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Wild Evergreen: Black Bears preparing for hibernation – Evergreen Audubon

10-13 minutes

Bear rising from a nap, Hiwan Hills, August 2012. Photo by Marilyn Rhodes.

Black bears have lived in the foothills and forests of Colorado since long before the pioneers arrived and are familiar to many of us residing in the high country.

If you've lived in the foothills for a while, you've learned how to live in bear country.

Colorado Parks & Wildlife offers valuable information about Living with Bears on their website: http://cpw.state.co.us/learn/Pages/LivingwithWildlifeWildBears.aspx

Bear Season – April 15 through November 15

Black Bears are the most common bears in North America and the only known bears in Colorado. Estimates show their numbers nearing 12,000 in Colorado. Grizzly bears have been extinct in Colorado since about 1970.

In Colorado, the largest populations of black bears live in areas where Gambel Oak, Aspen trees, and open areas of chokeberry and serviceberry bushes are readily available. A black bear may have a range anywhere from 10 to 250 square miles.

Facts about Black Bears

• Black is a species, not a color. In Colorado many black bears are blonde, cinnamon or brown.
• Over 90% of a bear's natural diet is grasses, berries, fruits, nuts and plants. The rest is primarily insects and scavenged carcasses.
• Black bears are naturally shy, and very wary of people and other unfamiliar things. Their normal response to any perceived danger is to run away.
• In Colorado, most bears are active from mid-March through early November. When food sources dwindle they head for winter dens.
• With a nose that's 100 times more sensitive than ours, a bear can literally smell food five miles away.
• Bears are very smart, and have excellent memories. Once they find food, they continue coming back to that location for more.
• During late summer and early fall months bears need 20,000

calories per day to gain enough weight to hibernate through winter without food or water.

• Bears aren't naturally nocturnal, but frequently travel at night to avoid human interaction.

It's important to know how to exclude bears from neighborhoods by denying them food sources. I think it's equally important to understand their activity cycles so that you know when they are the most active and why they are so desperate for food.

Here are easy to understand summaries of the black bear's five annual stages of activity and how those activities effect their behavior, month by month. I've only seen black bears from May through September and have provided photos of several I've seen to illustrate how they might look each month.

Please do what you can to prevent conflicts with bears. Bears that become aggressive in their pursuit of an easy meal must often be destroyed. Every time we're forced to destroy a bear, it's not just the bear that loses. We all lose a little piece of the wildness that makes Colorado so special.

5 Stages of Activity and Hibernation

The annual cycle of black bear activity and hibernation has five stages:

1. Hibernation
2. Walking hibernation
3. Normal activity
4. Hyperphagia

5. Fall transition

The stages differ in biochemistry, physiology, appetite, and level of activity. The onset and duration of the stages are genetically programmed to fit regional norms of food availability, which differ across America.

For example, around Evergreen, if fall food is scarce, bears begin hibernating in September or October and remain in dens for 6 or 7 months until April. If supplemental food is provided to these bears in fall, they abandon it to begin hibernating on time, as they are genetically programmed to do. Bears around Evergreen usually continue hibernating through winter thaws.

The activity schedule is very different in eastern North America where acorns, hickory nuts, beech nuts, and other foods become available in fall and some foods remain available all winter. Bears there are genetically programmed to delay hibernation until late November or December and hibernate less than 5 months. Hibernation there is typically not as deep, and some bears emerge to forage during winter thaws. Food sometimes remains available throughout winter there, and some bears continue foraging throughout winter.

Experimental studies with captive bears revealed the following:

Stage 1—Hibernation is continuous dormancy with distinct decreases in heart rate and metabolic rate. Bears use up to 4,000 kcal per day, mainly body fat, but do not eat, drink, urinate, or defecate. They can reduce oxygen consumption and metabolic rate by half and breathe only once every 45 seconds. Heart rate can drop periodically to 8-21 beats per minute, and blood flow to

skeletal muscle, particularly the legs, can be reduced by 45% or more, making some bears slow to arouse and run away in winter. Blood perfusion rates of peripheral tissues can fall below levels needed for aerobic metabolism in humans.

