

# NEW YORK'S WILDLIFE RESOURCES

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## Black Bear (*Ursus americanus*)

### Description

The largest, but one of the least frequently sighted species of native land mammals in New York is the black bear. This robust animal, with its characteristic barrel-like body and flat-footed, shuffling gait, has been a constant source of interest for humans and is unlike any other wildlife found in New York. It has a broad, long head; a long muzzle; relatively small eyes; erect, short, rounded ears; and a short tail (15 cm [6 in] or less). The fur of a black bear is shaggy, long (except in mid-summer) and soft. Bears begin shedding their thick winter fur about mid-June. In August a coat of new short hair covers the bear. By early autumn, the fur is long and full again.

Color among black bears varies from light, cinnamon brown to steel blue to jet black. The lighter colored animals are more common in western states. Most black bears encountered in New York are entirely jet black, except for the snout which may be partially brown; some individuals may have a white chest patch.

Black bears vary considerably in size. An adult male (boar) may reach a length of 150-180 cm (60-70 in), a shoulder height of 0.9 m (3 ft), and an average of 135 kg (300 lbs), although a few individuals grow to 270 kg (600 lbs) or more. Females (sows) are generally smaller than males of the same age, typically reaching lengths of 130-150 cm (50-60 in), shoulder heights of 0.75 m (2.5 ft) and weights of 68-90 kg (150-200 lbs). Size differences are the only readily visible differences between sexes in black bears.

<sup>1</sup>Sections of this circular were drawn directly from NYS Conservationist articles. They are listed under Selected References.

## Distribution and Abundance

Once relatively abundant and occurring in nearly all of North America, black bears have given way to human development and now have a much more restricted range. Black bears are less aggressive than grizzly or brown bears, but because they are more adaptable they have been more successful at adjusting to changing land uses.

The current North American continental distribution of black bears is vast, and 10 subspecies of the black bear have been identified. Black bears are generally found in mountainous, forested sections of Mexico, western U.S., Canada, and Alaska; the wild, forested sections of the Gulf states up through the mountains of the southern Atlantic states through Pennsylvania and New York to the Northeastern states and Canada; and across the northern Lake States and western Ontario. The third largest population of black bears in the eastern United States resides in New York; only Maine and Pennsylvania estimate larger populations. Approximately 4,100 bears live in New York.

Historically, black bears have long been part of New York's wildlife legacy. When colonists arrived during the seventeenth century, most of New York was covered with mature forest -- prime bear habitat. As the colonists cleared the forest, the number of bears declined. By the late 1800's almost 75 percent of the land in New York had been cleared of forest for farming. With most of their habitat removed, the situation for black bears deteriorated.

Black bears undoubtedly survived best in the Central Adirondacks where, despite heavy logging, the marginal fertility of the land discouraged agriculture and the habitat did not change drastically. As farmland abandonment increased throughout the state in the late 1800's, large areas began reverting to forest. As the forests matured they provided more suitable habitat for bears until at present about one-quarter of New York's land area is inhabited by black bears, a land area larger than neighboring Vermont.

In New York, black bears inhabit three separate ranges totalling about 28,500 sq km (11,000 sq mi). Most of the State's bear population resides in the Adirondack region (24,000 sq km [9,300 sq mi]). Smaller populations inhabit the Allegany region (1200 sq km [450 sq mi]) of Cattaraugus and Allegany Counties and the Catskill region (3,300 sq km [1,270 sq mi]) of Greene, Ulster, and Sullivan Counties with peripheral range in Delaware, Schoharie, and Orange Counties.



The Adirondack range, with its extensive unbroken tracts of forest, is the largest area of bear habitat. Virtually all of the Adirondack Park falls within this range. Current estimates place the bear population of this area at about 3,600. Bear-human conflicts have resulted most often from human carelessness, but occasionally may be related to the failure of some seasonal foods causing bears to move widely in search of food.

