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BLACK BEAR

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bulletin

Research Revealing Black Bears' Ways

By ERIC ALDRICH

If we could follow black bears around — 24 hours a day, all year 'round — we would learn a lot about how bears use their habitat and why some bruins get into trouble with humans.

Well, now we don't have to follow bears around to know where they've been.

The New Hampshire Fish and Game Department is leading a pioneering study of nuisance black bears that involves state-of-the-art GPS (global positioning system) technology.

Last spring and summer, staff biologists captured five black bears in the Berlin and Lincoln areas and released them with telemetry collars, three of which take GPS readings at regular intervals. Those readings from satellites tell us their exact location on earth.

"This study is the first of its

kind in New England," said Kip Adams, bear and deer project leader for New Hampshire Fish and Game. "And it's giving us some very valuable information about how nuisance black bears use their habitats on a seasonal basis."

The four-year research project will ultimately shed light on other questions, including: How vulnerable are nuisance bears to hunters? Also, how far do these bears roam during the various seasons and where do they go?

The Department is now in the second year of the project. Last year, biologists released the three bears with GPS collars, along with two other bears wearing regular radio-telemetry collars and no GPS units. All of the bears were in the Berlin or Lincoln areas and had gotten into some trouble with people, such as raiding bird feeders or

trash bins.

This past winter, while the bears were in dens, biologists located the bears, tranquilized them, and removed the GPS collars. Then they downloaded the collars' GPS information into a laptop computer (it can't be sent remotely), replaced the batteries, and programmed the collars for the next round of readings. Then they pushed the tranquilized bears back into the dens, which is not an easy task!

Back at Fish and Game



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Fish and Game biologists check a tranquilized black bear. Meanwhile, bear project leader Kip Adams downloads data from a bear's GPS collar into a laptop computer.

headquarters in Concord, Adams and other staffers took a hard

RESEARCH *continued on page 4*

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- ◆ Habitat protection and management
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A Day in The Life of a Nuisance Black Bear

By JILLIAN KELLY
FISH AND GAME INTERN

Due to numerous human/bear conflicts, Berlin is notorious for nuisance black bear activity. As an intern for NH Fish and Game, I was hired to monitor the movement and behavior patterns of these bears using radio telemetry (VHF) and global positioning system (GPS) collars.

It was the personality and behavior of one bear in particular that demonstrated the effect of intense human/wildlife interaction. Sow #1, a seasoned troublemaker, was collared early in the spring of 2000. She had

two young cubs and was key in understanding nuisance behavior.

By mid-July, Sow #1 had a well-established routine to her days, and because she wore a radio collar I could follow her every move. After checking bear traps daily at 4:30 a.m. for potential research candidates, I drove the deserted streets of Berlin listening to the telemetry equipment and attempting to pinpoint the bear's position.

Sow #1 was waking up with the rest of Berlin and preparing for her busy day of raiding birdfeeders, dumping trash cans and stopping at her favorite

backyard where she was guaranteed donuts, cookies and dog food. This particular morning she was right where I had left her the night before, at the northern limit of her range near an apartment complex. After scanning the area to make sure she wasn't in sight, I collected two bearings, (estimated location based on radio telemetry reading) certain that I'd be back in the afternoon to respond to a complaint of a bear in the dumpster.

Around 1 p.m., while I was tracking Sow #2 and Sow #3, the dispatcher from the Berlin

A DAY IN THE LIFE *continued on page 4*

Black Bear and Human Conflicts in New Hampshire

By ROB CALVERT
WILDLIFE DAMAGE SPECIALIST

While the number of black bear complaints from New Hampshire's farmers, fruit growers and beekeepers has been holding fairly steady over the past few years, the number of complaints by residents has been growing.

It's not that we have a blossoming population of bears going on. Rather, we've got more people in the state, and a growing number of them are in bear country.

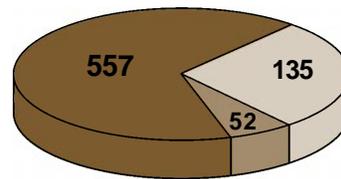
Last year, for instance, there were 610 requests for assistance from homeowners, campgrounds, businesses, etc. (anyone not considered an

agricultural enterprise). Of those, 277 involved bears in birdfeeders; 115 involved garbage, 146 involved structural damage (like ruining clapboards or scratching car paint); and 20 were other, an assortment of problems.

