



# ROVDJURSCENTRET DE 5 STORA

## Welcome to the Large Carnivore Center!

The Large Carnivore Center is an information center that inform about the "big five" in Sweden: bear, wolf, wolverine, lynx – and man.

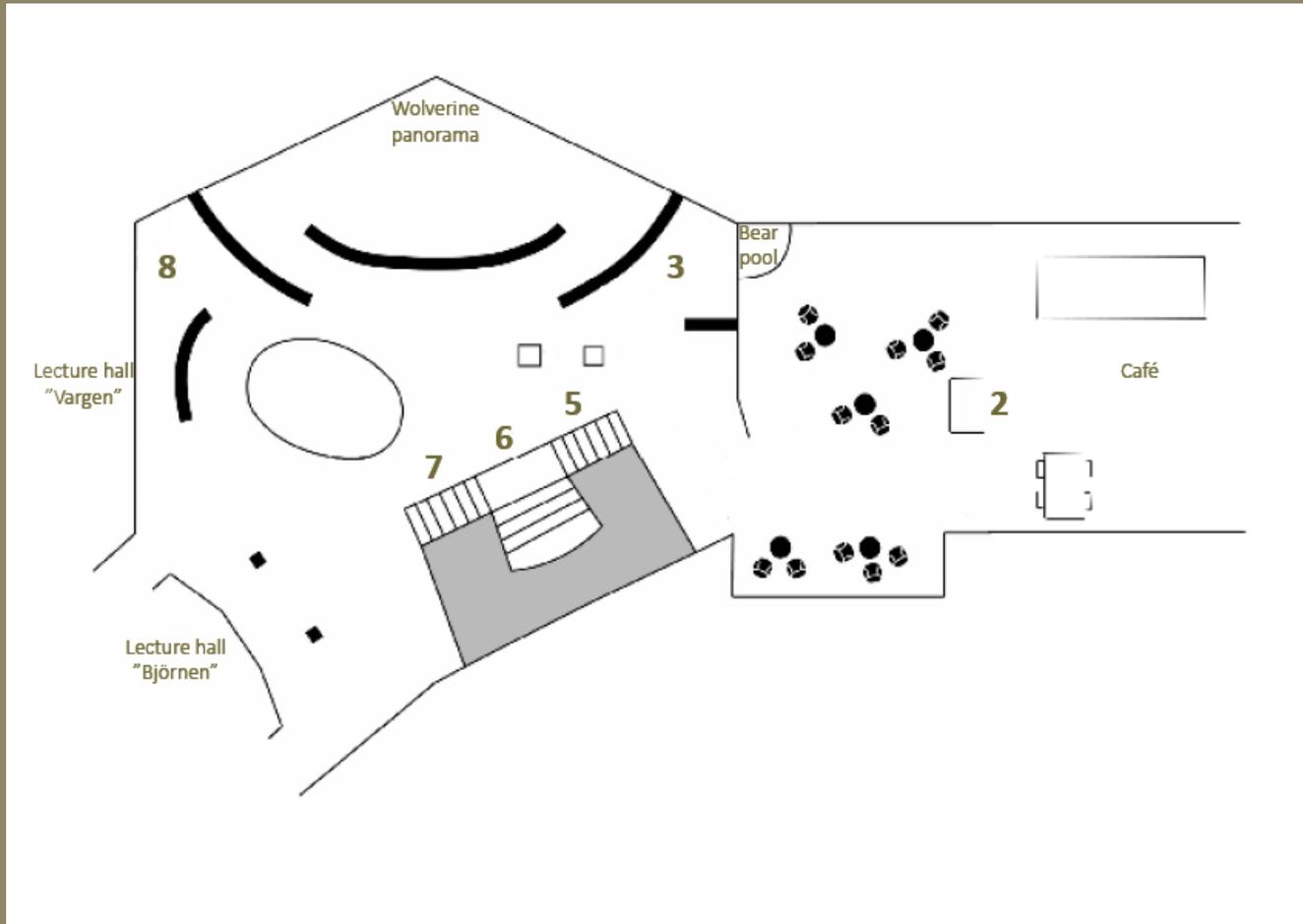
After a long period of persecution the four-legged carnivores became almost extinct in Sweden- but now they are back- and that awakes a lot of feelings among people.

