BROWN BEAR

IN DINARIDES AND ALPS

Brochure made within the LIFE DINALP BEAR project

LIFE DINALP BEAR

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KEY FACTS ABOUT BEAR BEHAVIOUR

MARKING BEHAVIOUR

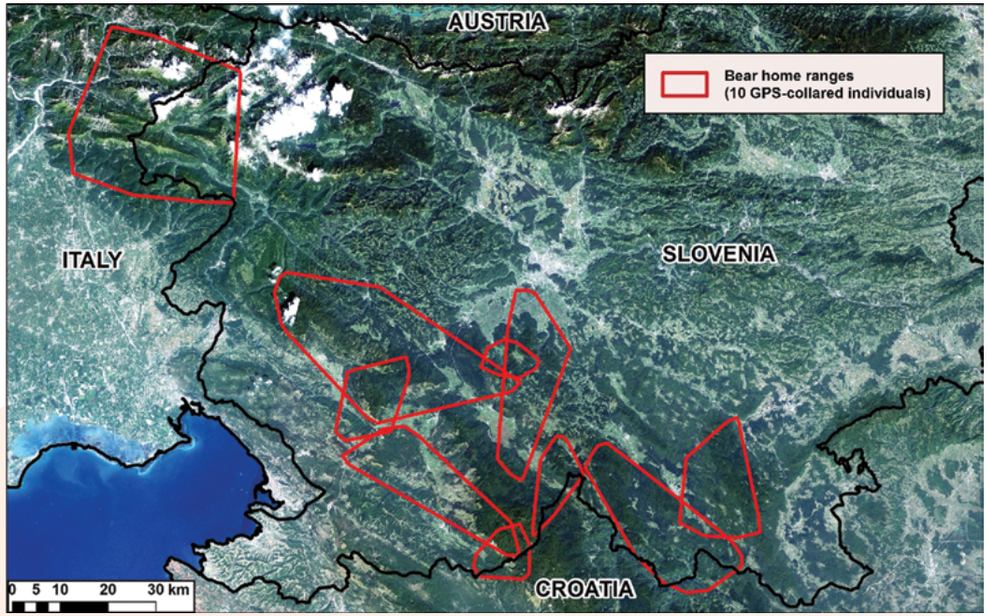
Bears communicate through the rub trees where they leave their hairs and personal smell. They also make scratches on the bark of rub trees. Larger bears will leave scratch marks higher on a tree trunk.

NATURAL WARINESS

Central European bears have a strong, natural fear of humans. Typically it is difficult to see a bear in their natural habitat since they tend to avoid humans.

SOCIAL BEHAVIOUR

Adult bears are solitary, except during the mating season. Cubs usually live with their mothers for 1,5 years.



HOME RANGE SIZE

The areas where bears range are about 50 km2 to more than 1000 km² in size and overlap with those of other bears. Even the largest Central-European forest complexes are smaller than many bears' home range. Therefore bears overlap with humans.

SOCIAL LEARNING

During the period when cubs stay with their mothers, they learn about their environment, identification of food, and how to respond to potential predators. The social learning from the mother tipically shapes the future behavior of the cubs.

OPPORTUNISTIC FEEDING

Bears are classified as carnivorans but are omnivorous (mostly vegetarian) in practice. They eat a wide variety of food when available in certain places and at specific times of the year. Bears also feed on anthropogenic food (e.g. garbage, domestic animals, crops) when available and unprotected.

HYPERPHAGIA

During the autumn bears have to build up their fat reserves in order to prepare for the food shortage during winter. They consume much more during hyperphagia and can gain over 1/3 of their initial body mass.

WINTER DENNING

Between November and March, bears typically stay in their dens in order to conserve energy when food is scarce. A bear´s body temperature is lowered and both breathing and heart rates slow. They can easily arouse and occasionally leave the den. Some bears may stay active all winter.

BROWN BEAR DISTRIBUTION IN EUROPE

Brown bears (*Ursus arctos*) are the only bear species found in continental Europe. They historically lived throughout most of Europe, but today they are confined to four main populations (Scandinavian, NE-European, Carpathian, Dinaric-Pindos) and several small isolated populations (e.g. Pyrenees, Cantabria, Trentino, Apennines).

