

Managing Wildlife Damage: American Black Bear (*Ursus americanus*)

Elizabeth A. Miller¹ and Michael T. Mengak²

INTRODUCTION

The American black bear (Figure 1) exists across much of North America. As urban sprawl increases, the bear-human interface overlaps more and more. As bears and humans encounter each other in shared spaces more frequently, damage experienced by humans increases. Whether damage is in the form of human injury or damage to private property, it is not beneficial for either the humans or bears. There are several strategies, some still experimental, to mitigate bear-human conflicts.

TAXONOMY

Ursus means “bear” in Latin, and the specific epithet *americanus* is a namesake to the type locality.

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Carnivora

Family: Ursidae

Subfamily: Ursinae

Genus: *Ursus*

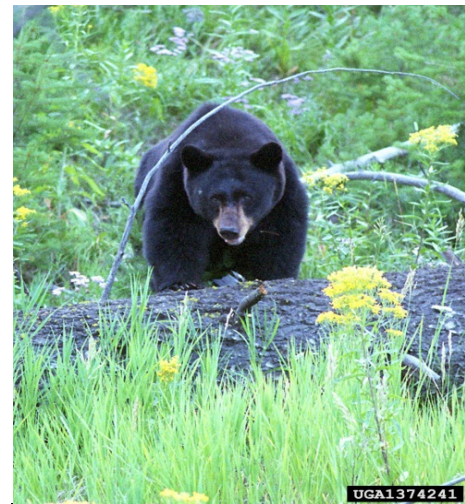


Figure 1. Adult American black bear.

STATUS

The status of all black bear populations in the United States is generally a game species with the exception of one. The Louisiana black bear (*U. americanus luteolus*) is listed as threatened under the US Endangered Species Act of 1973. The Louisiana black bear is listed as threatened due to similarity of appearance. There are an estimated 5100 bears in Georgia. The north Georgia population is the largest; there are fewer (perhaps 500 total bears) in middle and south Georgia.

¹ Graduate student and ² Professor-Wildlife Ecology and Wildlife Specialist, Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA 30602

DISTRIBUTION

The American black bear is widely distributed throughout Canada and the United States, with its range extending southward into Mexico (Figure 2). The bear is found in all Canadian provinces except Prince Edward Island. It is found throughout the United States, with the exception of the central Plains states. The black bear occurs in the Sierra Madre Occidental and Sierra Madre Oriental mountain ranges in Northern Mexico.

In Georgia, there are three populations of black bears. The northern population is closely associated with the Appalachian Mountains in the northeastern quarter of the state. The middle-Georgia population exists in and around the Ocmulgee River drainage. The southern population occurs in the Okefenokee Swamp in southeast Georgia.

NATURAL HISTORY

Identification: Black bears are classified taxonomically as carnivores. They have small eyes, round ears and a short tail. Each foot has five toes with non-retractable claws. Colors vary from blue to gray, chocolate brown, cinnamon, to beige. Most common, however, is a uniform black pelage. White markings may occur on the chest. Males are slightly larger and much heavier than females.

Habitat: The American black bear uses several habitat types. Large, secluded areas are required for denning during winter. Dens can be tree or rock cavities, root excavations, open-ground beds, underground burrows, or brush piles. Seasonal habitat selection is determined by food production of the habitat. Mature hardwood trees produce hard mast (acorns, hickory nuts, beech nuts) that is readily consumed by bears. They also depend on recently disturbed habitat for abundant fruit and berries. Mixed pine stands managed with fire often provide this type of habitat.

Reproduction: Bear are polygynous. Both males and females may breed with several individuals during a breeding season. Breeding is concentrated in June and July. Minimal courtship behavior is demonstrated by a male before mating occurs. Each mating event lasts approximately 30 minutes and occurs several times a day for 2-5 days. Litters range, on average, from 1-4 cubs and are directly influenced by the mothers' nutritional condition in early winter. Young are born during hibernation in January or February.

Feeding: Black bears are omnivorous with much of their diet consisting of vegetation. Berries, fruit, and mast are preferred food items. Non-plant components of bear diets include animal matter such as fish, mammals, reptiles, birds, and insects. In some areas, bears are scavengers at times and have been known to prey on calves and deer fawns. When available, bears will eat livestock and garbage. They will raid orchards, bee hives and corn fields.

Behavior: Black bear cubs stay with their mothers for about 16 months before dispersing from family groups. Males typically leave their natal area whereas females stay in the same area occupied by the mother.



Figure 2. Current geographic range of the black bear in North America.
<http://www.bear.org/website/>

Black bears overwinter in dens. Cued by food availability, snow accumulation (in the northern US), and general weather conditions, bears enter dens from September to December and emerge from March to May. Southern populations may not den at all. Fatter individuals and pregnant females may den earlier than other individuals within a population. Daily activity increases from den emergence in the spring until it peaks in August-September. Activity then decreases from this point until overwinter dormancy.