Stage 2—Walking hibernation is the 2-3 weeks following emergence when metabolic processes adjust to normal summer levels. During walking hibernation, bears voluntarily eat and drink less than they will later during normal activity. They also excrete less urine, nitrogen, calcium, phosphorus, and magnesium.

Stage 3—Normal activity typically lasts from green-up in spring to the onset of hyperphagia in midsummer or fall, depending upon region. During this stage, bears with unlimited food eat 5,000 to 8,000 kcal per day. If they are denied water and food during this stage, they cannot duplicate hibernation responses. Instead, they become dehydrated, utilize muscle for energy, and accumulate nitrogenous wastes in the blood, which can be fatal.

Stage 4—Hyperphagia is a period of excessive eating and drinking to fatten for hibernation. Black bears with unlimited food and water ate 15,000 to 20,000 kcal per day and drank several gallons. Large amounts of water are needed to process the large amounts of food and rid the body of nitrogenous waste. Daily urine volumes for two bears were 2-4 gallons (8-16 liters). Nitrogen losses were 2.4 to 3.7 ounces (69-104 grams)

Stage 5—Fall transition is a period after hyperphagia when metabolic processes change in preparation for hibernation. Bears voluntarily eat less but continue to drink to purge body wastes. They become increasingly lethargic, resting 22 or more hours per day, often near water. Active heart rates fall from 80-100 per

minute to 50-60 per minute, and sleeping heart rates fall from 66-80 per minute to less than 22 per minute.

Typical Year for Black Bears

January: The full moon in January is sometimes called the 'bear moon'. Black bear cubs are generally born in January. The mother bear licks them clean, keeps them warm and moves into positions to make it easier for them to nurse.

February: All bears continue to hibernate. Newborn cubs continue to grow as mother bears care for them.

March: Hibernation continues. The testosterone (sex hormone) levels of adult male black bears begin to rise.

April: The snow melts and bears leave their dens. Adult males leave their dens first while mothers with cubs are the last to leave their dens. Food is very scarce. Adult males begin to roam. Most other bears remain lethargic (sluggish), eating mainly aspen catkins and willow catkins (pussy willows). All bears lose weight at this time of year.

May: Green plants begin to grow and trees begin to sprout leaves. The bears' lethargy (sluggishness) ends. They begin to eat sprouting grass, emerging herbs and young aspen leaves. Cubs taste what their mother eats, but swallow very little of it. They still rely on their mother's milk. Mother bears that are nursing young cubs continue to lose weight. Other bears slowly begin to gain weight.

Bear sow with triplets, Hiwan Hills, May 2012. Photo by Debbie Ruikka.

June: Green plants mature and toughen, making most of them inedible for the bears. Ant pupae become abundant and bears add them to their diet. Mating season begins and males roam widely to find females without cubs. Cubs begin eating solid food, especially ant pupae from logs their mother opens for them. Mothers stop losing weight. Others bears gain weight slowly.

July: Bears primarily eat vegetation such as grasses, forbs, berries, acorns, and seeds. They also eat insects or scavenge on carcasses, but also occasionally prey on newborn calves and fawns, beaver, marmots, deer, elk, or depredate on domestic livestock or agricultural products. All bears gain weight rapidly, especially if berry crops are good.

August: Bears continue to feed on Gambel Oak, Aspen trees, chokeberry, and serviceberry. All bears continue to gain weight.

Just hanging out, Hiwan Hills, August 2012. Photo by Marilyn Rhodes.

Up a tree, Hiwan Hills, August 2012. Photo by Marilyn Rhodes.