The Catskill range is occupied by about 400 bears. Actually this range is presently comprised of two sub-ranges, northern and southern. Extensive tracts of unbroken forest in the Catskill Forest Preserve (40 % of the range) and high peak country characterize the northern Catskills, while the southern range, with lower elevations, is comprised of large tracts of privately owned woodlands. The 250 to 300 bears residing in the northern range apparently are isolated from the 100 to 150 inhabiting the southern range. The smaller sub-population in the south provides an opportunity for bears from the larger populations in Pennsylvania to disperse into New York. The Catskill range, particularly in the south, is more densely populated by people than the Adirondacks. During the 1950's and 1960's the

Black bears are not true hibernators. True hibernators, such as ground squirrels and woodchucks, enter a torpid state during which their body temperature fluctuates slightly above the temperature of their den. The black bear's body temperature drops about 10 degrees (F) but remains relatively constant. This permits bears, unlike true hibernators, to become active very quickly. Physiologically the black bear has adapted remarkably well to winter's food scarcity. Bears obtain their nourishment from large stores of fat under the skin, occasionally exceeding 10 cm (4 in) thick, and surrounding its internal organs. The denning period typically lasts 4 months but may occasionally last up to 6 months in New York. During the entire denning period the bear will neither eat, drink, nor defecate. Bears found in the Catskill Region of New York rarely leave their den during winter. However, abnormal atmospheric conditions, such as extensive winter rains resulting in den flooding or extended periods of very warm late winter temperatures, may result in some winter activity. Occasionally bears may leave their den in response to accidental disturbance as when a snowshoe hare hunter ventures upon a dormant bear taking refuge in a thicket or blowdown. Dens can take many forms: caves, crevices in rock ledges, hollow logs, hollow snags, under tree roots, blowdowns, and spruce or rhododendron thickets. Occasionally bears will den in open hardwood stands where there appears to be little or no protection from the elements.

As a bear enters the dormant period, its digestive organs undergo a change - the stomach and intestines contract into a small space. No food can move through the gastro-intestinal system because an obstruction called a "tappen" or plug blocks passage in the intestine. This plug is composed of leaves and other woody substances.

From research conducted in the Catskill Region of New York, wildlife biologists have found differences in the onset of denning between the sexes. Females tend to den earlier than males, and pregnant females are among the first to den. Biologists have failed to identify a positive connection between snowfall, snow accumulation and ambient temperatures during the months of October, November, or December and the onset of denning. The greatest variation recorded between early and late average denning dates, during 4 years of investigation, was 16 days. The lack of correlation with atmospheric conditions and relatively narrow average denning period suggests that another mechanism, such as photoperiod, must regulate denning among black bears.