The growing popularity of bird-feeding has contributed to the increasing number of bear/feeder complaints. Raiding feeders has become a learned response by bears. They know that feeders can be a good source of food.

People may need to develop their own learned response. If you don't feed the birds during the spring and summer, you're less likely to attract bears.

Number of Reported Bear Complaints by Resource Category in 2000



Property
Human Health & Safety
Agricultural

A COOPERATIVE APPROACH TO BLACK BEAR COMPLAINTS

The above information on trends in bear complaints comes from a database by New Hampshire's Cooperative Animal Damage Control Program. It's a cooperative effort between the New Hampshire Fish and Game Department and the U.S. Department of Agriculture, Animal and Plant Health

Inspection Service, Wildlife Services.

TO REACH THE COOPERATIVE PROGRAM:

USDA/Wildlife Services
59 Chenell Drive, Suite 7
Concord, NH 03301-8548
603-223-6832
1-888-SHY BEAR

A Theory on Berlin's Cates Hill Bears

By SGT. DOUGLAS J. GRALENSKI

Looking back on the summer of 1999, I now have a working theory as to what led up to my daily encounters with Berlin's Cates Hill bears. Not a day would pass that I didn't deal with several bear/human conflicts.

It didn't take long to see a pattern being established. Like clockwork, each day would start and end the same. Of course, at the time, I thought I was dealing with one bear in this particular area, a consistent schedule of eating, napping and raiding garbage cans and bird feeders.

His schedule was driving me insane. With so many available food sources I was having no luck catching this particular bear.

Finally, my break came one morning when a yearling bear was spotted up a tree at the back of a driveway at a house at the foot of Cates Hill. Trash from garbage bags was strewn about the base of the tree.

Not sure exactly how to deal with this, I backed a baited culvert trap to the base of the tree and set it with this bear a

scant 10 feet over my head. Amazingly, it worked. Within 20 minutes, and in the presence of 50-plus spectators, I caught my bear. My problems were over ... until the next day.

Remarkably, my bear complaints continued through the night and into the days to follow. How could this be? Obviously this bear had a partner. Within a few days, the previous scenario presented itself again. Unfortunately, this time this yearling bear was smarter. Although he went half way in the trap he refused to enter and spring it. More than a week of daily complaints went by with no luck catching the culprit.

Amazingly, this bear lived inside the Berlin city limits 24 hours a day. By tracing his daily movements I was able to find his core area and locate his adopted home. His daily habits even included routine dips in a neighbor's in-ground pool. When he wasn't generating complaints I could find him in his ash tree between two streets almost every time. But he would not be trapped. I had even

brought in a second trap to maximize my efforts.

Unfortunately, a bear living in the city wouldn't be able to live a peaceful life. On one evening, fate forced my hand, and due to circumstances beyond my control, this bear had to be shot. Thinking that would pretty much be the end of Berlin's bear problems, I figured I'd retrieve one trap that night and leisurely remove the other the next day.

Imagine my surprise when I was informed a few hours later that I had caught my bear. Sure enough, the remaining trap had caught a third bear only 200 yards from the notorious ash tree.

So, back to my theory: There were three yearlings, not one and not two. These three yearling bears had made an impressive tag team. I believe these three yearlings were all siblings of the same sow bear. I suspect she was killed during the late summer or early fall of 1998. Her death was probably related to her learned habits as a nuisance. I had regular dealings with a sow with cubs in the same area in 1998, and she

Can you help make New Hampshire BEARABLE?

How to Discourage Black Bears:

- 👉 Never feed them! Insist on metal-topped bear-proof dumpsters where you live and recreate.
- 👉 Keep trash tightly secured, preferably in a closed outbuilding.
- 👉 Bring trash out for curbside pickup on the morning of collection.
- 👉 Keep barbecue grills clean and securely stored.
- 👉 Keep sweets and meats out of compost piles.
- 👉 Take bird feeders down by April 1.
- 👉 Feed pets indoors.

apparently taught her offspring too well. Unfortunately, the only life they knew was to forage for human food.

A Seasonal Menu of Bear Foods

By **WILL STAATS**,
WILDLIFE BIOLOGIST,
REGION 1

Although bears are classified as carnivores, their diet actually consists more of fruits and vegetables than meat. With each passing season bears take advantage of the wild bounty of plants, nuts and berries found in New Hampshire's woods and wetlands. Typically we observe bears foraging on seasonally available foods, shifting their emphasis depending on abundance and availability.

