What Kind of Bears Are In Virginia?

VIRGINIA BLACK BEAR

101

Jaime Sajecki
Bear Project Leader

Brown and Blond Phase Black Bear Cubs

What Kind of Bears Are In Virginia?

Brown Bear

Only 58% of Virginians correctly named black bears as the only species of bear living in Virginia.

What Kind of Bears Are In Virginia?

Brown Bear
LIFE HISTORY OF BLACK BEARS

Weight
Males (boars)
adult weight 200-500 pounds
Females (sows)
adult weight 100-250 pounds

Large, Non-retractable Claws
Climbing trees
Digging up insects
Defense

Senses
Nearsighted
Keen sense of smell/hearing
Bears can see in color: This helps them find insects and small colorful berries while foraging.

Behaviors
Solitary most of the time.
Active at dawn and dusk
Omnivorous and opportunistic

Movements
SPRING/SUMMER
• Bears leave dens in search of food
  - Food is limited
• Female bears: Travel with cubs
• Male bears: Mostly solitary
• Yearlings may be with siblings
• Yearlings left to fend for themselves when female ready to mate again
**Movements**

**FALL**

**FOOD! FOOD! FOOD!**

Bears can forage up to 20 hours a day in preparation for denning.

**What Bears Eat**

- ~75% of the bear’s diet consists of vegetative matter; berries, nuts, grasses, and fruits
- ~25% consists of insects, larvae, carrion, small animals, and fish.

Although they are not particularly good hunters, they have been known to prey on small to medium-sized mammals such as rodents and deer fawns.

**What Bears Eat**

### Spring
- Grasses/Forbes
- Insects/Larvae
- Skunk Cabbage
- Squaw Root

**What Bears Eat**

### Summer/Fall
- Berries (blue-, huckle-, black-, wild straw-)
- Hard mast
- Dogwood
- Wild Grapes
- Serviceberry
- Mountain-ash
- Hawthorn
- Chokecherry
- Pokeberry
- Sassafras

**What Bears Eat**

- Formic acid

Formic acid is probably a reason bears sometimes bite into insulated snowmobile seats, hot tub covers, and refrigerator walls. These items all produce formic acid when the formaldehyde in the insulation breaks down, making them smell like ant colonies.

**The Importance of Fall Foods**

- Bears may gain > 1-2 pounds per day beginning in late summer through the fall in preparation for denning
- Need high energy foods (protein, carbohydrates, and fat) to gain weight
- Most important = Acorns
  - During good mast years, bears may than double their body weight between August and December.
- Cultivated corn, peaches, cherries, apples, and other fruits attract bears especially when natural food sources are scarce

**Home Range**

- Males: ~10-300 square miles
- Females: ~1-50 square miles

Home ranges of bears vary: season, habitat quality, reproductive status

Male hr usually include female hr
Female hr usually overlap
### Habitat Requirements
- Food
- Water
- Escape cover
- Den sites
- A variety of habitat types
- Ideal habitat includes combinations of mast producing trees, early successional habitats, edges of various successional stages, streamside management zones, and wildlife clearings.

### Winter “Hibernation”
- Not True Hibernators: body temperature only falls 2-4°F of surrounding temperature.
- Bear body temperature only falls 9-14°F.
- Do not eat, drink, urinate or defecate.
- Respiration/heart rates decrease.
- May lose 30% body weight.
- Easily aroused from slumber.

### Winter “Hibernation”
  - Time of entry depends on reproductive status, weather, and available foods.

### Den sites in Virginia
- Rock cavities, excavations, brush piles, trees, snags
- In western Virginia, they use a high percentage of tree dens (~69%).
- In eastern Virginia, they more often found in ground dens.

### Reproduction
- Sexually mature ~ age 3.5.
- Reproduce every 2 years.
- Breed late June - August.
- Fertilized egg “floats” until December (delayed implantation).

### Cubs born mid-late January in den (½ to ¾ lbs).
- Litter size ~2.5, range 1-4.
- Born blind and helpless.
- Rely on their mother through the next denning season.

### Mortality
- 20-25% cub mortality rate during the first year.
- Cub losses due to predation or separation from the female.
- Adult mortality low (<2% annually).
- No natural predators.
- Relatively unaffected by parasites and diseases.
- Mortality related to human activity has the greatest impact on black bear survival in Virginia.
**Bear Population Dynamics**

- Populations grow very slowly
  - Max. 25% increase per year, not hunted
- Hunting mortality is additive
  - Bears killed by hunters are in addition to those who would have died from natural causes

*Low population growth + limited reproductive potential = slow population recovery from over harvest or low pop. levels*

**Population Declines**

- Pre 20th Century - limited info.
- Early 1600’s, Colonial times - abundant statewide
- 1739 bears only in western mountains and swamps
- By 1900 - near extinction in VA
  - typical agriculture; extensive deforestation, burning, grazing, cultivation = little habitat left for bears