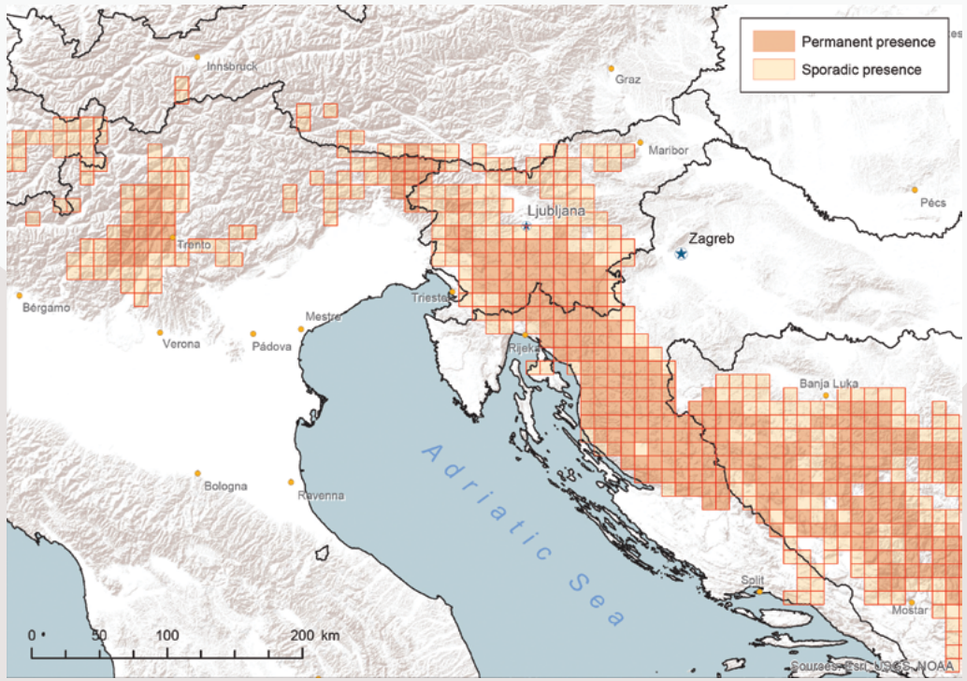
Source: http://www.lcie.org/Large-carnivores/Brown-bear

DID YOU KNOW?

There are 8 species of bears living on Earth today. Brown bears are the most widely distributed bear species which appears in several different ecotypes all around the northern hemisphere. The largest brown bears are found in North America and North-East Asia and can weigh more than 700 kg.

DINARIC-ALPINE BROWN BEARS

All bears living in the Northern Dinaric Mountains and Alps are part of a larger Dinaric-Pindos population that is distributed from the Alps in the north to Pindos Mountains in the south. This population is estimated to be around 3000 bears. The core of the population is in the Dinaric Mountains. Today, bears are slowly coming back to Alps where they historically were widely distributed until the 18th century, but were later nearly extirpated.



TRENTINO BEARS

Bears were always present in the Italian region of Trentino, but were nearly extirpated during the 1990s. In 1999-2002 a reintroduction effort named Life Ursus reinforced the population with 9 bears from Slovenia. These bears were crucial for recovery of the Trentino bear population that is now around 50 individuals.

WHAT THREATENS THE BROWN BEAR IN DINARIDES AND ALPS?

LOW HUMAN ACCEPTANCE

Acceptance of bears among people is crucial for their long term survival. When conflicts increase or become severe, bears are often removed from the population.

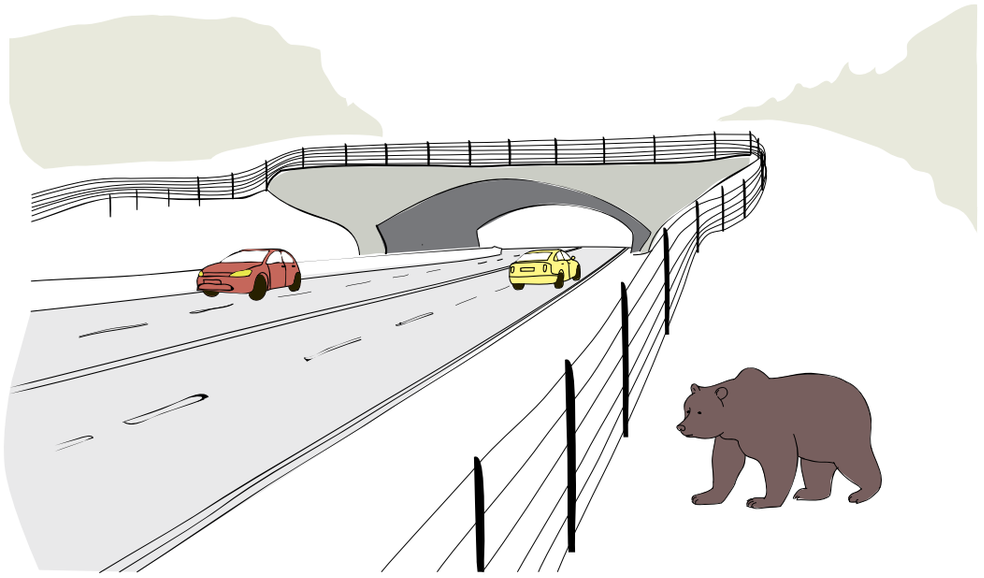
The most common cause of human-bear conflict is anthropogenic food. Although most bears avoid humans, some may lose their fear and regularly approach human settlements. When searching for food, bears can cause considerable damage, e.g. eating crops, killing domestic animals and damaging property. Although people are rarely injured by bears, some residents may be fearful of bears since they can cause harm to people.