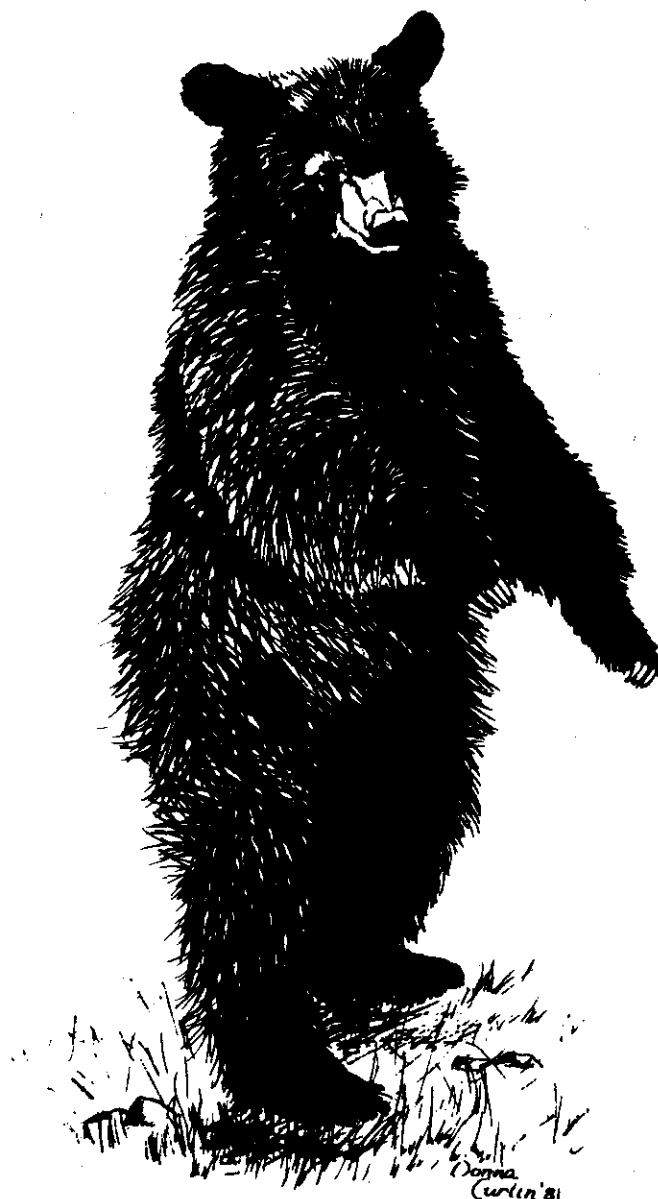
The black bear exhibits numerous facial and body expressions, which communicate their dominance and submission to other bears. These nonaggressive gestures are frequently used to warn approaching humans as well. In addition, bears are vocal. They whine, snort, roar, and bawl. One should never forget, however, that black bears are powerful wild animals and may be dangerous.

Bears are color-blind and near-sighted. Upon encountering a black bear, if you sit still, don't make a sound, and the wind is not carrying your scent to the animal, a bear may not know you were present. If you are spotted by a bear, it probably will either immediately run in the opposite direction or walk toward you to get you in focus, then run in the opposite direction.

Bears are fond of walking on fallen logs and have a fine sense of balance. Some old-time trappers claim that bears also like to walk on moss. Back before bear trapping was outlawed some trappers would cover the pans of their traps with large pieces of moss to conceal the traps.

Bears are good swimmers. It is said that a bear will travel in a straight line when it is swimming. History reports bears being killed by Indians who stood knee deep in water with tomahawk upraised, waiting for the bear to swim into range.

Bears are good tree climbers, cubs and adults alike. The following description was given by a former New York State Department of Environmental Conservation employee:



It stood 5 feet from a beech, then leaped and landed 5 feet up the tree and ran up. Its front legs were used for balance only; all the climbing was done with the hind legs which were brought forward under belly, then extended fully behind. Hind feet were used like pistons.

The observer estimated that the bear climbed 9 m (30 ft) up the tree faster than he could run that distance on the ground, which indicates that a person is ill advised to attempt climbing a tree to escape a bear. Bears have also reportedly been seen to jump out of trees from a height of 7.5-9 m (25-30 ft)!

Other people have seen bears climb trees in a spiral fashion when the animals did not know they were being watched. They seem to prefer to climb trees on the uphill side, or concave side if the tree is bent when they are not in a hurry. But apparently bears climb straight up when in a hurry.

While feeding on beechnuts, bears usually climb only large mature trees over 0.3 m (12 in) in diameter. They select older trees which are easier to climb and probably have more nuts on them. Old claw marks can be seen on many large beeches in good bear country.

It is said that bears are habitual, frequently following established bear trails. Bears establish trails over their range and mark these trails by standing on their hind legs and clawing or biting an occasional tree. It is possible that they communicate with one another in this fashion.

Bears commonly follow woods trails and re-mark many of the human-made blazes with their own claw marks. State trail markers often take a beating. While fishing on the Moose River Recreation Area in Hamilton Co., New York, one author saw where several campsite signs and the posts holding them had been clawed to shreds by bear. A forest ranger at the area said that signs had to be replaced twice a year due to bear damage.

The black bear has a plantigrade or flat-footed gait, and thus makes easily recognizable impressions (tracks) in soft soil or mud. The front foot print will be about 15 cm (6 in) wide and will consist only of sole and toe impressions (claw marks are not usually visible). The hind foot leaves a distinct heel impression and will frequently measure about 20 cm (8 in) long. A bear walks with its elbow sticking out, and looks pigeon-toed and bow-legged.