**Population Recovery**

- 1911 land purchases began
  - Mt Rogers, Natural Bridge, Shenandoah National Park
- Ag-land began reverting back to forests
- Creation of parks secured protected habitat for bears

**Population Recovery**

- Bear numbers began to recover by mid 1940’s in some western counties
- Population has been steadily growing and expanding
- Today, all counties open to bear hunting in Virginia
- ~ 90% of VA counties

**1950’s Occupied Black Bear Range**
1970’s
Occupied Black Bear Range

1980’s
Occupied Black Bear Range

1990’s
Occupied Black Bear Range

2001
Occupied Black Bear Range

Present
Occupied Black Bear Range

Population Density

You live in bear country!
Bear Management Actions & Research Programs

- **Hunting Regulation Changes**
  - Hunting regulations historically (since 1930) encouraged bear population growth.

- **Nuisance Bear Management**

- **Restoration in southwest Virginia**
  - 210 bears to Mt. Rogers area (starting in late 80’s)

- **Population monitoring programs**
  - Harvest information

- **Bear Research in Virginia**
  - Since the 1950’s: population dynamics, movements, sex ratios, age structure, reproduction, survival rates, mortality factors, population size, food habits, home range, denning ecology, etc.

Bear Project Components

- Habitat
- Population
- Human/Bear Interaction
- Bear Related Recreation

Bear Habitat

- Since 1992, over 961 square mi of forested land have been lost to land-use changes;
  - (62%) cleared for urban development
  - (37%) agricultural use
  - (1%) conversion to water impoundments.

- Hardwood forests make up 78%
- Softwood forests make up 22%

- Future potential impacts on bear populations
  - Decreased timber harvesting on public lands reduce forest habitat diversity.
  - Habitat fragmentation
  - Barriers (high volume roads).
**Population Distribution**

- Black bears occur in all 13 of the southeastern states.
- The bears in Virginia’s western mountains belong to the largest contiguous bear population in the southeast.
- Virginia’s largest bear populations:
  - in and around the Great Dismal Swamp National Wildlife Refuge in southeastern Virginia
  - along the Blue Ridge Mountains
  - in the Allegheny Mountains.
- Virginia’s bears are established across most of the state and may be seen in almost any county.

**Population Status**

- Bear populations have increased in Virginia and throughout the eastern United States during the past quarter century.
- No practical methods exist to accurately and precisely estimate black bear population size in Virginia.
- Bear population status is obtained by monitoring indices derived from harvest and age structure.
  - Trends
  - Population Reconstruction
- Modeling indices provide a current statewide population ~ 16,000 bears.

**22 Bear Management Zone Analysis**

- Multi-year trends in harvest data generally correspond to overall population trends.
- Since 2001, the statewide bear population has been increasing at about 9.5% annually.

**Bear Damage**

2001-2009 bear complaints:
- 67.5% non-agricultural/residential concerns
- 22.8% agricultural
- 9.7% other issues

**Average number of bear related complaints by decade (1970 – 2009).**
Bear Related Recreation

Wildlife Watching
- Important to Virginians: 81% of all wildlife-associated recreation in Virginia is wildlife watching.
- 1999 survey: black bears were second to raptors as the animals Virginians were most interested in taking a trip to see.

Bear Hunting

Public Bear Values

Other Public Values
- A symbol of the American wilderness, bears are valuable to many citizens simply because they exist in their native ecosystems.
- Also used as an indicator of ecological health.

Bear Population
- Public opinion: statewide population objectives, local population objectives

Cultural carrying capacity:
- the maximum number of bears in an area that is acceptable to the human population.

Black Bear MANAGEMENT OBJECTIVES

Population Management:
- Designed to increase, decrease, or stabilize population levels in a given area.

Human-Bear Problem Management:
- More specifically target human-bear problems

"I’m Afraid to Go Outside"

In this part of the black bear range:
- Bears do not exhibit predatory behavior.
- In Virginia there has never been an unprovoked attack on a person.

In North America, considering the hundreds of thousands of human-bear encounters and a population estimate of close to a million black bears the risk of injury and death is extremely minimal.

