

Spanning the Gap

The Black Bear



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Spanning the Gap
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Spring

As the snows of late winter melt and the waters merge with the run-off of early spring rains, the black bear, *Ursus americanus*, slowly awakens from its long winter nap. (Contrary to popular belief, bears are not true hibernators. They enter a torpor, a state of dormancy similar to hibernation, but bears may actually wake up and go back to sleep during the winter.) Because of the bear's ability to sleep through most of winter, some American Indian tribes believed it could rise from the dead, and many eastern cultures honor the mystical bear. Science has taught us the bear utilizes this unique biological process to avoid winter's famine.

Once awake, the bears wander lazily for up to two weeks. Slowly, their metabolism shifts to accommodate a more active condition, and they begin to feed. However, the foods bears favor for weight gain (berries, nuts and acorns) are not present in the spring. The trees and bushes which produce these tasty morsels during summer and autumn are only beginning to produce leafy buds. The newly emerging tender shoots provide a plentiful diet. Nutritionally, the shoots provide black bears with some of the protein they require for structural growth, rebuilding flabby muscle and strengthening their skeleton. But, this source of nutrients is short-lived. The shoots are tender for only a few days before hardening with cellulose,

Sleeping bears -- FOR THE PROFESSIONALS ONLY



Bear capture in the park,
Spring of 1984. (NPS Photo)



A wildlife intern with a bear in
2000. (NPS Photo)

offering little nutritional value.

Winter caches of nuts and acorns provide a second source of food. These caches, laid away last autumn by the squirrels, provide a source of fats and proteins for the hungry bears. However, even with its keen sense of smell, the bear must spend a great deal of its time to uncover the few remaining caches of nuts.

A third springtime food source for the black bear is carrion, particularly after a hard winter during which many deer and smaller animals may have died. Meat is also acquired through predation. In the northeast, yearlings and sick or aging deer weakened during winter are their primary prey. Bears have also been observed consuming birds, nests, and eggs. However, the black bear's primary source of animal fat and protein is of insect origin: bees, yellow-jackets, ants and their larvae. About 80 to 90% of the black bear's spring diet comes from herbs and grasses. (Predation of humans is not a serious concern.)

Occasionally, a male may pause along a trail and rake a tree, leaving behind huge scars. The bark will be ripped and furrowed; sap, the tree's life blood, drips from the wound. Often, the bear will then rub his back against the fresh tree wound, leaving behind his scent and hair. Bears do not possess scent glands and rely on body odor to identify themselves. Such activity may indicate to available females that a male is wandering through her domain, or it may be a warning to less dominant males. It is not likely to be a mark of other territoriality.

Between the time the grasses harden and the berries ripen, *Ursus americanus* turns springtime thoughts to the ritual of mating. The bears are solitary wanderers, freely roaming their woodland homes, except for a few days when male and female bears unite. The breeding season extends from late May through early July. However, implantation of the fertilized egg will not occur for

WAY TOO CLOSE bears (NOT RECOMMENDED)



The type of encounter that is stressful for both bear and human.



Autumn close-up.



Circumstances of this encounter in a rhododendron thicket were not recorded, but they do not look especially good for the photographer. ***Leave the dramatic shots to the professionals!***

approximately five months, and then only if the female is healthy and has enough stored fat to support herself through the winter. This delay gives newborn cubs a head start to survive their first winter. At birth cubs weigh only a few ounces, but they will weigh 4 to 10 pounds when their mother finally ends her period of torpor. At that point the cubs will be able to browse and nurse, and have five months to grow and lay on fat to ready themselves for the upcoming winter.

Spring is a time of awakening and beginning for the black bear. It is a time to awake to the newness of creation and the necessity of procreation, beginning another year of foraging to survive the winter famine. It is truly a time to again realize the wonders of the natural world.

Summer

While the grizzly bear migrated to North America about 100,000 years ago, the black bear evolved here approximately 5,000 years ago, adapting to its forest habitat. It is the only bear native to North America, and continues to restrict itself to that range.

This bear requires forest habitat and prefers thick cover. Pennsylvania, with its swamps, abandoned farm fields, mature oak forests and plentiful berry crop, is one of the best black bear habitats in North America. Standing 2 or 3 feet tall at the shoulder and measuring 5 to 6 feet from nose to tail, the black bear is the smallest bear in North America. Despite its name, its coat may vary from a deep rich black to cinnamon and even blond.

When black bears emerge from their winter dens, they have lost much weight. The weight loss continues through the spring and the June mating season. However, once the berries and soft mast of early summer ripen, the weight loss ends. Most weight gain for the black bear occurs during late summer and early autumn.

Jaywalking Bears



Crossing River Road near Smithfield Beach PA. **As close as any visitor should ever get!** (Photo courtesy of RoseMarie Nadzam)

Swimming bears



Taking a dip in the pond at park headquarters PA. (NPS photos by Malcolm Wilbur)
NOTE: Mr. Wilbur was safe behind the plate glass of his office window.

Increasing human activity in bear habitat, both for recreation and development, has thrust this solitary and shy animal into ever increasing contact with people as it seeks food sources. Many people consider an encounter with a bear the highlight of their vacation; yet, the instinctive response to the black bear is fear. Homespun tales of frightening encounters from friends and neighbors perpetuate the love-hate relationship of humans and bears. Understanding the life cycle and natural responses of the black bear can make your encounter with a bear safe and memorable.

