NEW JERSEY BLACK BEAR Annual Status Report   **Year 2011**

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Introduction

The NJ Division of Fish and Wildlife (DFW) and the NJ Fish and Game Council (Council) have managed black bears as game animals since 1953. Black bears in NJ live in close proximity to people and human development, taking advantage of diverse natural foods supplemented with human-derived food sources and protected habitats such as wetlands, undeveloped open space, and forested waterways. Garden State bears, like those throughout the Mid-Atlantic region, gain weight faster, breed earlier and have larger litters than black bears in other regions of North America.

Due to the protection afforded them by game animal status, a closed hunting season from 1971 through 2002, bear population increases in Pennsylvania and New York and improved habitat from the maturation of forested areas, the bear population has increased in size, density and occupied range (Figure 1). Bears have been sighted in all 21 counties statewide. The greatest number of bears and highest density occurs in northern NJ, north of Interstate I-78. The bear population is progressively expanding southward into the central part of the state, spreading down to the Route 1 corridor running from New York City to Philadelphia and eastward toward the more human populated areas of the New York City metro area. The range expansion has been facilitated by the wetlands protections enacted to protect the forested areas along streams and rivers, which provide travel corridors.

Management Programs

Managing NJ's expanding black bear population requires a suite of management tools according to criteria of consistency with current law, practicability in light of current resource constraints, and demonstrated efficacy (Wolgast et al. 2005, p. 8). DFW utilizes an integrated black bear management strategy, which includes research and monitoring, educating the public about black bear ecology, proper control of human-derived food, adjusting human activities while within bear range, using aggressive lethal and non-lethal control measures against nuisance bears to minimize human-bear conflicts, training and bear population management.

DFW's population goal is to maintain bears at a density that provides for a stable population within suitable bear habitat, which minimizes emigration of bears to unsuitable habitat in suburban and urban areas and addresses the property damage and safety concerns of residents and farmers.

DFW's bear response policy, which errs on the side of human safety, contains the following Black Bear Rating And Response Criteria:

Category I—bears which constitute a threat to life and property. Category I black bears are euthanized.

Category II—nuisance bears that are not a threat to life and property. Category II black bears are aversively conditioned.

Category III—bears exhibiting normal behavior and not creating a nuisance or a threat to human safety. Dispersing bears ("urban" bears) are Category III.

DFW continues to track bear complaint calls and bear sightings (Table 1). Incidents involving bear damage to property and livestock remain high in frequency and severity. Bear complaint calls are received DFW's Wildlife Control Unit and the NJ Department of Environmental Protection (DEP) 1-877-WARNDEP Hotline; DFW Wildlife Control personnel provide response and control using the BBRRC.

In 2010, 31 bears were euthanized for Category I behavior. DFW personnel captured 20 Category II bears at nuisance sites, applying aversive conditioning techniques to the released bears, and captured an additional 29 non-target bears at nuisance sites. In a study of the effectiveness of aversive conditioning on nuisance bears, DFW found that all bears, regardless of being conditioned or not, returned to urban settings within 17 days of treatment or capture. DFW determined that the treated bear stays away from the site where it was aversively conditioned for a short term period. DFW personnel captured 15 urban bears, typically subadult males dispersing away from higher bear density areas into high human populated areas, and released them on the closest state-controlled lands in suitable bear habitat.

Enforcement

A state law enacted in 2002 (NJSA 23:2A-14) banned the intentional feeding of black bears. In 2010, DFW Bureau of Law Enforcement officers investigated 51 complaints for bear feeding or unsecured garbage, issuing 19 verbal warnings, 12 written warnings and 2 summons. During the last several years, DFW Law Enforcement staff has inspected over 4,600 residential properties in high bear incident areas and found 98% were in compliance with black bear garbage management guidelines.

Since 2001, DFW has trained more than 1,000 municipal, county and state law enforcement officers from 123 municipalities, 14 counties and 33 state, county and federal parks to assist DFW in black bear control. DFW also uses Black Mouth Yellow Cur dogs for aversive conditioning.

Public Education

DFW has produced and distributed over 3 million pieces of educational material. DFW provides NJ residents and visitors with techniques and methods for living and recreating in areas where black bears exist. The primary message is "Do Not Feed Bears," either intentionally or unintentionally. DFW regularly issues news releases; DFW's Web Page (www.njfishandwildlife.com) provides additional black bear biology, natural history and bear-proofing information, including sources for bear-resistant garbage containers

DEP and DFW issue News Releases about bears and bear-proofing residences and communities. DFW continues outreach to the general public, police departments, municipalities, schools, libraries, nature centers, and private and state campgrounds.

