Finally, are you using the right size needle? In the fall, a needle that is 1.5 inches long will likely be needed to penetrate the bear's fat layer. If it's spring, that size needle is too long and a shorter needle should be used.
- Depredations or public safety concerns are serious reasons to consider trapping bears, but again, may not be the only means to address the problem. Regardless, whether trapped bears are candidates for relocation depends on a variety of factors but all WDFW personnel should be familiar with Policy 5401-Control of Dangerous Wildlife and RCW 77.15.245. Remember, capture-relocation is PROHIBITED when there is an immediate threat to human safety (see Appendix A, B, & C)
 - ✓ For minor depredations such as a bear raiding fruit trees, it may be possible to have the landowner pick the ripened fruit and avoid future interaction. In instances where electric fences are not used, trapping and relocating may be a viable short-term solution.
 - ✓ For more serious depredations (killing of livestock / pets or threats to public safety), it may be useful to use experienced hound handlers with capable bear hounds: remember that hound handlers you select are now in a sense "agents of the state". Pick handlers that you are certain you can trust to remove or harass the animal in an ethical and professional manner.

Culvert Trap Safety

If you've made the decision that trapping is the best alternative, a culvert trap is the preferred trap type used. Culvert traps have evolved greatly over the decades from a simple steel culvert-like apparatus to sophisticated aluminum transport systems. In Washington, I have seen at least 8 different culvert traps designs, some better than others. As with other management tools, there are many positive and negative aspects to using culvert traps that the user should be aware of (see Appendix)

➤ Advantages of culvert traps

- ✓ Personnel can release non-target animals (such as bobcat, coyote, raccoon, and domestic animals) without immobilization
- ✓ When an animal is captured, there is no rush to immobilize it
- ✓ Animals can be easily transported and released
- ✓ With proper use, they are safe to animals and to people

➤ Disadvantages of culvert traps

- ✓ Culvert traps are heavy
- ✓ Culvert doors can cause injury to wildlife, people, and pets
- ✓ Due to size and weight, trap location sites are limited
- ✓ Bear claws and teeth can be broken (see Appendix)
- ✓ Size of captured animals may be difficult to estimate, affecting proper drug doses

When using a culvert trap, spend some time scouting for the best trap placement before the trap is set. Bears are creatures of habit and tend to use well-known trail systems (not always traveled by people) and established points of entry. If you can find such a "bear trail", and place the trap as close by as possible to that location, your odds of capture will increased markedly. However, other factors must be taken into consideration when placing a trap. These are some of the factors that should be considered beforehand.

- ✓ Can the culvert trap be set on level ground or secured adequately using the trap's stabilizers and wheel chocks? Unstable traps will be less likely to catch a bear since it will increase the bear's wariness. Also, bears will likely rock the cage once captured and you do not want the trap moving or rolling from its location.

- ✓ Is there shade for the animal should a capture be made? Heat can easily kill captured animals.
- ✓ If it's in a residential area, have neighbors been notified to keep their pets (and kids) indoors or contained in yards? Capturing domestic animals will only result in valuable time and effort being lost in addressing the situation. Also, you could create other problems, such as dogs barking at bears captured in culverts.
- ✓ Have you informed other WDFW personnel of your trap set and location should an emergency arise and you are detained? Also, notify local law enforcement as a professional courtesy.
- ✓ Is the trap visible from a distance? If it is, you can prepare for your actions without undue stress to the animal. Repeated visits to the culvert trap will only agitate the bear and may delay the effect of your immobilization drug. Increased agitation may also result in unnecessary injury to the bear.
- ✓ Are you using effective bait? Rotten fruit, pastry products, sardines and carrion are all effective baits for trapping bears. In hot weather, try to use baits that have high oil content so they don't dry out and lose scent (such as sardines or pastries laced with extract).
- ✓ **DO NOT OVERBAIT!** This is very important. It does not take a lot of bait to capture a bear. Too much food may affect the time it takes for a bear to become sedated from immobilizing drugs. About 2 cans of sardines, or 6 donuts are all that is needed.
- ✓ Be sure that bait placement is the last thing you do. If any part of the trap is touched after handling bait, you increase the likelihood of a bear setting off the trap without being captured.
- ✓ When hanging bait in the trap, avoid using any type of wire, which could result in injury to the bear. Plastic zip ties work well to hold bait on the trigger arm.
- ✓ Use signage. People are curious about traps. Use laminated signs to inform and warn people of the danger that exists around wildlife traps.
- ✓ Trap maintenance. Be sure that your trap is cleaned after each use (even if you don't catch a bear). Captured bears will urinate/defecate in traps and most baits rot over time: minimize the likelihood of spreading any kind of disease and keep equipment looking professional; you never know when your next capture will be on TV.

Captured Bears

If you have captured a bear, the first thing you'll want to do is assess the security of the trap. First, are there any other bears in the vicinity (i.e. have you captured a cub and the adult female is nearby, or, vice versa)? Has the trap door latched tightly? Is the trap still stabilized? You should not proceed until all these questions are known. If there is a family group and all are not captured it is important to avoid splitting the family group; maybe hazing the bears with hounds and or non-lethal ammunition is a better option. If you have captured the adult female and not the cubs, maybe you could do a capture-release on site? Regardless of what you decide is the best course of action, thinking about the options and actions beforehand can increase your chances of success.

If the captured bear is a candidate for some type of release, you should be prepared to tranquilize the bear, record some data, and place an eartag in the bear's ear (see Appendix A & B). Remember, ear tags are required to monitor repeat conflict.