The American black bear is a solitary animal, but may exist in congregations where food resources are abundant. They are diurnal in natural habitats, but become nocturnal in human-altered habitats like campgrounds. They do not scent mark, but rather claw and bite trees leaving behind a physical mark of territory. Defensive displays are charging, slapping feet on the ground, standing on hind feet, and huffing.

Predators: Adult bears face few dangers from predation. Cubs may be taken by other black bears (especially large males), bobcats, wolves, cougar, or brown bears. Black bears are at risk of poaching for the lucrative and illegal gall bladder trade.

DISEASE

Disease in American black bears is rare. Diseases most prevalent in North American black bear populations are heart diseases and periodontal disease; neither of these diseases is zoonotic (transferable to humans) and, therefore, poses no threat to humans. However, the bear roundworm (*Baylisascaris transfuga*) may be transmissible to humans. Further research is necessary to confirm this relationship.

Parasites known to infect the American black bear internally include several species of protozoans, trematodes, cestodes, tapeworms, roundworms, hookworms, lungworms, eye worms, and filarial worms. Ectoparasites documented on the American black bear are lice, fleas, and several common ticks.

ECONOMIC VALUE

There is a large, illegal market for bear body parts. In particular, traditional Chinese medicine places high value on the gall bladder of many bear species. It has long been thought that many Asian cultures value the bile from gall bladders as an aphrodisiac, although there other medicinal values are reported. Gram for gram, harvested bear body parts sell at much higher prices than narcotics.

Sport hunting is a significant economic resource in many rural communities. Bears are very popular as watchable wildlife. Visitors at many national parks and forests, state parks and other areas prize a bear sighting. Bears are relatively easy to observe in places like the Great Smoky Mountains National Park.

DAMAGE ISSUES

Common nuisance complaints include bear sightings and requests that a bear be relocated. Bears have very strong homing instincts, however, and will return to the same area they are removed from 90% of the time if they are moved less than 500 miles.

In areas where bears and humans coexist, bears have come to associate humans with food. Whether via garbage, campsites, or hiker's backpacks, black bears exploit these easy and abundant food sources. In addition, human and bear populations in close association often results in increased human injury and death. Black bear populations also damage property such as crops, orchards, livestock, and bee yards.

As bears travel, they often encounter roads. This presents the threat of bear-vehicle collisions which can result in death, injury, or damage to the bear, driver, passengers, or vehicle.

In Georgia, the two categories of bear damage are bears out of range and depredating bears. Bears out of their normal range include bears wandering in search of their own territory. These bears are typically sighted in towns or cities without adequate bear habitat. They eventually relocate on their own. Depredating bears include animals that actually create an economic loss from their damage. This can be raiding garbage, depredating crops, or damaging property. Bears in the Okefenokee population have caused serious damage to apiaries (bee hives) around the swamp area. In areas of north Georgia, bear encounters are becoming more frequent. Bears may be attracted to pet food left outside. Bears damage bird feeders, fruit trees, gardens, bee hives, and cabins. Educational activities aimed at reducing human food sources are targeting some areas of the state.

To reduce conflict, food should never be left accessible to bears. Campsites and picnic areas should be cleaned after use and all food transported to approved containers. Do not burn food residue or containers as this will attract bears. Trash must be stored inside a secure building. Outside trash containers should be modified to make them as bear-proof as possible. Dumpsters should have heavy lids that remain closed at all times and should be secured behind secure fencing to discourage visits by bears. Pet food and bird seed should not be stored outside. Even compost bins can attract bears. These should be secured with fencing in areas prone to bear activity.

MEDICINAL VALUE

Traditional Chinese medicine often praises bear gall bladders, fresh bile, or the dried crystal form of liquid bile for remedying ailments such as gall stones, poor eyesight and eye pain, rheumatism, and burn relief among others. These traditional uses have greatly contributed to decline in some bear populations. Poaching for bear parts can have significant negative impacts on bear populations.

LEGAL ASPECTS

Black bears in Georgia are a regulated game species. The state is divided into three zones, each corresponding to one of the three distinct Georgia populations. Georgia has 3 seasons – firearm, archery, and primitive weapons (muzzleloader). The statewide bag limit is two bear per hunter - only one of which may be taken in either the central or southern populations. Typically, hunters in Georgia harvest around 300-350 bears per year. Recently, harvest numbers have been increasing.

