

Black Bear

Ursus americanus

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DESCRIPTION

Taxonomy and Basic Description

The black bear is a large mammal with small, rounded ears, dark fur and a short tail. There are many color phases of black bears across their North American range including black, cinnamon, blonde, brown, and occasionally blue or white. In South Carolina and across the eastern United States, black is the only documented color (Burch 1997). Black bears commonly have a brown or tan muzzle and occasionally have a white or yellowish blaze on their chests, usually in the shape of a 'V'.

The size of bears varies greatly according to sex, age and the quality of available habitat. Male bears are typically larger than female bears. Adult bears usually weigh between 125 and 400 pounds, although bears weighing 600 pounds or more are not uncommon (Burch 1997). The state record bear in South Carolina is 594 pounds and was harvested in Oconee County; the national record is 880 pounds from eastern North Carolina (Skip Still, pers. comm.).

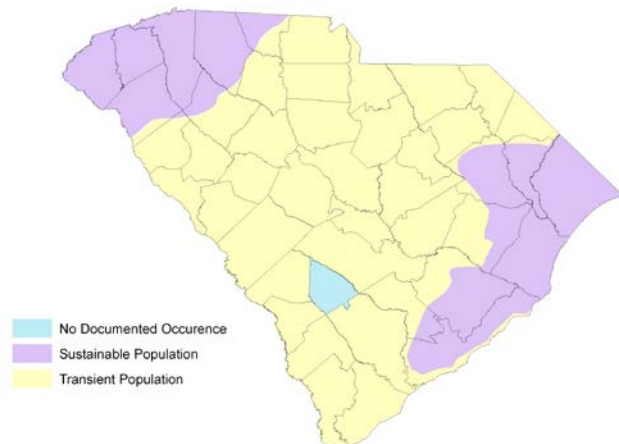
Black bears can stand and walk on their hind legs but usually move about on four legs. Their hind legs are slightly longer than their front, giving the bear a flat-footed, slightly shuffling gait. Each paw has five sharp claws for digging, tearing and climbing. The black bear can sustain enough force with a front paw swipe to kill an adult deer. Ninety-five percent of this bear's diet, however, is vegetarian including nuts, roots, berries, shoots, buds and fruits. They may become accomplished fishers or feed on fawns when other foods are scarce (Wilson and Reeder 1993).

Status

Black bears are ranked vulnerable (S3?) in South Carolina with a global listing of secure (G5).

POPULATION SIZE AND DISTRIBUTION

There are two populations of black bear in South Carolina: one is located in the mountainous region along the South Carolina/North Carolina border and the other in the upper coastal plain. The



mountain black bear population of South Carolina is located primarily in Oconee, Pickens, Greenville, Anderson and Spartanburg Counties; the coastal population is found in Georgetown, Marion, Charleston, Berkeley, Florence and Horry Counties. Both black bear populations are increasing in numbers and as a result are expanding their range. The loss of viable habitat through land conversion increases human-bear conflicts and may alter future management.

South Carolina Department of Natural Resources (SCDNR) wildlife biologists use multiple surveys to monitor temporal trends in black bear populations. Surveys and other data used to track the state's black bear population include: scent station surveys, hard and soft mast surveys, black bear observations, mortalities, annual reproduction, and the number of human-bear encounter complaints received per year. In addition to these annual surveys, SCDNR has conducted two population estimates since 2000.

Estimating the size of wildlife populations is among the most challenging tasks that wildlife biologists undertake. Populations of animals with large home ranges, like bears, are extremely difficult to estimate using mark-recapture techniques. Harter (1999) estimated the mean annual black bear home range size in coastal South Carolina to be 12.3 mi.² for females and 32.5 mi.² for males. Butfiloski (1996) estimated the mountain home range for female black bears to be 6.4 mi.².

Estimates in the late 1990's projected the coastal population at 250 black bears and approximately 500 black bears in the mountains. During 2007 the black bear population was estimated to be 1,150 animals statewide (19th Proc. Eastern Black Bear Workshop, 2008). Biologists representing the US Forest Service and SCDNR believed this to be a very conservative estimate (Skip Still, pers. comm.). In 2010, black bear population estimates were roughly 1,000 bears in the Upstate (Richard Morton, pers. comm.) and 800 bears along the coast (Drewry 2010). It is clear the statewide population is increasing.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

In coastal South Carolina, bears typically use early successional areas, bottomland hardwoods or mixed pine-hardwoods, and Carolina bays. Areas used less often include upland hardwoods, pine plantations, existing developments, or areas currently being developed.

The average home ranges of males and females in South Carolina were found to be significantly different in the coastal plain study (Harter 2001). Male home ranges averaged 30.9 mi.² (19,793 ac.²) and female home ranges averaged 11.7 mi.² (7,512 ac.²). Movement data also indicated that all bears reduced home range size during winter months. Average home range size was reduced 70% (67% for males and 76% for females) during winter months. Even though home ranges were reduced, bears continued to move throughout the year.