## **Economic and Social Values**

The positive values of bears are frequently intangible, such as the value of seeing or photographing a wild bear, tracking or interpreting bear sign and the knowledge that this wilderness creature still roams free over much of New York. Hunting has both tangible and intangible values. In addition to the costs of sporting arms, ammunition, sportswear, travel, meals and lodging the black bear has a significant meat and trophy value. During one year in the Catskill Region it was estimated that the harvest of 106 bears had a minimum trophy value of nearly \$22,000 and a meat value of nearly \$12,000.

Black bears occasionally do become bothersome when they take advantage of improperly protected artificial foods such as agricultural products, camp foods, and refuse. In these situations the black bear is simply being opportunistic. These negative encounters can frequently be prevented through preventative management such as the use of electric fences to protect apiaries, scare away cannons to protect corn fields and orchards, and bear proof garbage dumpsters at campgrounds.

One potential problem for humans from bears is the consumption of improperly cooked bear meat. Bears have been known to carry Trichinosis, like pigs. Approximately 2% of all bears tested were infected. And, like pork, bear meat needs to be cooked thoroughly. When cooked properly, to an internal temperature of 137°F, bear meat is excellent table fare.

## **Management**

In 1892 New York placed a \$10 bounty on bears; it was repealed in 1895. Bounties were paid on about 900 bears during that short period. 1894 was the last year for the bounty and in that year bounties were paid on 359 bears from the Adirondacks. There was an estimated population of 1,500 bears in the Catskills and Adirondacks in 1894. By the early 1900's official protection came in the form of limited hunting seasons and fixed bag limits. The New York State Legislature authorized legal protection in 1903 by prohibiting the taking of black bears during July, August, and September, and requiring successful hunters to file a report with the Forest, Fish and Game Commission, forerunner to the present-day Department of Environmental Conservation (DEC). Protection continued, and hunting seasons were shortened to correspond basically with deer seasons.

The black bear management objective of the DEC is to maintain bear populations at levels producing a maximum sustained recreation, while keeping their numbers at levels compatible with range carrying capacity and human land uses. Since bears are long-lived and free of natural predators in New York, hunting is the only effective way of controlling their numbers. Without hunting, bears could become an intolerable nuisance to people in some localities.

Maintaining an optimal bear population requires a knowledge of bear population and range characteristics as well as human land uses. Pioneering research conducted on Adirondack bears during the 1950's and 1960's helped DEC develop techniques for accurately determining a bear's age and sex. In addition, valuable knowledge on reproduction, home ranges, and basic biology was obtained. Examination of the sex and age of bears taken by hunters during each year's hunting season allows DEC's wildlife biologists to monitor the status of the population. The research data are needed for setting sound hunting seasons. In the Adirondacks the combination of a large bear population and large area with limited access supports a long hunting season. The duration of the bear season in the Adirondacks has been regulated to control the bear population and maintain it at a level resulting in a minimum of nuisance conflicts.

The Catskill population was the focus of bear research by DEC during the 1970's. In preceding years, the population appeared to be declining, prompting wildlife biologists to initiate an intensive study to identify factors limiting the bear population, and to develop a management plan. The study was completed in 1976. Bears were trapped, tagged and released in an effort to estimate population size and distribution. Biologists examined all bears taken by hunters to collect detailed biological records. As a result, new and refined techniques have been developed.

Increased human use of forests in New York does not necessarily mean that bears will diminish in numbers and distribution. Sensible forest management practices on both public and private lands will improve habitat conditions today and also for the future. Most important, protection of habitats from destruction through development provides at least a relief from the displacement effects of humans on wildlife. Land use regulations



are not currently popular, but future generations may look back upon them as a blessing. The people who choose to live in bear country must realize that bears and people can coexist. The black bear in New York State is a legacy that should be passed on to future generations.

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