CONFLICTS AND »PROBLEM« BEARS

A large proportion of all bear-related conflict is typically caused by a small number of bears in a given population, while most bears rarely cause problems. Bears become »problematic« when they lose their fear of humans or cause repeated damages. This usually happens when bears obtain food in the vicinity of humans and can regularly access this food source (e.g. unprotected domestic animals, crops and organic waste or hand-feeding of the bear cubs).

HABITAT FRAGMENTATION AND DEGRADATION

Fragmentation of bear habitat is one of the main threats for bears in human dominated landscapes like Central Europe. When human settlements, industrial areas and road densities increase, bear habitats are lost or compromised. Consequently, fewer bears can live there and their ability to move or migrate is diminished. This means that overall gene flow is hampered and the long-term existence of bears can be jeopordized. Highways can be particularly problematic to bears when they fragment habitat or create barriers to bears. Green bridges are effective way to facilitate the bear movements across highways.



TRAFFIC-RELATED BEAR MORTALITY

Fatal accidents on roads and railroads represent a significant portion of bear mortality in Slovenia and Croatia. Traffic related mortality may affect bear populations, can slow expansion of the bear population towards the Alps and pose safety risks to people driving on highways.

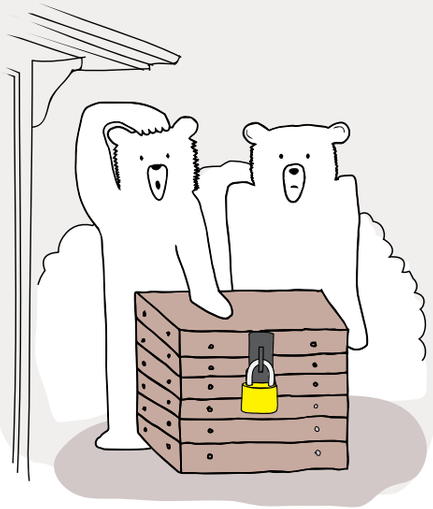
WHAT CAN I DO FOR BEARS?

USE BEAR RESISTANT GARBAGE/ COMPOST BINS

Preventing bears from accessing anthropogenic food sources is an important step to improve bear-human coexistence. The most regularly accessed food source in human settlements is organic waste, found in unprotected garbage cans and compost bins. The use of bear-resistant garbage and compost bins is an effective way to make organic waste inaccessible to bears.

DON´T DISPOSE OF ORGANIC WASTE NEAR SETTLEMENTS

Other important food attractant for bears is organic waste found in dumps, especially illegal dumps of slaughter remains and fruits placed in vicinity of settlements. We should all do our best to avoid creating these types of dumps.