That there will be predators in Sweden are determined by parliament, but people are arguing about how many they should be and where they should be allowed to live.

Here at the Large Carnivore Center you can learn more about the five big carnivores and make your own opinion.



# Top floor



## 2. Man (*Homo sapiens*)

Adult female in winter coat.

**Length:** 150-210 cm

**Weight:** 45-120 kg. Record weight around 250 kg

**Mating season:** January-December. Any time.

**Number of offspring:** Often one, sometimes two or more.

**Characteristics:** Great variation in size and shape. Skin colour from pale pink to dark brown.

### **Distribution:**

The earth's most widespread carnivore. Can survive in all climate zones and in most environments. Distribution is mostly concentrated to cities, coastal areas and fertile farming regions.

### **Number of individuals (2015):**

In Sweden: 9 851 000

The world: 7 300 000 000

**Behavioural patterns:**

Have a strong social organization in which a few have almost all power and wealth.

Forms pairs that are the core of a flock.

Sometimes the couple split, and some get a new partner.

The den is dry and warm, often in cubic spaces.

Young individuals are heavily dependent on their parents.

Only when they are 18-25 years old, they leave their parents.

**Senses:**

Poor hearing and weak sense of smell. Reasonably good vision in daylight, but sometimes assisted by pieces of shaped glass.

**Diet:**

Established omnivore.

Consumes everything from vegetables to fruit, crisps, soft drinks, alcohol, sweets and meat.

Some individuals build up large fat reserves but do not go into hibernation.

**Level of danger:**

Most aggressive and dangerous of all species in the world – both for itself and for other animals.

Is especially dangerous in combination with alcohol and extreme religious or political beliefs.

Very strong territory-marking tendencies. Conflicts over territory are common and result in everything from scuffles to world wars.

## 3. Research

All decision about carnivores, for example the number of hunting quotes, shall be taken based upon knowledge and facts. Therefore a lot of research is being done in Sweden.

Just to mention some of the results, the researchers have managed to find out how many moose that is killed each year by wolves, how to build a “carnivore-safe” fence, the size of the territory area of a lynx and the loss of reindeers due to bears.

Here on the screen you can see some pictures from the research being done.

## 4. Bear pulse

soon at Rovdjurscentret

## 5. Guess whose teeth it is

Animals eat different things.

Some specialize in eating plants, others eat meat. And then there are those who eat little of each. Herbivores have flat teeth, carnivores have sharp teeth and omnivores have both.

Do you dare to put your hand in the box and feel what different kinds of teeth are hidden there?

The right answer you will find under the lids.

## 6. The menu of carnivores

More similar than we know?

Both the bear and man are omnivores.  
Welcome to a fully laden table!

Do you see any difference?

### The Green Hunter restaurant

#### Starter:

Salmon roe toast

#### Main course:

Beef steak  
Bear steak  
Elk calf steak  
Saddle of venison  
Lamb  
Elk liver stew  
Salmon cutlet

#### Dessert:

Honey-glazed apples  
Blueberry compote  
Oatmeal biscuit  
Cranberry sorbet

### The Happy Bear Restaurant

#### Starter:

Fresh raw salmon

#### Main course:

Lightly fermented beef steak from carrion  
Elk calf  
Newly-felled reindeer  
Lamb  
Elk liver  
Salmon offal

#### Dessert:

Honey and fallen fruit  
Self-picked blueberries, 90 kilos  
Oats directly from the stalk  
Cranberries with mire water

## 7. Guess the poo

Animal droppings look different depending on what they eat.

Carnivores make sausages, while herbivores make balls of different sizes.

Lift the cover and try to figure out who did what pile.

