Living With Black Bears in New Jersey

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Cooperative Extension

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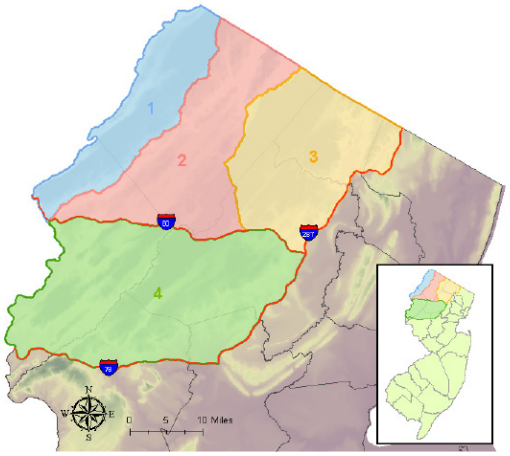
Over the last 50 years, the black bear (*Ursus americanus*) population in New Jersey has greatly increased. Generally a secretive forest species, black bears are intelligent and opportunistic animals that have learned to benefit from human presence. Negative human-bear interactions have prompted state officials to manage the black bear population in New Jersey, using an integrated approach that includes scientific research, public education and lethal population control. Understanding black bear ecology can help to successfully manage the population to reduce negative human-bear interactions.

Ecology and Reproductive Biology of Black Bears

Black bears are the largest land mammals in New Jersey, with adults weighing between 150–800 lbs and standing 5–7 ft tall on their hind legs (about three feet on all fours). Adult males and females in New Jersey weigh, on average, 400 lbs. and 175 lbs., respectively. New Jersey black bears typically have black fur with brown muzzles, and some individuals display a white chest patch (referred to as a *chest blaze*). Although rare in New Jersey, bears also may be chocolate or cinnamon colored. Their large claws, powerful limbs, and tremendous strength and agility allow black bears to travel long distances, move at speeds of up to 35 mph, climb trees with ease, and successfully traverse large rivers.



Photo credit: Brooke Maslo



Black Bear Management Zones in NJ.

Black bears historically occurred throughout North America, including northern Mexico. They now occur in at least 40 U.S. states, particularly in forested areas away from dense human populations. In New Jersey, the majority of the black bear population inhabits the northwestern portion of the state bounded by Routes I-78 and I-287; however, they have been documented in all 21 counties. Where food sources are bountiful, bears will also inhabit residential and agricultural landscapes. Typical black bear habitat includes coniferous, deciduous, and mixed forests, particularly areas close to wetlands and streams. Bears prefer woodlands with dense understories of fruit- and nut-bearing vegetation; however, they can also occur in regenerating woodlands with thick, shrubby vegetation, preferring vegetative cover to open areas. The prototypic omnivore, bears consume a wide array of foods. While the majority of their diet includes vegetative material (especially fruits, nuts, and new plant growth), bears also feed on insects, small mammals, and young or injured deer. In some cases, black bears will also scavenge animal carcasses. Although bears are not considered territorial, individuals do establish home ranges. Average home range size for females (sows) in New Jersey is two square

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miles, and they may aggressively defend their territory if they are caring for cubs. Males (boars) tend to have larger home ranges that overlap multiple female home ranges to increase mating opportunities. Although bears are solitary animals (except females with cubs), where food sources are plentiful or habitat restricted, bears can occur in higher densities.

Black bears reach sexual maturity at about 3–4 years of age. Mating occurs between May and August, after which females enter a delayed implantation phase. For a period of up to six months after mating, the fertilized eggs float freely within the bear's uterus. If the female gains enough fat reserves to successfully carry and nurse the cubs during the winter dormancy period, the eggs will attach to the uterine wall, and embryonic development will begin. Cubs are born in January, with litter sizes ranging from 1–6 individuals. While two-cub litters are most common, the average litter size in New Jersey is three cubs, presumably due to increased food availability for females. By April, the family unit emerges from their den, and the cubs remain dependent on their mother for food and protection for up to 18 months. Because of this extended care period, sows reproduce at approximately two-year intervals.