NEVER FEED BEAR

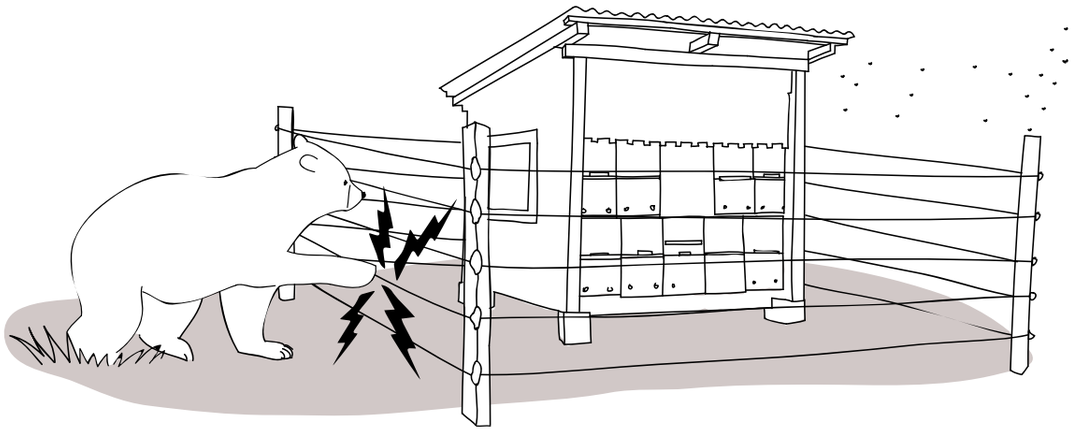
People sometimes start feeding young bears that are found roaming around settlements because they feel pity for them. They usually don´t realize that their feeding of bears can lead to the bear´s eventual removal from the population if it becomes an unwanted and persistent visitor.

COEXISTENCE WITH BEARS IS POSSIBLE

Central Europe is largely a human-dominated landscape, despite having some small, preserved fragments of pristine nature. This means that humans and bears often overlap. In such landscapes the occurence of human-bear conflicts is inevitable, but can largely be avoided with the appropriate conflict mitigation measures.

PROTECT YOUR PROPERTY FROM BEAR DAMAGE

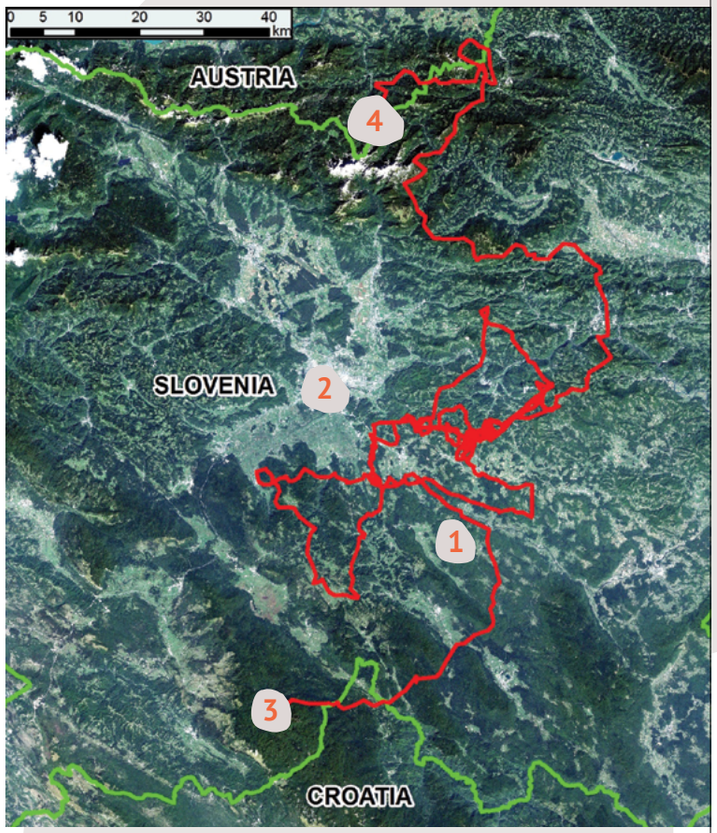
Bears are curious and regularly seek out food during the bulk of their lives. Sometimes this leads bears into problems when they find unprotected fruit, crops, livestock, or bees, etc. A proactive landowner will do his best to protect property against bear damages. For example, domestic livestock like sheep can be effectively protected by high voltage electric fences that non-lethally deter carnivores like bears and wolves.



MONITORING BEAR POPULATION STATUS

There are several ways to estimate a bear population. In Central Europe, the most commonly used methods are genetic sampling (e.g. bear scat, hairs, saliva) and counting bears at permanent feeding sites to estimate bear numbers.

The best method for studying bear movment patterns is telemetry. Bears are immobilized and equipped with a GPS collar. This regularly connects with the signal from GPS satellites and calculates the exact locations of a bear. The data about the locations are sent to the researchers through the GSM signal. Before the battery in the collar weakens, the collar drops off a bear with a specialized drop-off mechanism. The whole process is generally safe for bears.



The map showing movement of a GPS collared bear named Rožnik.