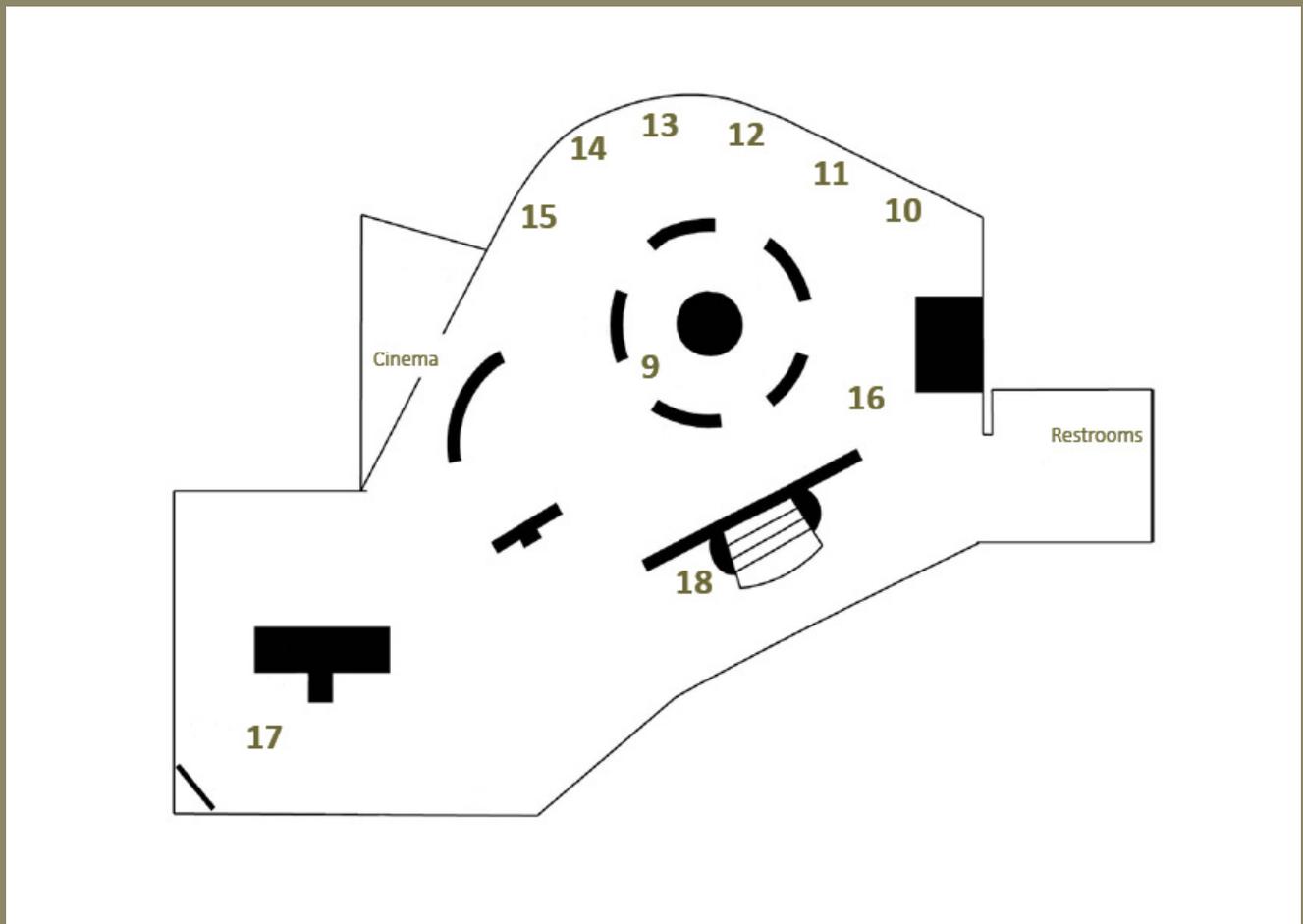
## 8. In the land of security addicts

It is very unusual that carnivores attack people in Sweden. There are no such known attacks caused by wolverine and lynx, and the last occasion where a wild wolf did attack a human was almost 200 years ago, (in 1821. That wolf had been held captive and then was set free.)