The northern zone includes Banks, Barrow, Bartow, Catoosa, Chattooga, Cherokee, Dade, Dawson, Fannin, Floyd, Forsyth, Franklin, Gilmer, Gordon, Habersham, Hall, Hart, Jackson, Lumpkin, Madison, Murray, Pickens, Rabun, Stephens, Towns, Union, Walker, White and Whitfield Counties. The northern zone has an archery, primitive weapons, and firearms season. The central zone includes Bibb, Houston, and Twiggs Counties. The inaugural season in 2011 was open for one day of firearms hunting only. Hunters reported harvesting 32 bear. The southern zone encompasses bears in Brantley, Charlton, Clinch, Echols, and Ware Counties. This firearms season opens and closes several times throughout the fall. Regulations, including the seasons for each zone, are available from the Georgia Department of Natural Resources Wildlife Resources Division and can be accessed online annually at www.georgiawildlife.com.

All black bears are protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) under Appendix II. The trade of species protected under this Appendix is strictly regulated through a system of export and re-export permits. In addition, the Louisiana black bear subspecies is federally listed as threatened. It is therefore illegal to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect Louisiana black bears, or attempt to engage in similar behavior.

CONTROL

Bears are in a group of large animals called “charismatic megafauna”. Public attitude towards bears is generally supportive of their conservation, although those attitudes decrease as damage increases. Several techniques have been or are being used to control damage done by bears. Many of these techniques are still experimental.

Exclusion: Attempting to deter bears from entering unwelcome areas can be difficult due to their immense strength and impressive climbing abilities. Electric fences may be effective around bee hives, landfills, livestock pastures, orchards, and other attractive sites to bears.

Constructing structures such as bear-proof trash containers and electric fencing around apiaries and fish hatcheries may limit or eliminate damage by bears. Other innovations allow recreational outdoor adventurers to continue to enjoy their outdoor activities where bears exist. Food storage lockers and bear-resistant food storage canisters keep bears out and keep food away from campers. Bear-resistant food storage canisters are portable. State and national parks often have strict regulations about storing food in campgrounds. Violators face a fine for failure to comply with regulations.

Toxicants: There are no registered toxicants available.

Repellants: Particularly in backcountry settings, it is beneficial to carry bear spray (pepper spray) when in situations where bear encounters are likely. Sprays are highly concentrated forms of pepper spray that have an effective range of 15-20 feet. Be sure when purchasing bear sprays that the canister you are selecting is EPA approved; it may otherwise be of no value. It is also important to keep the canister of spray readily accessible in case it is needed and to be mindful of the wind direction when spraying. Bear spray is NOT a repellent and should not be sprayed around campsites or tents. It should ONLY be used when a bear is charging or threatening a person and is within 15-20 of the user.

Some reports of effective deterrents include the extended use of bright lights at night, strobe lights, pyrotechnics, scarecrows, or guard dogs. A combination and persistent use of the aforementioned methods is likely to prove most effective.

Trapping: As with many species, trapping and hunting has been used as a management tool to control populations. Government agencies or research groups may trap bears. If you encounter a bear trap in Georgia, it is more than likely strategically placed to target a reported individual. Bears repeatedly seen near roads or dense urban areas are going to be removed. The most commonly used traps for bears are culvert traps (Figure 3). These traps enclose a bear in a section of culvert piping and allow them to be safely immobilized or immediately released at another location. In Georgia, and most eastern states, the “three-strike” rule is used. In these cases, bears are captured and relocated twice. If the bear is captured a third time in a depredation or nuisance encounter the bear is euthanized. This has led to the national campaign to discourage feeding bears. The slogan “A fed bear is a dead bear” should help convince most people that feeding bears should be discouraged.



Figure 3. Typical culvert trap design for capturing black bear.

Lethal: It is illegal to kill bears other than in those situations established by the Georgia Department of Natural Resources annual hunting regulations. Government agencies and scientific researchers may have permission to collect or humanely euthanize bears for research or other purposes.

Other: Education is always an important tool for resource managers. Educating people about how to enjoy bears without placing themselves in harm's way is an integral part of Georgia's Black Bear Management Plan. Programs at nature centers, pamphlets, and careful consideration of media coverage will allow managers and biologist to preach safety and conservation of black bears. If one encounters a bear, the best thing to do is leave it alone. Do not feed bears, and keep food out of reach from bears by using bear-proof garbage containers or food storages.

Further Reading

American Society of Mammalogists – Species Accounts -
http://www.science.smith.edu/msi/pdf/647_Ursus_americanus.pdf

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Demarais, S. and P. R. Krausman. 2000. Ecology and management of large mammals in North America. Prentice-Hall, Inc. Upper Saddle River, NJ.

Georgia Black Bear Fact Sheet - <http://www.georgiawildlife.com/node/1390>

Wisconsin Department of Natural Resources - <http://dnr.wi.gov/org/land/wildlife/publ/wlnotebook/bear.htm>

US Fish and Wildlife Service - <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0G1>

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Warnell School of Forestry and Natural Resources
Athens, Georgia 30602-2152
Telephone 706.542.2686 Fax 706.542.8356

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