Bears are intelligent creatures who communicate through body language. Learning that language may save you from injury and may save an individual bear from execution. Black bears are solitary animals. They do not enjoy physical contact. They do not touch each other, except during mating season and when a sow reprimands her cubs. **Do not tease or attempt to pet them.**

An true incident of a young boy following a panhandling bear, touching and tormenting it, illustrates the natural behavior of the black bear. The black bear turned, knocked the boy down, pinned the boy to the ground by his neck, and then released him, and wandered away, leaving the boy frightened but unharmed. This was not a bear "attack" but an adult bear reprimanding an unruly "cub". The bear was attempting to teach the boy some manners, in the same way it would teach its own cubs if their behavior was annoying.

A sow with her cubs, if she perceives a threat, will lunge toward the threat. However, she usually does not make contact. The sow will stop and assess the situation. If the cubs are safely up a tree and the threat has dissipated, the female may stare hard or chase the individual away until the threat is gone; she will rarely make contact.

Injury usually occurs when bears lose their fear of humans. Once bears become habituated to people and their food an unnatural relationship is

Picnicking bears



A picnic area contact in the early days of the park.



The smoking gun (or garbage can) ... incriminating circumstances at Dingmans Falls Visitor Center in 1991. (NPS photo)



Still at it! Caught in a raid at a picnic area in 1999. (NPS photo by George Ratliffe.) NOTE: Mr. Ratliffe, a professional photographer, used a long-distance lens.)

established. An excellent illustration of this point involves a woman using food to entice the bear to stand on its hind legs. Once the food supply ran out, the bear returned to its natural position on four legs. As it returned to this position, one of the bear's paws caught the woman's blouse, ripping it and scratching the woman. The bear intended no harm.

If a nuisance bear should enter your camp, bang pots together or make loud noises. If this should fail, step back and surrender your food. Store food in airtight containers locked in the trunk of your car or hang food supplies high in trees away from your tent or site. **Keep a clean camp.**

With a little knowledge and a lot of common sense, you can grow to respect rather than fear the black bear. It is a wild, powerful, solitary resident of our forests. If you come upon one in the woods, do not touch or feed it. Treat it with respect, and both you and the black bear may have a positive "memorable encounter".

Fall and Winter

Autumn is the time of year when nature prepares for winter. Common sights are the glorious fall colors of the forests and the industrious squirrel hiding nuts for his winter caches. The black bear is no exception. This primarily herbivorous carnivore (The black bear is classified as a meat-eater but most of its diet consists of plants) forages through the leafy litter in search of acorns, hickory and beech nuts. However, the bears are not solely dependent upon the harvest of ripe nuts which drop to the forest floor. While the nuts are still green, bears can climb high into the canopy of the tree's upper branches in search of food. The bear then bends the flexible branches into a woven nest where it forages without competition.

During late summer and autumn, harvesting nuts may keep the bears active 20 to 23 hours per day. (They will have plenty of time to sleep later.) If supplies of nuts are plentiful, black bears may gain

Climbing bears



Treed! Bears do not outgrow the urge to climb. A large large and heavy adult can and will climb a tree. (NPS photo)

Strolling bears



Meandering through a field. (Courtesy of a park visitor using a long-distance lens.)

more than 350 pounds during September and October.

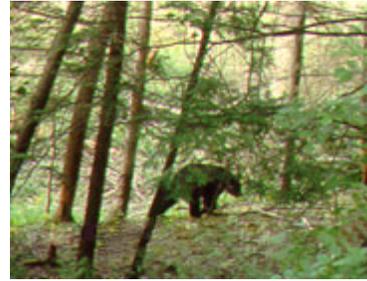
Many bears leave their home ranges at this time of year, wandering as much as 60 miles in search of additional food. Labeled the "fall shuffle" by some wildlife biologists, this annual trek includes the dispersal of sub-adult males in search of their own range. During years of food scarcity, females with cubs may also join the odyssey.

Bears who wander during the fall shuffle return to their home ranges to *den* through the winter. Denning occurs when each bear has added enough fat to survive the winter. If the food supply is plentiful, denning may occur as early as September, or, if scarce, as late as December.

Once a bear has added sufficient fat to survive the winter, it can curl up and sleep for 6 months or more. (Bears are not true hibernators. They enter a state of dormancy called *torpor*. Bears may actually wake up and go back to sleep during the winter.) While in its dormant state, the black bear will not change position, defecate, urinate, eat or drink. During this time of starvation, its body chemistry remains healthy. No muscle atrophy, bone or nerve cell degeneration occurs to a healthy bear.

This amazing process which enables a bear to sleep through the winter famine also enables pregnant females to give birth during a period of starvation. The pregnant sow carries to term, gives birth, and nurses her cubs during "hibernation". Her cubs will weigh about 12 ounces at birth in mid-January, and 10 pounds when she awakens in April.

During their long period of torpor, black bears consume 25-40% of their body weight. But, they do not lose any lean body mass (protein). Loss of fat accounts for nearly all weight loss. Upon awakening in April, the black bear begins the cycle anew, and starts its search for food--food which will provide a critical energy source for winter when the bear will once again sleep to survive.



In the woods at headquarters pond PA. (NPS photo) NOTE: taken by a park employee from the safety of her car.



A mother with cubs eyes on Mt. Minsi. (The ear of one cub shows in the white box at left). *The hiker chose another route. (NPS photo)*



Out for a morning walk.