THE REAL STORY ABOUT THE BEAR NAMED "ROŽNIK"

1. In 2006 a bear was born somewhere in southern Slovenia. At first he was just like other bears. But as he grew older, he lost his fear of humans and start approaching settlements.

2. By April 2009, he even wandered into the city park of Ljubljana, Rožnik. The Slovenian bear intervention group immobilized him and relocated him deep into the Dinaric forests to protect human safety.

3. At that point, this three-year old bear was equipped with a GPS collar and was named »Rožnik« after his capture location. But Rožnik didn't stay in the Dinaric forests for long. In a few days, he returned to the vicinity of Ljubljana and started regularly visiting neighbouring villages where he caused property damages and frightened some people.

4. That same summer, Rožnik moved on from the Ljubjana area and headed north. He crossed through Slovenia and entered Austria, where he was soon poached. This illegal act was investigated by Austrian police but remains unsolved.

GPS telemetry allowed researchers to learn that during April 2009, Rožnik caused nearly 70% of all recorded bear-related conflicts in Slovenia, doubling the number of conflicts caused by all other Slovenian bears (est. 400-500).

NOTE: The behavior displayed by Rožnik is not typical of the overall bear population, but shows what kind of surprises a bear can do!

WHAT CAN WE LEARN FROM ROŽNIK?

We should strive to protect anthropogenic food sources from bears.

Bears need large and connected habitats to survive.

It is important to work across international borders to improve human acceptance of bears.

BROWN BEAR MANAGEMENT AND CONSERVATION

BEAR INTERVENTION GROUPS

Bear intervention groups protect the security of people and help conserve bears by colaborating with people to avoid problems with bears. In some cases the intervention group can haze bears away from people or rescue orphaned cubs or bears in trouble. Additionally, the intervention group can remove highly habituated, food-conditioned or wounded bears from the population.

THE FATE OF THE »PROBLEM« BEARS

Usually when a bear loses its fear of humans and starts repeatedly causing problems, it won´t stop. In such cases a bear may become a threat to human safety. If a bear can't be deterred in such a case, the intervention group will remove (euthanasia or placed in captivity) such a bear from the population.

"REGULAR" BEAR QUOTA HUNTING

In some countries (e.g. Slovenia, Croatia) bears are also regularly hunted, despite their status of protected species. As long as the bear population is viable and hunting quota is well planned, this does not represent a threat to the bear population. Moreover hunting is used as a tool to maintain the abundance of bears in limits which are still tolerable for people. Bear trophies in Slovenia and Croatia provide income to hunters and the local community. Consequently the acceptance of bears is higher.

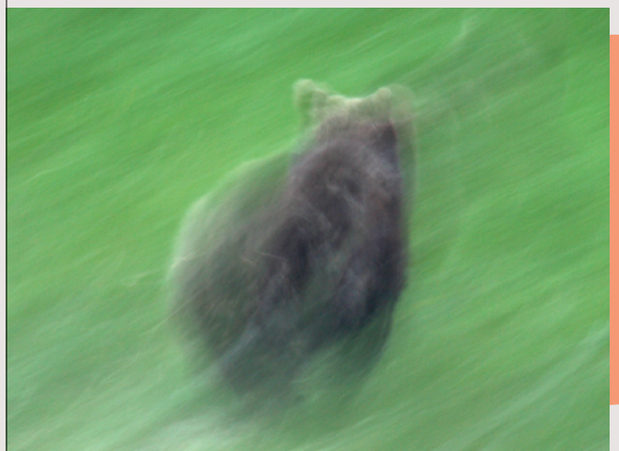
HOW MANY BEARS DO WE TOLERATE?

The abundance of bears in human dominated landscapes usually cannot reach the natural carrying capacity but has to be limited due to the restricted human tolerance towards bears. This upper limit of tolerance is called the social carrying capacity, which is usually lower than the natural carrying capacity.

CAN BEARS BE DANGEROUS?

Bears are powerful wild animals, which can in certain situations be dangerous to people. Although bear attacks and resulting human injuries are extremely rare, they can occur. To avoid this, it is important to know how to behave in bear habitats and to respond when encountering a bear:

- Bears do not like to be surprised. **Make yourself noticeable** when walking in a bear area, especially when walking through dense vegetation or in rugged terrain.
- **Never crawl into a bear den!**
- If you encounter a bear in close proximity (even if it is a female with cubs): stop, stay calm and **slowly move backwards** without making sudden moves and without screaming. If a bear attacks you, never fight back.
- **Keep your dog on a leash**. An unleashed dog is more likely to provoke a bear and can lead a bear to you when it seeks protection.
- **Never approach bear cubs!** Mother bear is never far away. She has a strong protective instinct and might defend their cubs if she feels threatened by people.
- **Never run away from a bear** or try to climb a tree! Bears can run up to 50 km/h over short distances and are good climbers.