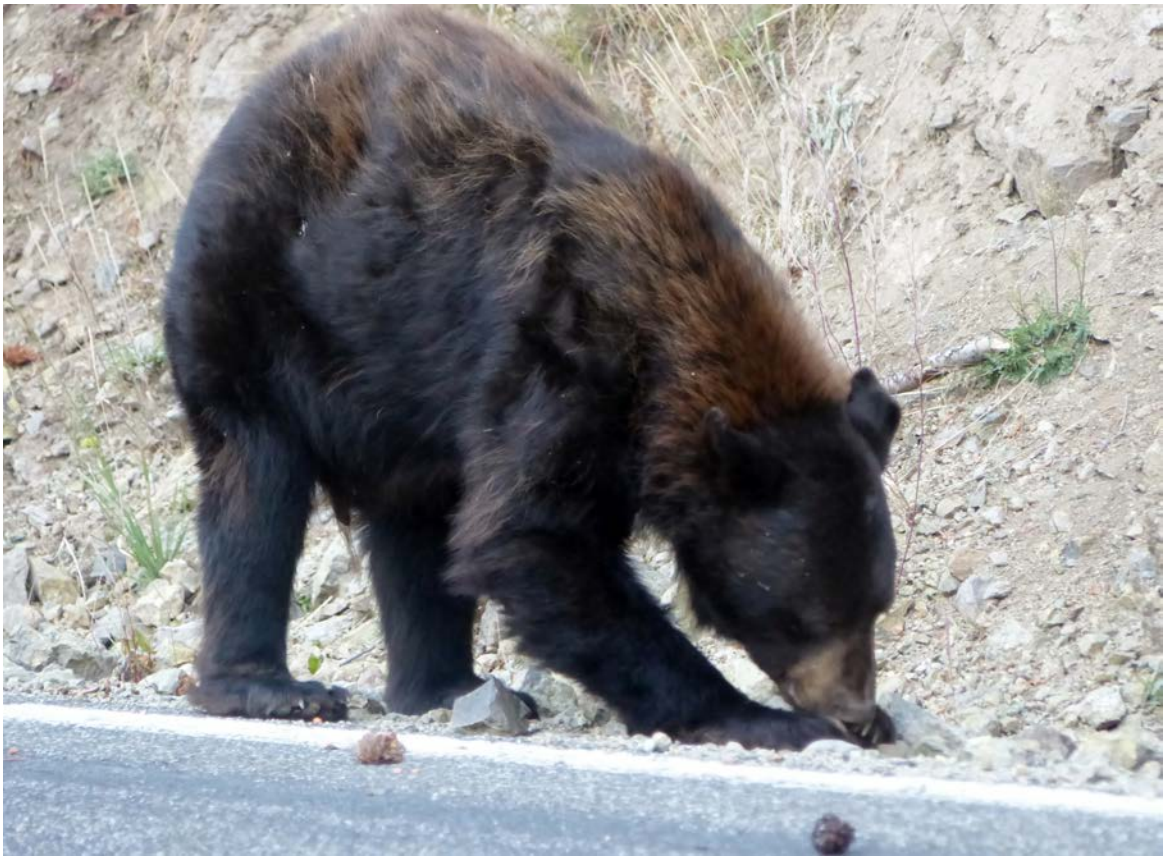
When a localized natural food failure occurs, black bears from the affected area become increasingly mobile and persistent in search of human food sources, including trash, fruit trees, pet food, bird feeders, livestock and agricultural products. The search becomes urgent and almost constant from about mid-August through late September, a period when bears' appetite naturally increases dramatically as they prepare for hibernation.

Black bear cub looking for Mom, August 2014, CO Hwy 14 east of Walden. Photo by Marilyn Rhodes.

September: Acorns ripen. Berries become scarce. Where acorns are abundant, bears feed and fatten on them. Other bears begin losing weight. Cubs stop nursing. Bears begin to become lethargic (sluggish) and some enter dens to begin hibernation.

Lost cubs looking for Mom on Mount Evans, September 2015.

Photo by Marilyn Rhodes.



Black bear gorging on whitebark pine seeds, Yellowstone NP, September 2016. Photo by Marilyn Rhodes.

Black bear sow and cubs gorging on whitebark pine seeds, Yellowstone NP, September 2016. Photo by Marilyn Rhodes.

Black bear sow gorging on whitebark pine seeds, Yellowstone NP, September 2016. Photo by Marilyn Rhodes.

Black bear cub gorging on whitebark pine seeds, Yellowstone NP, September, 2016. Photo by Marilyn Rhodes.

October: Most bears enter their dens and begin a light hibernation. Cubs born last winter will share their mother's den.

November: Hibernation deepens. A hibernating bear's heart rate slows to as low as 8 beats per minute. Breathing becomes as slow as one breath every 45 seconds. Eggs fertilized in the late spring or early summer implant in the uterus and begin to develop.

December: Hibernation continues. Cubs will sleep through their first birthday (in January) without celebrating.

Source: North American Bear Center website