The Reality

Many people are afraid of being killed by a bear, but according to the National Center for Health Statistics, for every person killed by a black bear in North America, 60 are killed by domestic dogs, 180 by bees and 350 by lightning.
**Human Deaths Related to:**

<table>
<thead>
<tr>
<th>Event</th>
<th>Frequency</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Bears</td>
<td>1</td>
<td>Every 2 years in ALL OF NORTH AMERICA</td>
</tr>
<tr>
<td>Dog Attacks</td>
<td>15</td>
<td>Year</td>
</tr>
<tr>
<td>Non fatal visits to emergency room from dog bites</td>
<td>1000</td>
<td>Day</td>
</tr>
<tr>
<td>Hurricanes</td>
<td>16</td>
<td>Year</td>
</tr>
<tr>
<td>Tornadoes</td>
<td>65</td>
<td>Year</td>
</tr>
<tr>
<td>Being Struck by Lightning</td>
<td>70</td>
<td>Year</td>
</tr>
<tr>
<td>Bee Stings</td>
<td>80</td>
<td>Year</td>
</tr>
<tr>
<td>Riding a Bicycle</td>
<td>800</td>
<td>Year</td>
</tr>
<tr>
<td>Accidental Gunfire</td>
<td>1500</td>
<td>Year</td>
</tr>
<tr>
<td>Walking / Pedestrians</td>
<td>8000</td>
<td>Year</td>
</tr>
<tr>
<td>Murder/Homicides</td>
<td>17,000</td>
<td>Year</td>
</tr>
<tr>
<td>Automobile Accidents</td>
<td>47,000</td>
<td>Year</td>
</tr>
<tr>
<td>Automobile Collisions with Deer</td>
<td>150</td>
<td>Year</td>
</tr>
<tr>
<td>Cardiovascular Disease</td>
<td>885,000</td>
<td>Year</td>
</tr>
</tbody>
</table>

**Bears in your backyard?**

In VA, it is illegal to deliberately feed bears on public or private lands. Even the inadvertent feeding of bears is illegal.

**Never Feed Bears!**

Never feed bears. They might become dangerous.

**Types of Complaints**

- Birdfeeders: 31%
- Trash: 46%
- Other: 20%
- Livestock: 5%
- Livestock Feed: 3%
- Apory: 2%
- Corn: 2%
- Orchard: 1%
- Property Damage: 7%

**Remove or Secure All Potential Sources of Food**

- Bird feeders
- Garbage
- Pet food
- Vegetable crops and fruits
- Bee hives
- Livestock food
Manage and Secure Your Trash

50% of Bear Complaints are Trash Related

Bear Proof!

BEAR RESISTANT GARBAGE CAN CADDY

Take Down Birdfeeders April 1st – December 1st

30% of Bear Complaints are Birdfeeder Related

Feed your pets, not bears!

Feed pets only what they will eat.

Remove bowl soon after they finish.

Do not leave food out overnight.

Store pet food in secure location.

Don’t forget the grill!

Keep outdoor grills clean

Do not leave food scraps or spilled grease in your yard
**Protect Crops and Orchards**

- Set up electric fencing
- Use noise makers
- Pick ripe fruit and remove fallen fruit

**Protect Your Bees**

**Electric Fences**

**Bear Proof Home and Neighborhood**

- Talk to your neighbors
  
  - It only takes one....
- Screen-porches should not be used for storage
- Remove fruit producing plants from around your home
- Keep garages closed at night
- Secure outbuildings
- Bear "Unwelcome" mats
- Paintball guns
- Talk with your community leaders about bear proof trash disposal and pickup options

**A Bear in Your House**

- **DON'T PANIC**
- Open all doors to outside
  
  - Keep something handy near doors
- Get out of the way
  
  - Don't block escape routes
- Yell, throw things, make noise
- Don't approach but don't back down

**Nuisance Bear Management**

Before 1930-1931, nuisance bears were responsibility of landowner

- In 1969, VDGIF began moving nuisance bears
- Since 1980, average > 50 bears relocated annually
  
  - Very few in last few years
    
    - 8-9 per year
- Kill permits issued when necessary
Nuisance Bear Management Options

Non-Lethal Options

- Education
- Exclusion
- Repellants (noise, guard animals)
- Aversive Conditioning (harassment, pepper spray, etc)
- Capture and Release or Relocation (not a very good option)

Why Translocation May Not Be an Option

- A bear can travel hundreds of miles and can return to a known food source within days.
- Bears returning to original sites are often hit by cars.
- When relocated, a nuisance bear could become someone else's problem.
- Translocation does not solve the original problem of food attractants.

Future of Nuisance Bear Management

- Prevention! Prevention! Prevention!
- Home and landowner awareness
- Community involvement
- Deterrents / Aversive conditioning

Lethal Options

- Kill Permits
  - Code authorizes for damage to crops, livestock or property related to agricultural production
- Euthanasia
  - High public safety risk
  - Repeat offenders
  - Last option

Wintergreen Bear Smart

- Started 2007
- 80% reduction in bear incidents
- Damage related incidents have dropped 90%
More Information

Black Bear Management Plan and other bear info
www.dgif.virginia.gov/wildlife/bear/

Get Bear Smart Society
www.bearsmart.com

Living with Bears: A Practical Guide to Bear Country
Linda Masterson, 2006

North American Bear Center
www.bear.org

VIDEOS

- Electric Fence
- Bear Proof Container
- Bears Gone Wild