It happens sometimes that bears injure people but the injuries are seldom deadly. When bears attack people, which happens approximately one time each year, they act in self-defense. Often is it hunters, that moves quietly in dense forest, that get injured after ending up to close to a bear that choose to stay and defense them self, their cubs or maybe some food.

Although the risk of being attacked by some of the large carnivores is minimal, studies have shown that a lot of people are afraid of meeting bears and wolves – and that they change their way of life due to that. For example people stop walking in the forest or they will not let their kids play outdoor on their own.

## Bottom floor



## 9. Species information

**Wolverine** (*Gulo gulo*): The wolverine is a solitary living animal but the female takes care of the kids during one year. Wolverines have long been associated with the mountain region, but they now spread slowly south and east towards the forests. In 2016 there were about 500 wolverines. Wolverines can hunt for them self and kill such large prey that reindeers, but they like to eat left-overs that other animals leave behind.

**Lynx** (*Lynx lynx*): The lynx is a solitary living animal, but the female takes care of the kids during one year.

Lynx are found throughout the country but the most of them live in the northern and central part. In 2016 there were about 1,300 lynxes. The lynx living in the north eats reindeer, while those who live further south eats roe deer.

**Wolf** (*Canis lupus*): The wolf lives in packs. The pack consists of parents and puppies. Wolf's favorite food is elk, but they may also eat other prey animals. The wolf is found mostly in the middle part of the country and in 2016 there were about 350 wolves.

**Bear** (*Ursos arctos*): The bear is a solitary living animal but the female takes care of the kids one or two years. The bear is found in central and northern country, and in 2016 there were about 2800 bears. The bear is a predator that can take both reindeer and elk, especially in the spring when the calves are easily chased, but they eat mostly berries and plants. During winter sleep the bear is in its den and then they eat nothing at all.



## 10. Reindeer industry

In Sweden, there are no wild reindeers any more, they were exterminated in the 1800s- but domestic reindeers graze freely in the mountains. In Sweden, there are approximately 250,000 domestic reindeer and up to 20% of those are killed by predators. The goal is that maximum 10% of the reindeers should be attacked by predators and to reduce the damage the carnivore populations in northern Sweden are being reduced by hunting. But there are also other ongoing attempts to reduce the damage. One method being tested is to let the reindeers calve in enclosures to reduce the risk of bear attacks in the spring.

The reindeers are owned by the Sami and the reindeer has always been central to the Sami culture. The Sami are an indigenous people and constitute today a minority in Sweden. Every time a reindeer is killed by a predator it affects both the reindeer owner and the reindeer industry. If the reindeer industry does not survive there is also a risk that the Sami culture gets eroded.

## 11. Hunting

Man and the four-legged carnivores have always hunted the same prey. In this way we have always been competitors and we have probably, when the opportunity was given, also always hunted the carnivores. But it is not until quite recently that we have had the opportunity to control the number of either prey or predator.

In modern time- within a few hundred years- many species became endangered in Sweden due to hunting. Moose, roe deer, wild boar, beaver, bear, wolf, wolverine and lynx were all almost extinct. The population of ungulates recovered, but it took long time before the large carnivores did.

Now the four-legged carnivores are back again and conflicts arise around the common prey which we for a period have had to ourselves. Locally, the wolf, bear and lynx affect the numbers of moose and roe deer, but on a national scale it is altogether we humans that governs how many prey animals there will be.

Although, in Sweden, the hunt is a strong tradition and lifestyle of many, and game meat is a popular organic alternative. Many of the country's 300,000 hunters think that hunting is less enjoyable now that the predators changed the rules of the game.

## 12. Hunting carnivores and illegal hunting

The carnivores are allowed to hunt during hunting season in Sweden. Each year a certain quota is killed during the hunting season with the aim to limit the population size and thereby the damage they can cause. Also all through the year special individuals may be hunted if they for example attack sheep, dogs or behave aggressively against people.

In addition to this legal hunting there is also a significant illegal hunting. No one knows how many carnivores that are killed illegally, but scientists estimate that it is the single largest cause of death for adult wolverines and wolves.