If you decide to relocate a bear to a new site, it is necessary to take the bears at least 60 miles (straight line distance) away from the problem site in order to minimize the chance of the bear's return. That could take all day if dirt roads are the primary route. It is very important to make sure and relocate a problem bear where it is least likely to become a problem for someone else (see Appendix C).

APPENDIX



Here is a very common trap design seen in Washington and is currently in use throughout all 6 regions. This trap exemplifies the classic problem with many culvert trap designs: safety. Notice the trap's grate on the left; it has grates that have open areas approximately 2 inches by 2 inches. Bears are able to place their upper and lower canine teeth between these grates and can generate enough bite power to break the canines (possibly all 4). This problem can be easily rectified with little monetary expense by welding a smaller grate from the inside (as shown on right). It also makes the trap better suited for public safety. Note: when you modify your trap, the side holes may need to be enlarged to allow proper use of immobilizing equipment.



Here is a front and rear view of a fairly new culvert trap. It has a side-mounted door and small grates for avoiding broken teeth and claws. However, this trap has a couple flaws. One flaw is that the door in the front of the trap is too large to open with a bear inside; a bear could easily reach out and swipe at you. The other related flaw is that since the door is too large to open, it does not provide the user with a proper place to use immobilizing equipment. Finally, unless the door is locked (as shown on left) it can become a public safety hazard.



Here is a more recently developed culvert trap (explained in detail below). Notice the trap is placed in a shady trap site, on level ground, and is fully secured using all 4 stabilizers and wheel chocks.



Here is another good culvert trap design. It has a side-mounted door (notice the rope attached to the door for safe release from a vehicle), and small grates for avoiding broken teeth and claws.



Broken teeth and damaged claws are completely avoidable. Make sure your trap is as safe as it can be or take the time to modify as explained above.



This culvert trap design is aluminum making it much lighter but still structurally secure. Every window and door on this trap has 2 unique features; they all have sliding covers and they all can be locked. This allows the user numerous angles when using immobilizing equipment and increases safety to the user and to the captured bear. Notice the inside of the trap even has a water trough. The only better trap so far in my mind is one with a side mounted door rather than guillotine; side-mounted doors are easier to open from a vehicle, simplifying release.



When working-up a bear, lay down a ground cover to establish a proper work area. Cover the bear's eyes for protection and to decrease stimuli.



Here is an example of a net placed at the base of a tree to catch a falling bear. It should be high enough off the ground to flex downward and gradually slow the momentum of the falling bear.



When relocating bears not fully recovered from anesthesia, place a head cushion under the bear's head



Here is a simple device that can be used to weigh bears captured in culverts. The pulley system cuts the weight by 75% and a single person can easily lift a 300-pound bear.



Bear work is high profile and usually attracts a crowd so be prepared for crowd control. You should also always have professionalism on your mind by having a neat and organized drug box, clean equipment, proper works space and a well thought out plan.

Appendix A. Possible actions for resolving bear-human conflict based on the level of risk

Risk	Definition	Possible actions (not in priority order)
Low	No immediate threat to human safety or pets/livestock.	<ul style="list-style-type: none"> • Provide information on wildlife conflict prevention* • Remove the attractant* • Monitor the situation • Capture and relocate the animal
Med	No immediate threat to human safety or pets/livestock, BUT conflict is expected to continue and may escalate to human safety or pet/livestock threat if no action is taken.	<ul style="list-style-type: none"> • Provide information on wildlife conflict prevention* • Remove the attractant* • Monitor the situation • Capture and relocate the animal • Issue a depredation permit • Capture and euthanize the animal • Euthanize the animal at the scene
High	Immediate threat to human safety or pets/livestock.	<ul style="list-style-type: none"> • Euthanize the animal at the scene • Capture and euthanize the animal • Issue a depredation permit • Provide information on wildlife conflict prevention* • Remove the attractant*

***Indicates a mandatory response**

Appendix B. Bear behavior and public safety risks to consider when trapping and relocating black bears	
Public Safety Risk	Bear's Response to People
Excellent Safety	Leaves on vehicle approach
Good Safety	Stands ground on vehicle approach but then leaves
Moderate Safety	Leaves only after yelling /honking / gunshot / barking dogs
Poor Safety	Stays or charges after yelling /honking / gunshot / barking dogs
<p>Notes: Relocation success tends to be higher with a bear that is night active and lower with a bear that is day-active. However, take denning into consideration; it is normal for bears to be actively feeding during the day upon emerging from the den and just before den entry.</p> <p>Bears that enter dwellings such as homes or trailers, 4 sided structures, or act aggressive towards people when trying to obtain food should be euthanized.</p>	

Appendix C. Site factors to consider when capturing black bears for on-site release, relocation, or aversive conditioning (these factors may also be used in combination).

Key Site Factors	Feasibility of a success				
	Excellent				Poor
Natural Food Availability:	Excellent: All areas abundant	Good: Mixed areas abundant to moderate	Moderate availability	Low: Mixed areas moderate to low	Widespread mast failure
Unnatural Attractants:	None: Bear-proof or legally mandated	Low availability: A few sites	Mixed: Low with some areas moderate	Moderate	Widespread
Human and Bear Safety:	Isolated site or only 1-2 sites being used	Rural: Mostly large acreages	Semi-Rural: Mostly small acreages	Subdivision or trailer park	Highly developed
Personnel should be prepared to combine key site factors for decision-making					