Spring marks the most critical period in the black bear's year. Emerging from their den, bears find natural foods scarce. Berries, nuts and other foods, which are so abundant later in the summer, are for the most part absent. Bears will take advantage of leftover beechnuts, acorns and maple seeds that have begun to sprout and are exposed as the snow recedes. To survive, bears may also subsist on the winter-killed deer they find exposed by melting snow.

More important is the emerging green vegetation growing at the wet springhead seeps and forested wetlands throughout the spring woodlands. These wetlands are the first places to green up, and bears seek out the young succulent grasses and forbs perking up from the saturated soil. Bear will also frequent the back corners of isolated farm fields and meadows to feed on

the new sprouting grasses. Sows and cubs may stay at these locations for days, leaving beaten trails through the grass. Large pine or spruce trees near the field edge will serve as nurse trees, providing a safe, secure location for mom to send the cubs up should danger arise.

A patient observer may notice the grasses or sedges cropped by the teeth of foraging bears; the ends appearing more ragged than the neat clipping job done by the chisel teeth of hares. Perhaps flattened spots throughout the vegetation will be found, indicating where the flat-footed bears have stepped. The large, black droppings of the bear nearby are a final confirmation that the wetland is being used as a feeding area.

In mid-summer, bears shift their foraging to ants and other insects. If you find stumps, rocks and logs turned over around old logging operations, it usually indicates a bruin has been at work. Anthills will be torn apart along the edge of the woods in old pastures. In summer, once again, wetlands play a critical role. The jewelweed found growing in these damp areas is highly prized by bears as food. They love to graze on the lush, succulent stalks and leaves of this wetland loving plant. Another woodland plant utilized heavily by bears is the Jack in the pulpit. With amazing efficiency, bears will



Soft mast, like these blackberries, are an important part of the black bear's summer and fall diet.

If You Encounter a Black Bear



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Normal trail noise should alert bears to your presence and prompt it to move (usually before you even see it). In fact, your best view of the bear may be watching it hurtling through the woods away from you. If it stays, keep your distance. Make it aware of your presence by calling, talking, singing, or making other sounds.

If a bear doesn't immediately leave after seeing you, the presence or aroma of food may be encouraging it to stay. Remove any sight or smell of food. Place food items inside a vehicle or building. Stay in your vehicle or a building until the bear wanders away.

Black bears usually aren't aggressive, even when confronted. Their first response is to flee. Black bears rarely attack or defend themselves against humans.

Black bears will sometimes "bluff charge" when cornered, threatened, or attempting to steal food. Stand your ground and slowly back away.

Enjoy watching black bears and other wildlife from a distance. Respect them and their presence in New Hampshire.

dig up this plant's tuber like root, leaving only the smallest of holes to portray their passing. Often secure among the relative shelter of tall ferns, bears will forage for pulp root near human habitation, never revealing their presence.

In late summer and fall, our woods have a bounty of food for black bears in the form of mast. Sweet, waxy, blueberries, clumps of crimson mountain ash berries, tart wild apples and meaty beech nuts are among the types of mast providing the fat insurance wildlife need to survive the coming winter.

There is both soft and hard mast. Soft mast includes soft, juicy raspberries, blackberries, wild cherries and even apples. Hard mast includes beech, acorns and hazelnuts. Bears take advantage of a wide range of mast. Beech and oak are some of the most important source of hard mast, while apples, cherry and mountain ash make up much of the bears fall diet when it's available. Biologists recognize the

symptoms of a poor berry year when hungry bears begin to show up near civilization to eat birdseed, garbage and other alternative food sources.

The importance of mast for bears and other wildlife cannot be over-emphasized. The ability of these animals to put on fat in a short time frame each fall can have direct bearing on how successful pregnant female bears are at producing cubs in the den, how well the cubs survive through the following spring or the very survival of the sow herself.

New Hampshire biologists go afield every year to assess mast availability. Surveying a range of habitats including oak and beech ridges, old orchards, back roads and fields, biologists try to determine the abundance and viability of the mast crop. In addition, biologists frequently work with forest managers to protect key stands of beech and oak to ensure that this important food source will remain available for future generations of bears.

Police Department called me out to a bear complaint at the apartment complex. I knew exactly where to go because Sow #1 always pillaged the same dumpster. As she held the lid open with one paw, she would throw garbage bags out with the other. She would then drag bags off into the woods.