The winter dormancy period begins in late October or early November, with some males not denning until December. Typical den sites include rock outcrops, brush piles, and large hollow trees; however, some bears may den beneath wooden decks or porches or simply at the base of a large tree. During this hibernation period, black bears enter a state of torpor, where their body temperature and respiration rate are reduced. A bear in torpor can wake, if disturbed, and bears may be active on warm winter days, searching for food.

Ecological Significance

Black bears serve an important role in healthy ecosystems. Considered an umbrella species, black bears use a variety of habitats during their life cycle. Their presence or absence in a region may be an indicator of the health and connectivity of an ecosystem. In addition, because they have the ability to travel great distances feeding on fruits and berries, bears disperse the seeds of many different plant species. When foraging, bears clear small amounts of vegetation, which opens up space for additional plants to grow. In this way, they promote biodiversity in several habitats. Finally, black bears are an important part of our cultural heritage and natural history.

Why is There Human-Bear Interaction?

While black bears occurred statewide throughout the 1800s, indiscriminate killing and the loss of forest habitat reduced the population to less than 100 individuals by the mid-1900s. Legal protections established in 1953, forest regeneration post-agricultural lands, and supplemental food resources (agricultural crops, garbage) have promoted population recovery. The current population size (as of 2011) in northwestern New Jersey is approximately 2800–3000 bears. Remaining parts of New Jersey are less populated.

Black bears are fairly secretive and usually display a fear of humans; however, increasing human population density in New Jersey's primary bear habitat has increased the number of human-bear encounters. Particularly in the autumn months, bears search for readily available and easily accessible food resources to prepare them for the winter dormancy period. Agricultural crops, bird feeders, beehives, and human garbage become highly attractive food items. Because black bears have an incredibly acute sense of smell, even a very small amount of food can draw them into human-dominated landscapes. In addition, bears have a good memory and will continually revisit successful foraging locations. While human attacks are very rare, black bears that are conditioned to humans can become aggressive.



Photo credit: Stephen Komar

Of significant concern is the amount of damage black bears cause to the agricultural industry. Particularly in late summer and early fall, bears feed on several agricultural crops, including sweet and field corn, tree fruit, sunflowers, and berries. Damage from just a single black bear can be severe. Because bears remain stationary while they forage (unlike browsing deer), bear damage in crop fields (referred to as *bear rolls*) is characterized by large, localized areas of flattened or

broken vegetation. Females may also break the stalks of taller crops so that their cubs can access the food. Where resources are plentiful, bears will return nightly to feed, therefore significant portions of a field can be damaged over an entire season. In corn fields, bears either will eat the entire ear or strip all the kernels off the ear. In orchards, bears will break off entire limbs or large branches to access fruit. There have also been documented cases in New Jersey of bears damaging greenhouses or raiding silage bags.

Black bears also prey upon livestock, particularly llamas, alpacas, sheep, pigs, young cattle, goats, and small horses. Mortality in horses and adult cattle is rare; however, these animals can suffer severe injuries from claws, teeth, or repeated blows from a bear's paws. Smaller animals, such as sheep and goats, are often killed together because they are easy prey and tend to bunch together when threatened. Bear-induced mortality can be identified from other predators (i.e., coyotes) in several ways. Prey will have tooth or claw marks at the base of the skull or along the shoulders and often have broken necks or backs. Bears will cache a carcass in a more sheltered location away from a kill site and return to it nightly to feed. In general, bears prefer meat to the viscera (internal organs), and often the skin and skeleton of a bear kill remain largely intact (skin may be turned inside out). However, bears will consume the udders of lactating female prey first.

The majority of additional human-bear interactions involve nuisance behaviors, casual sightings, and bear-vehicle collisions. These interactions are placed into 3 categories by the NJ Division of Fish and Wildlife (NJDFW). Category I bears pose a threat to public safety and property, including those that attack humans, enter homes or tents, and cause significant agricultural damage. Category II bears, or nuisance bears, are those conditioned to raid garbage receptacles and bird feeders and cause minor property damage. These bears do not pose a major threat to public safety and property. Category III bears exhibit normal behavior and are not a nuisance or threat to public safety and property. Only 5% of the bears reported to NJDFW in 2012 were listed as Category I, and no human attacks were reported.