Brown bears are generally shy and they typically avoid people. They most likely retreat before we notice them.

Central European bears do not see humans as potential prey. Bear attacks occur rarely and happen when they are surprised, provoked, or when they defend their cubs.

WHY TO PRESERVE THE BROWN BEAR … FOR NATURE?

SEED DISPERSAL

Bears play complex and important roles in ecosystems throughout the world. One way is through zoophory or seed dispersal. When traveling, bears spread seeds of several plants species by carrying them in their fur or in their digestive system.

CARRION CLEANERS

Bears like to scavenge on carrion. Using their keen smell, bears can find carrion at over great distances or under a layer of deep snow. Therefore they are important »cleaners« in nature.

BEARS AS APEX PREDATORS

Bears rarely prey on adult ungulates like roe and red deer. However, along with other large carnivores, bears can help regulate herbivore populations by predating on juvenile ungulates.

… AND FOR PEOPLE?

ECOTOURISM

Bears represent a great opportunity for the rural developement. Bear-friendly products, bear observation or just walk in a bear habitat can be interesting for tourists.

CULTURAL VALUE

Bears are deeply connected to European history and culture. Many place names have origins from the word »bear«. Bears were and still are a common motif in art and folk tales and have important value to people, many of whom, have become connected to bears from childhood through their love of the common, teddy-bear.

PERSONAL/NATIONAL IDENTIFICATION WITH BEARS

Due to their majestic look and powerful body, people often choose bears as their mascot or as symbols. Many crests and logo-types therefore contain an image of a bear. For some countries (e.g. Russia, Finland) bears are also the state symbols.

DID YOU KNOW?

IMPRESSIVE SENSE OF SMELL

A bears' sense of smell is about 100 times better than a person's, giving them a "sharp nose" for finding food over huge distances.

INFANTICIDE BEHAVIOUR

Like some other mammals, adult male brown bears will occasionally kill cubs that are the offspring of other male bears. By killing cubs, a male tries to stimulate the mother of the cubs to mate with him sooner. Females usually mate with several different males in order to reduce the risk of this behavior called infanticide.

GOOD CLIMBERS

Brown bears are good climbers, especially when young. Older bears can also climb well, but they do it more rarely than younger bears.

LOW RISK OF ATTACK

Bear attacks on human are extremely rare. A person is around 400 times more likely to die from a lightening strike than from a bear.

BEAR´S DEN

Brown bears do not necessarily den in rock caves. They may also spend the winter under a fallen tree, under a cliff, or just hidden in dense vegetation.

ABOUT THE PROJECT

Acronym: LIFE DINALP BEAR

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BROWN BEAR FACTSHEET

LIFE SPAN

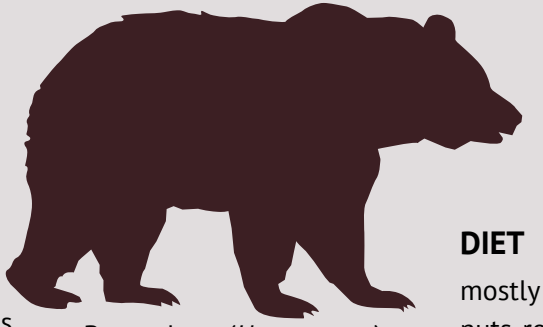
up to 25 years in nature, up to 40 years in captivity

REPRODUCTION

bears start mating when 3 - 5 years old; they mate during May-July

FUR

light brown to almost black color variations, cubs can have bright, collar shaped pattern around their necks



Brown bear (*Ursus arctos*)

LITTER SIZE

1-4 (usually 2) cubs; born during the denning period (around January)

BODY MASS

newborn cubs have less than 0,5 kg, adult females are usually between 85 and 160 kg, males between 130 and 260 kg, rarely up to 350 kg

SIZE

adult males are in average 180 cm long and 85 cm tall, females are 150 cm long and 70 cm tall

DIET

mostly fruits, berries, seeds, nuts, roots, grass, insects (ants, bees, wasps), carrion, sometimes wild or domestic ungulates

BEAR FOOTPRINTS