I pulled in behind Sow #1 and got out of the truck to try and persuade her back into the woods. Talking to her, I took a few steps forward and stopped about 20 feet away. She turned her head, stared at me, and turned back to the dumpster, as if contemplating her next move. Deciding it may not be worth the effort to confront me with her cubs nearby, she dropped the lid of the dumpster and scooted back into the woods. I had been through this scenario many times with Sow #1, and I knew it wouldn't be long before she returned.

Back in my truck, I kept an eye on the telemetry equipment to get an idea of how far she went. Ten minutes later, she crept back out of the woods with her cubs at her heels ready to give it a second try. Again, I got out of the truck and walked

toward her before she had the opportunity to reach the dumpster.

Her disgust at my presence was evident when she bluff charged, taking a step toward me to observe my reaction. Knowing this was a ploy to get me to back off, and because I had gone through this with her before, I held my ground. In a last attempt to intimidate me, she began popping her jaws, a noise made by opening and closing her mouth, creating suction and the sound of teeth clashing together.

She then extended her body up the side of a tree, running her claws down the bark to make herself look bigger and waited for my reaction. I took one more step toward her. She then dropped off the tree and was gone before she hit the ground. I looked over the stream bank just in time to see her smash through the water into the woods with her cubs following as fast as they could.

According to the telemetry signal, she was long gone, and I knew she wouldn't come back that day. I knew it wouldn't be long before her nuisance behavior would surface in another neighborhood.

RESEARCH *continued from page 1*

look at the GPS data. One bear's collar, for instance, took 904 valid GPS readings over six months. By plotting the readings on a map, biologists can see where that bear went between early summer when the bear was collared and fall, when bear went to her den. This particular bear was a sow with two yearlings.

"This study will provide more information about bears' home ranges and seasonal habitat use than any other in New Hampshire, if not all of New England," Adams said. "This past year was a pilot year.

Now that we know the GPS collars will work in our habitat, we're buying five more and will capture five more bears this spring for a total of four bears in Berlin and four in Lincoln. Then the study will run for three years."

What's the objective of all this? The data will improve our knowledge of nuisance bear ecology, such as the daily and seasonal activity patterns and habitat use of nuisance bears, Adams said. "The more we understand about their ecology, the better job we can do in managing them." 🐾

That evening was quiet. Sow #1 was on the move to the southern edge of her range over 3 miles away. She was in a neighborhood where a home-owner insisted on feeding the bears in her backyard. This woman would spend over \$50 per week on cookies, donuts, and dog food for "her" bears. Over two summers, this resident had attracted at least six different bears into town.

I knew I would not receive a complaint from this individual, but there would be many complaints from her neighbors.

Two of the collared bears were converging in her backyard for their free meal. Sow #2 (not as bold as Sow #1) would venture into town only to visit this specific feeding area. Conversely, Sow #1 had established her whole territory within the city limits. The more time she spent there, the bolder she became. Sow #1 had single-handedly caused over 55 percent of the nuisance bear activity in Berlin during that summer. Bear nuisance complaints, which have

historically been blamed on multiple bears, were in reality attributable to a single bear.

With her cubs, Sow #1 would usually spend nights in the little strips of woods between the Berlin neighborhoods, sometimes going up along the road to the paper mill's dump. In fact, that's where Sow #1 and her cubs finally denned down this winter, within sight of the road to the dump. By now, those little cubs are yearlings and eager for food. 🐾



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When a bear has a radio-telemetry collar like this one, biologists can locate the animal and monitor its activities. Fish and Game intern Jillian Kelly spent part of last summer and fall following bears in the Berlin area for a research project on nuisance black bear behavior.

This program receives Federal financial assistance from the US Fish and Wildlife Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972. The US Department of the Interior and its bureaus prohibit discrimination on the basis of race, color, national origin, age, disability, or sex (in educational programs). If you believe that you have been discriminated against in any program, activity, or facility, or if you desire additional information please write to:

The US Fish and Wildlife Service
Office for Diversity and Civil Rights Programs – External Affairs
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Arlington, VA 22203

For more information or technical help about New Hampshire's black bears:

- ✓ Call 888-SHY-BEAR (888-749-2327)
- ✓ Visit www.wildlife.state.nh.us
- ✓ Call Fish and Game for a free information packet: 603-271-3211.

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