Living with Black Bears

It is very possible to peacefully coexist with black bears, and these majestic animals should be celebrated as part of our cultural heritage and natural ecosystem. The most effective way to prevent negative human-bear interactions is to avoid attracting black bears to your property.

Residential Areas

Use bear-resistant certified garbage receptacles (see state.nj.us/dep/fgw/bearcont.htm) and store them outdoors to discourage visits by foraging black bears. These containers should be washed weekly with a disinfectant (hot water, and chlorine bleach, or ammonia) to eliminate any food odors. Thoroughly wash recyclables and place them curbside on the morning of collection. Clean outdoor grills after each use, and store them in a secure shed or garage. When away from home or when cooking inside, keep doors and windows closed.

Pets can be especially vulnerable to black bear attacks, particularly animals living in pens (i.e., rabbits) or those that may provoke a bear (i.e., dogs). To keep pets safe, feed them and store their food indoors. Outdoor pets should be brought inside at night or secured in bear-resistant pens at least 50 yards from a tree line. During daylight hours, walk dogs on a leash or secure them in a bear-resistant kennel. Install a motion-sensing floodlight in your yard, and scan the property before letting dogs out at night.

Because bird feeders provide an easy resource for bears, feeding birds should be avoided in prime bear habitat. Other options include placing bird feeders out only during daylight hours and hanging them (rather than pole-mounting) from a height of at least ten feet and at least ten feet from the trunk of a tree to make them inaccessible to bears. Spilled seed beneath the feeder can be difficult to clean up but should be done. Seed should be stored indoors.

Campgrounds and Recreational Areas

When recreating in known bear habitat, travel in groups and speak loudly, clap, or carry noisemakers to alert a bear to your presence. Bears will avoid human contact and will leave the area, but they may become aggressive if startled. Avoid hiking in berry patches or near animal carcasses, and stay alert for evidence of recent bear activity. If a bear is observed, make the bear aware of your presence and take a wide detour around it, preferably on the upwind side to allow the bear to detect human scent. Always leave a clear escape route for the bear. In most circumstances, bears will flee from humans. Be particularly watchful for cubs to ensure that in your effort to avoid the adult bear you do not inadvertently separate a mother from her offspring.

Before setting up a campsite, scan the area for evidence of bear activity, including trails, scat, and claw marks. Establish campsites in close proximity to sparsely branched trees that cannot support the weight of bear. Maintain a clean campsite, storing all food in a secure bear-proof container (i.e., trunk of car, "bear box") or

in a tree at least 100 yards downwind of the campsite. Do not eat or cook inside tents.

Agricultural Lands

Good husbandry practices (eliminating food or feed waste, etc.) on the farm can reduce the attractiveness of the area to black bears. Wherever possible, reduce the amount of protective cover on the farm, maintaining mowed areas of at least 50 yards in width. Remove carcasses from fields, incinerating them if possible. Compost piles, crop fields, livestock pens, and apiaries should be located at least 50 yards from the woodland edge and should not contain meat, dairy or sweet foods. Lime can be added to reduce food odors. Plant crops as far from the forest edge as possible, or alternate or strip plant row crops to reduce the amount of protective cover. In orchards, harvest ripe fruit and discard fallen fruit as quickly as possible. Move livestock to barns or secure pens at night, and avoid birthing young in the pasture. Lactating females with young are especially vulnerable to bear attacks. If birthing occurs in the field, clean the area thoroughly and remove afterbirth.

Bear Encounters

In most cases, bears will avoid direct confrontation with humans. However, encountering an aggressive bear is a possibility. While there are no proven methods to ward off an attack, understanding bear behavior and responding appropriately can be successful.

First, remember that most black bears are not aggressive. When they encounter a human at close range, they often stand on their hind legs and swing their heads from side to side. This is not a sign of aggression, but rather a way of picking up a scent or focusing their weak vision. DO NOT RUN. Bears are capable of traveling at speeds of up to 35 mph. Avoid eye contact and sudden, jerky motions. Instead, speak calmly in low tones, and slowly back away. If it feels threatened, the bear may bluff charge, swat at the ground, or make huffing sounds, jaw pops, or grunts. If this occurs, stand your ground. Another option is to attempt to scare the bear away. To do this, make yourself appear larger by waving your arms and making loud noises (i.e., yelling, clapping, airhorns). If the bear does not retreat, move to a secure area inside your home or within a tree. Although black bears are good climbers, branches do provide some protection. In the rare event of an attack, fight back. Encounters with aggressive bears should be reported to the NJ Division of Fish and Wildlife via their 24-hour, toll-free hotline at 1-877-WARN DEP (1-877-927-6337).