## 13. Dogs

The wolf, but also bear and lynx, attacks annually about 30-70 dogs. All dog owners that are living in areas with large carnivores can be concerned, but most hears is the hunters who no longer want to let their dogs loose during the hunt.

Preventing attacks on dogs is difficult, but there are a few methods that can be used, for example to train the dogs not to track and find carnivores, using of protective vest or just avoiding to let the dog loose in areas where wolves recently been seen.

## 14. Domestic animals

Carnivores sometimes attack and kill domestic animals. Mainly it's sheep but also goats, cows and occasionally horses get attacked. The number of attacked animals ranges between 300-800 pieces per year.

It is only a very small percentage of the sheep in Sweden facing attack but for the owners who are affected, or at risk to be affected, carnivores can be a big problem. The attacks cause economic loss, but also creates extra work and leads to new routines and anxiety.

In ancient times the domestic animals grazed freely in the forest in summer. That type of farming, summer pasture, is called "fäbodbruk" and is unusual in Sweden today. Those who try to preserve that kind of animal housing strives to preserve a part of our cultural heritage but also promote biodiversity since grazing animal creates possibilities for a lot of different endangered species. Whether one keep their grazing animals fenced or free in the forest many livestock owners experience that it is difficult to get the business to make ends meet- and sometimes the presence of carnivores is what will determine whether to continue to operate or not.

Carnivores that attack domestic animals may be shot, but preferably the attacks should be prevented. Some types of electric fence are effective for preventing predation on domestic animals but not all grounds are suitable for such fencing. Other methods to reduce the risks are increased human supervision, to bring the animals indoors at night, guard dogs and audio- and light deterrents.

## 15. Biodiversity & ecosystems

### Biodiversity

Species have always died out, but around the world today, species get extincted in a pace higher than it ever was before. The cause of that is mainly the human impact by, for example, hunting and destruction of habitats.

When the number of species decreases the ecosystems get disturbed and our possibility to use so-called ecosystem services decreases. Ecosystem services are commodities such as meat, crops and wood- but also various functions such as purifying water, producing oxygen and recreation.

To reduce the loss of biodiversity, a large number of countries have agreed that each country should preserve "their species". Sweden is responsible for, among others, the large carnivores.

### Ecosystem

In all ecosystems there are herbivores and carnivores. The impact that large carnivores have on other species and the environment can be quite big because they are in the top of the nutrition chain.

In Sweden, just like in other countries, the carnivores are a part of the ecosystem. But here we cultivate the forest and game pretty hard and therefore our own effect on the species, environment and landscape is a lot bigger than the effect carnivores create.

## 16. Tourism

To see wild carnivores is to many people a lifelong dream. But carnivores are often timid and the likelihood of seeing one is small.

Anyone who wants to increase the likelihood of getting a personal experience of a carnivor can visit any of the operators that offer viewings from a hide. It attracts predators at night to eat the outsourced food. Some operators also offer safaris where you go into the forest to locate tracks and dens- or to howl with the wolves.

Nature tourism is not particularly big in Sweden today, but it's increasing! The idea is that it will be one of the major and sustainable industries in Sweden. Here we can offer a wilderness and nature which many see as exotic, and by offering experiences we can simultaneously create job opportunities- not least for those living in rural areas.

## 17. Management

Carnivores are managed on several different levels.

Parliament and the government decide what policies to apply. The Environmental Protection Agency works with predator management on a national level, while the county administrative boards make decisions on a regional level.

## 18. Bear's den

The bear sleeps through the winter. It doesn't eat and drink at all, neither does it pee or poo. But during the winter the cubs are born. The cubs are small when they are born but they get milk from their mother and grow fast.

It is possible to wake a sleeping bear. Therefore it's wise to not disturb a bear.

Here next to the den in Rovdjurscentret, you can see different types of dens.



## How can we live together?

There are both pros and cons with carnivores. The opinions about the number of carnivores and where they should be allowed to exist, varies a lot in Sweden.

Who is right and who is wrong is in general hard to say.

What do you think?