In 2010, DFW Office of Information and Education distributed the following materials:
- 20,000 Know the Bear Facts brochures (English)
- 1,100 Know the Bear Facts brochures (Spanish)
- 18,000 Know the Bear Facts Kids Activity Guides
- 180,000 Camper Behavior in Bear Country cards

and presented the following public programs and exhibits:

- 112 Formal Bear Education Programs for more than 5,700 residents in 15 counties
- Traveling Bear Educational Exhibit staffed at 12 different events where about 5,200 people attended.

Garbage Management

DFW continues to providing information on bear-resistant containers via the DFW webpage: http://njfishandwildlife.com/pdf/bear/bearfacts_garbagemgt.pdf. No municipalities have mandated bear-resistant garbage cans, so use is strictly voluntary.

Research

DFW personnel tagged and released 254 bears in 2010 and 233 bears in 2009 for research. DFW has verified the following vehicle killed bears: 86 in 2010 and 66 in 2009. DFW currently has 28 female bears fitted with radio collars to monitor reproduction and survival. The average litter size is 2.9 cubs per litter. The most common litter size is 3 (43%), followed by litters of 4 (23%) and 2 (22%). In the spring of 2010 Division personnel visually confirmed an adult female with 6 cubs of the year.

NJ is participating in a GPS radio-telemetry study with PA and WV to determine the vulnerability of nuisance bears to harvest. Sixteen bears of various sex and age class will be added to the sample of the 6 adult female bears already equipped with GPS collars.

The genetic structure of the NJ bear population shows no evidence of increasing genetic isolation with geographic distance. The bears are not restricted in their movements and highways and other land use features do not appear to be a barrier to movement among BMZs. Data indicates the maturing NJ bear population is developing its own genetic character. Results of this study confirm inter-breeding with Pennsylvania bears, however more data is needed to confirm inter-breeding with NY bears, although this appears likely. Additional sampling will be conducted to confirm the tri-state nature of the New Jersey bear population (Huffman et al. 2010).

DFW continues to collect bear tissue samples to maintain the DNA database and blood samples to determine the overall population health of NJ black bears and build a serum database for tracking disease in wild bears.

DFW used land use/ land cover designations for forested, wetland, agriculture, urban land, barren land and water in ArcView GIS to partition the state into 7 BMZ. BMZs 1 through 6 were classified as containing sufficient bear habitat to support bears, BMZ 7 as unsuitable for bears (Figure 2). Whereas small areas of forested habitat remain in BMZ 7, they are isolated and cannot sustain a viable bear population. Additionally, the preponderance of suburban and urban land would result in almost certain human-bear conflicts.

DFW continues to collect bear population parameters (density, birth rates and survival) in the study area in the lower bear density area between I-80 and I-78. This area contains different habitat characteristics and human development pressures compared to the two study areas already established and studied for the past thirty years.

During 2010, division biologists and technicians tagged 333 bears in preparation for the hunting season, of which 299 were available for harvest prior to the season opening. Fifty-four (54) of these bears were harvested. Using this data, the population was estimated to be approximately 3,278 in the area open to hunting (the area N of Route I-78 and W of Route I-287), a figure very close (less than 5% difference) to the previously determined estimate (3,438) based on the East Stroudsburg University DNA study (Huffman et al. 2010). These two estimates are very similar; the difference can be attributed to the different methods used to calculate the population estimates.

Harvest

Council is legally mandated to provide for a recreational harvest of abundant game species such as black bears through the Game Code. A brief history of the rulemaking and legal issues concerning bear hunting in NJ was provided by Carr and Burguess (2010).

Limited hunting was authorized for 10 seasons from 1958-1970; Council closed the season in 1971. Council reinstated a limited hunting season in December 2003, using a conservative format concurrent with the December Six-Day Firearm Buck Season; the harvest was 328. In 2004, the season was closed by NJ Supreme Court order. A similar format hunting season was conducted in 2005; the harvest was 298. The season was then closed until the completion of a Comprehensive Black Bear Management Policy (CBBMP), which was finalized in 2010 (Wolgast et al. 2010). The 2010 black bear hunting season was structured like the 2003 and 2005 hunting seasons, 6 days, Monday through Saturday, concurrent with the December Six-Day Firearm Buck Season. A total of 592 (239 M: 353 F) bears were harvested; the overall harvest rate was 18.1%, which varied by Bear Management Zone (BMZ). A total of 7,893 of the 10,000 available permits were issued, resulting in a 7.5% hunter success rate, which also varied by BMZ. Bears were harvested on privately-owned land (41% or 243 bears), state-owned property (39% or 232 bears), federal property (16% or 93) and county or municipal land (4% or 24).