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Management Strategies

The high-density human and bear populations in New Jersey makes human-bear interactions commonplace in many areas. A bear management plan, integrating both preventative and control measures, exists in New Jersey to minimize the risk of human safety and property damage while preserving a healthy black bear population. The following section provides a brief description of common bear management strategies.

Non-Lethal Methods

Exclusion

Fencing is a very effective method to reduce bear damage, particularly in agricultural landscapes; however, fencing can be cost-prohibitive for many farmers and residents. A permanent welded wire fence or a portable electric fence is recommended. To be most effective, electric fences should yield approximately 3,000–6,000 volts. When first installed, bears can be lured to electrified fences with peanut butter or another attractant so they learn to associate the fence with a negative consequence. Fences should be baited at approximately three-feet intervals along the entire perimeter to encourage shock delivery to the muzzle. Detailed information about deterring bears with fencing can be found at fwpiis.mt.gov/content/getItem.aspx?id=48893.

Aversive Conditioning/Repellents

Sensory deterrents can be used to keep black bears away from crop fields, landfills, and buildings. Pyrotechnics, horns, bright lights, propane cannons, and other devices offer both visual and auditory deterrent approaches. The success of these techniques is highly variable, and bears usually become habituated to any consistent disturbance. Sensory deterrents should be switched often and employed in continually changing locations for maximum effectiveness. Where bears are tolerant of human activity, sensory deterrents are often ineffective. Rubber or plastic bullets and pepper spray (Capsaicin) can also be used, but these

techniques offer only short-term relief. Available food resources will maintain a bear's propensity to visit a particular site. Therefore, aversive conditioning is best employed for temporary protection of crops or other resources.

Chemical Fertility Control

Chemical fertility control includes contraceptives injected into a portion of the individuals within a population. There is no fertility control agent approved by the Federal Drug Administration (FDA) for management of black bears. Although research is currently being conducted on chemical fertility control measures, it is unlikely that this strategy will be effective in a free-ranging bear population.

Trap and Relocation

Trap and relocation of black bears is not a viable option in New Jersey. Because bears are capable of traveling great distances, black bears will attempt to return to their previous territory, particularly if food resources were plentiful. Black bears traveling through unfamiliar habitats face many threats, including vehicle collisions and starvation. In addition, this strategy is only accomplished with considerable expense. Relocating nuisance bears within New Jersey only displaces the problem, and increasing bear populations in surrounding states prevent them from accepting New Jersey bears.

Lethal Methods

Category I bears in New Jersey are trapped and euthanized by the NJDFW to minimize risk to public safety and personal property. While this strategy specifically targets problem bears, it is time-consuming and labor-intensive and cannot effectively remove all aggressive bears from the population.

Properly managed hunting is an effective tool for regulating black bear populations, and annual harvests occur in 29 U.S. states. In New Jersey, the black bear hunting season is restricted to six consecutive days in late fall, when the majority of the bears are denning. Hunting is permitted only in northwestern New Jersey in one of four designated bear management zones, and there is a limit of one black bear per person per season. Because the main objective of the hunt is population management, there are not restrictions on age or sex of harvested bears. Detailed information (laws, protocols, check stations, etc.) on the New Jersey Bear Hunt can be found at nj.gov/dep/fgw/bearseason_info.htm.

Farmers in New Jersey may also apply for a black bear depredation permit if they experience significant amounts of damage. Permits are provided to the owners or lessees of the property where the damage occurs, and the harvesting of bears is restricted to the property boundaries. Permit holders must adhere to NJDFW regulations. The permit application and further details are located at njfishandwildlife.com/pdf/farmerapp_bear.pdf.

Additional Contacts

For further information or to report an incident involving a black bear, call 1-877-927-6337 (Trenton Dispatch). Your call will be directed to the NJDFW Black Bear Program, where state personnel are available 24 hours a day seven days a week to respond to emergency calls concerning black bears.

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