Home range size for the upstate population was 17 mi.² (10,897 ac.²) for males and 6.4 mi.² (4,102 ac.²) for females (Butfiloski 1996). Female bears in the upstate population utilized young yellow poplar stands less than 10 years old and riparian zones 30 to 50 years old more often than expected. In addition, they used yellow poplar stands 11 to 30 years old and pine stands over 10 years old less often than expected. Analysis of road disturbance indicated a significantly greater

presence of bears within 457 m (1,500 ft.) of primary logging roads in the study area before the roads were opened than after the public was allowed in the area (Butfiloski 1996).

CHALLENGES

The primary challenge to South Carolina's bear population appears to be residential and commercial development. Human populations in the counties with existing bear populations grew 14.6% from 2000 to 2010. Persons per square mile averaged 232. Thirty-three percent of the human population in the ten counties mentioned live in a rural environment (SC Statistical Abstract 2010; US Census 2010). Humans have varying reactions to bears but generally do not tolerate bear activity near residential or commercial development.

The coastal bear population is becoming more fragmented due to highway construction, urbanization and general development. More protected contiguous acreage is available for the mountain population, but human population growth and subsequent development adjacent to and between these properties may preclude expansion and fragment the population. Some areas of the state offer good bear habitat but are isolated from current bear populations by development.

Education of the general public is the key component to bear population expansion and, in some areas, survival. While bears learn to live with people, people have a hard time living around bears. Educational programs, bear-proof demonstration kits, and displays and brochures are all effective.

CONSERVATION ACCOMPLISHMENTS

Educating the public about bears may have a greater effect on bear management than any other effort SCDNR undertakes. As people become educated about bear biology and behavior, public acceptance and tolerance increases. The most popular of these items is a full-color, eight-page pamphlet entitled "A Homeowner's Guide – Living with Bears". Over 20,000 of these bear brochures have been disseminated since the first printing in 2007. Other pamphlets and posters designed to inform people on how to avoid human-bear encounters have also been distributed to residents living in bear habitat and to those experiencing bear damage.

Beginning in 2007, a team of biologists, law enforcement staff, legal staff, and technicians developed the "Human-Bear Encounters Procedures and Protocol" to streamline decision making for the numerous SCDNR staff who deal directly with situations involving human interactions with bears. This protocol was adopted and implemented in June 2008. Later in 2010, a bill was passed by the state legislature giving SCDNR regulatory authority to set black bear seasons with the exception of existing seasons in the mountains and provided for a bear tagging system where tag/application revenue was to be spent on black bear management and research. The "South Carolina Black Bear Management and Conservation Strategy" plan was adopted in 2011 outlining priorities and goals for the management of the species.

The SCDNR Black Bear Workgroup continues to meet twice a year and discuss management and research needs for South Carolina's black bear population. South Carolina is also a member of the Southern Appalachian Black Bear Study Group with three nearby states (Georgia, North

Carolina and Tennessee). This group meets to discuss and monitor bear related research and activities.

SCDNR personnel continue to cooperate with sportsmen groups, industry, other state and federal agencies, and universities to enhance black bear habitat and conduct black bear research and management in South Carolina. Cooperative efforts have included hard and soft mast surveys, black bear scent station surveys, black bear trapping and research, DNA research and analysis, nuisance bear control, bear related legislation, co-sponsoring bear related meetings, educational and nature related youth events, and hunting opportunities.

A project entitled, “Estimating Black Bear (*Ursus americanus*) population in the Mountains of South Carolina using DNA genetic analysis”, is in the analysis stage of the 350 hair samples collected from June to August 2013 from 114 sampling sites in Oconee, Pickens, and Greenville counties. It is hoped that a more accurate population estimate for black bears in the Upstate study area. Results from the samples are expected to be complete in Summer 2014.

CONSERVATION RECOMMENDATIONS

- Utilize web-based technology as well as more traditional avenues (brochures, presentations, and posters) to inform/educate the public about black bears.
- Collect trend data such as sightings using web-based technology.
- Continue encouraging private housing and industry in bear areas to use bear-proof trashcans and food lockers.
- Continue monitoring bear populations in both the coastal plain and mountain ecoregions with DNA analysis studies.
- Initiate studies of bear travel corridors in the Coastal Plain and zone ecoregions.

MEASURES OF SUCCESS

A reduction in nuisance complaints would indicate a successful education program. Bear sightings and reproduction in other areas would suggest an expanding population. Use of bear-proof containers could be easily measured through a survey. Initiate GPS collar monitoring for bears.

LITERATURE CITED

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