Harvested bears included those known to have been causing damage and nuisance. Of the 118 tagged bears harvested, twenty-four (24) or 20%, were known nuisance bears, urban bears (subadult dispersing bears) or bears tagged at nuisance sites, including two which had previously denned under residents' decks. The tag returns of harvested bears suggest that 20% of the harvest was nuisance bears.

Current Issues

In July 2010, the Council adopted the DEP Commissioner-approved CBBMP, a science-based policy that recognizes there are a host of bear management tools that could be employed to reduce conflicts between people and bears. The policy includes public education, research, bear habitat analysis and protection, population reduction using legal hunting, non-lethal bear management techniques and enhanced efforts to keep human food sources, especially household trash, away from bears to limit troubling bear-human encounters.

A lawsuit filed by the New Jersey Animal Protection League and the Bear Education and Resource Group is currently still on file in the state Appellate Division Court alleging that the adoption of the CBBMP by the DFW, DEP and the Council was arbitrary, capricious and in bad faith. Although the court rejected a request for an injunction to prevent the 2010 black bear hunting season, the lawsuit is still active in the court system.

The 2011 black bear hunting season is again scheduled concurrently with the Six-day Firearm Deer Season, December 5-10.

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To review information about the Comprehensive Black Bear Management Policy:
http://www.nj.gov/dep/fgw/bearpolicy10.htm

Figure 1. Black Bear Distribution in New Jersey, 1995-2009.
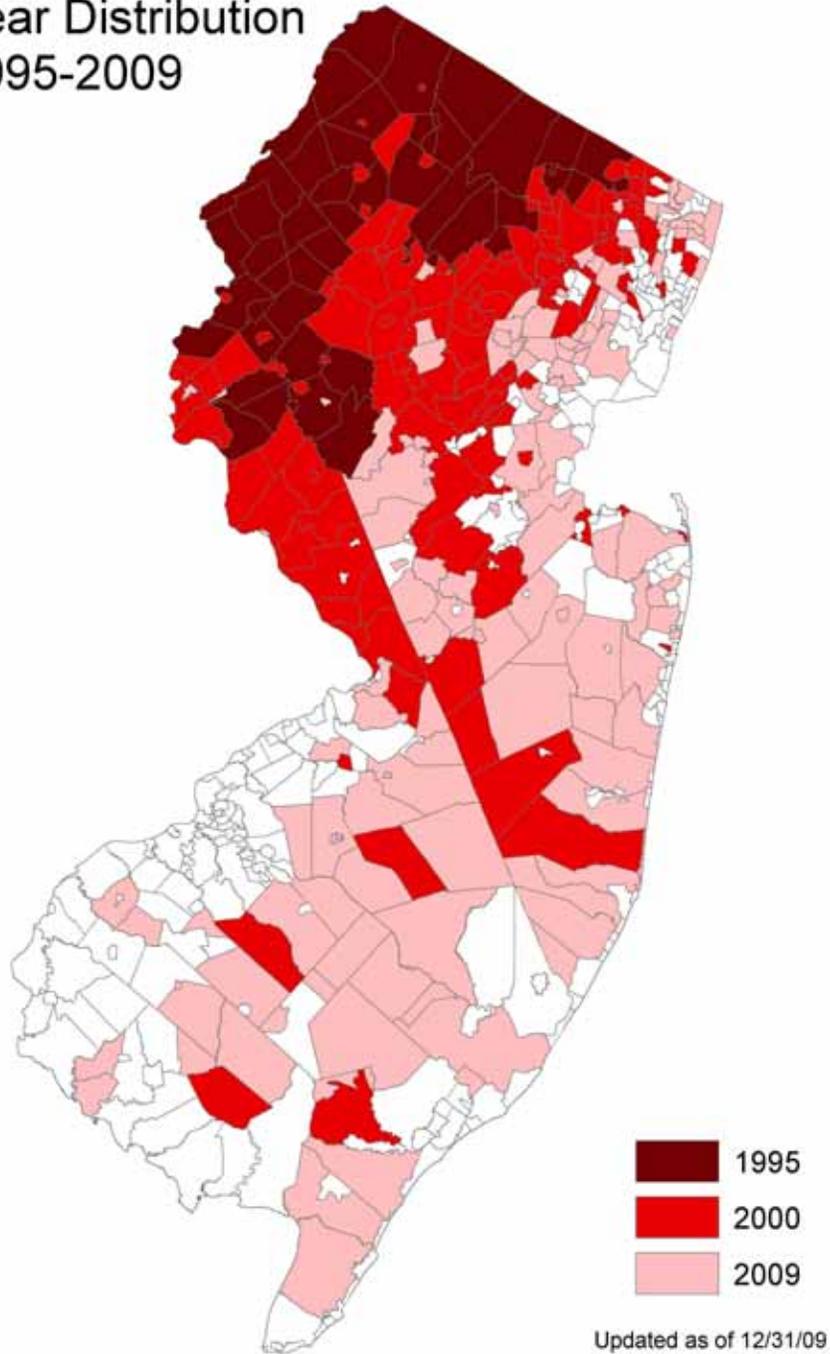
Figure 2. NJ Bear Habitat Ranking and Bear Management Zones.
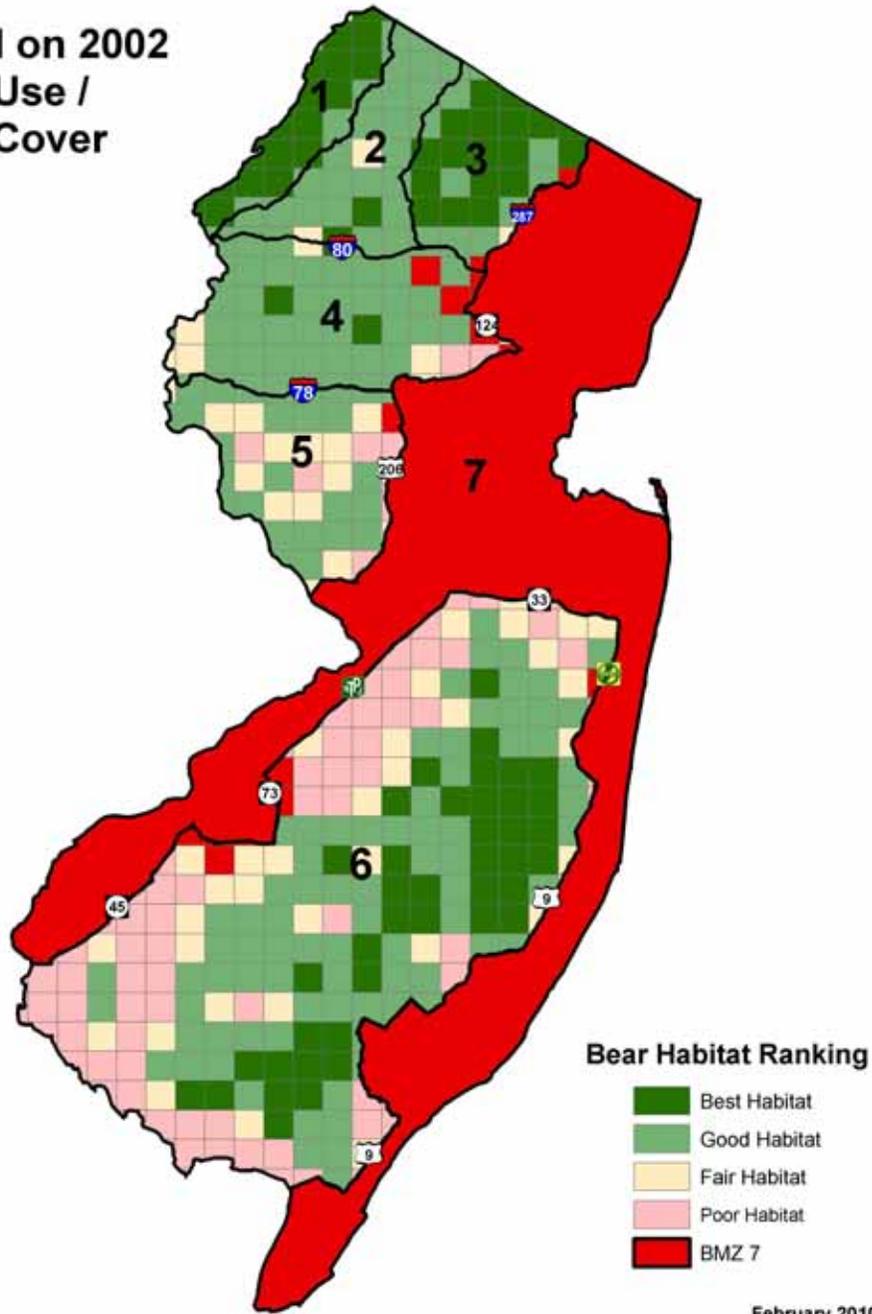
Table 1. Bear Calls Received by DFW by Type

TYPE	2003	2004	2005	2006	2007	2008	2009	2010
CAT I	209	125	154	130	112	276	255	235
CAT II	1015	562	832	625	732	1499	1477	1379
CAT III	851	489	775	556	573	1045	1274	1421
TOTAL	2075	1176	1761	1311	1417	2820	3006	3035