



*for a living planet*

A Guide to  
**Living**  
with  
**Large Carnivores**



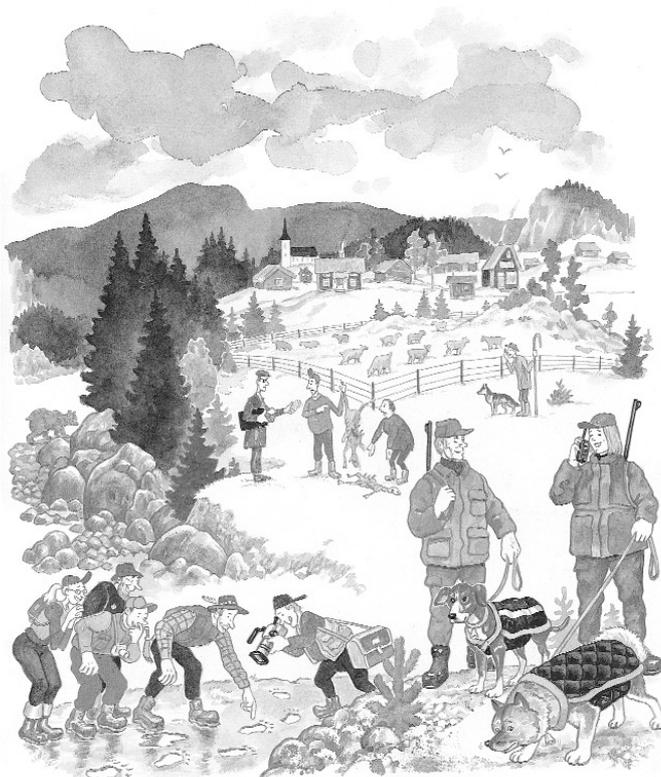
The translation of this manual is financially supported by the LIFE program of the European Union



# A Guide to Living with Large Carnivores

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# 1 How to coexist with large carnivores

There are few environmental issues that are as hotly discussed as large carnivores. In areas where wolves and bears live today you often read reports in the local press about various problems that either have arisen or are feared to arise as a consequence of the presence of these large carnivores. Sometimes there are also accounts of what a fantastic experience it is to see, or be aware of, the presence of wolf, bear, lynx or wolverine on the areas where we live, work and play. Most countries in Europe have signed international agreements, like the Bern convention, where we have undertaken to take our share of the responsibility for all the species which naturally exist here. Many countries also have some kind of official carnivore management plan or policy that has been approved by our governments.

Because of the large scales at which large carnivores live, their conservation cannot only occur within protected areas. They must therefore be conserved within multi-use landscapes where conflicts with humans can occur. These conflicts are diverse and include depredation on livestock, destruction of beehives, the killing of dogs, competition with hunters for wild ungulates, and the fear of being injured or killed by a large carnivore.

The challenge for the future is to share enough of our living space with the large carnivores. During the last century in many parts of Europe we have become accustomed to living without large carnivores, and we have developed routines in our work and everyday lives which do not pay any attention to the existence of large carnivores. If large carnivore populations begin to expand we will need to readapt our routines to diminish the risk of large carnivores attacking domestic animals and see to that governments reimburse losses with a reasonable compensation. In order to coexist with the large carnivores we must help one another to analyse the problems that might arise and how to solve them. Many of us are anxious and afraid, often because we know too little about these animals. It is also necessary that we reflect on the positive effects that might arise from large carnivores living in our country.

The WWF (World Wide Fund for nature) and the LCIE (a Large Carnivore Initiative for Europe) consider viable populations of large carnivore as natural

and positive features of our European nature. The large carnivores should be viewed as a resource and not just a problem. The positive feeling of knowing that our landscapes also accommodate large carnivores is expressed by many people but is hard to quantify in economic terms. However, viable populations of large carnivores might also have an economic value as game animals for hunters and for the tourist sector. Seeing tracks of lynx, hearing a pack of wolves howling, or catching a glimpse of a bear is a dream for many people. This might be beneficial for tourism if done properly, on a small scale and with great consideration and respect paid to the animals.

WWF and LCIE are well aware of the fact that the large carnivore species cause problems and that the management of large carnivores is a balancing act between biological, legal and practical issues. From a global perspective none of the "big four" - bear, wolf, lynx and wolverine - are endangered, but the fifth European large carnivore - the Iberian lynx - is critically endangered. Every country inhabited by one or several of these species has to take on its share of responsibility. If a sparsely populated and rich country like Sweden for example does not have room for the large carnivores belonging to the Swedish fauna, which country in the world has enough space for the large carnivores inhabiting our planet? We cannot expect India to be responsible for the tiger's survival or for China to set aside habitat for the giant panda if we do not first "put our own house in order".

The LCIE and the WWF have a common ambition to spread knowledge about brown bears, lynx, wolves and wolverines, as well as what possibilities there are for us to share our landscapes with them. The more we know about the large carnivores, about their biology, number, and way of living, the better we can articulate our worries and work constructively with damage prevention and conflict reduction measures.

This study material will show that it is possible to "coexist with large carnivores" and provide examples of damage prevention measures and systems of compensation available today. Although a large part of the work is focused on identifying the problems associated with large carnivores, we must never lose sight of the real goal - rising to the challenge and finding solutions.



## 2 How to use the Material

Wherever we live and whatever we do we all make decisions that will effect the environment. Our hope is that knowledge, insight, and power of action should support these decisions. This requires increased education in how to achieve a more sustainable future, a lifelong process that will stimulate people to raise questions, investigate, scrutinise and try to find solutions to the various issues regarding our environment and our society. Large carnivores are part of our environment and we must find practical ways of coexisting with them. We hope that this material will be a useful tool for this work. This guide is meant for you teachers and study circle leaders. The guide is intended to support you in your role as instructor, to suggest methodology and concrete activities. The material addresses a broad target group, from children to adults. It provides suggestions for ways to work with the various issues and activities. We have chosen not to sort the activities by age groups but it is you as instructor who best can decide which approaches will best suit the group you are working with.

In the first section you will find general recommendations on how to instruct the group and an overview of which methods may be suitable. Large carnivores issues elicit strong emotions, beliefs, and opinions depending on which values and worldview you embrace. For that reason we have chosen to focus on value orientated exercises.

In the next section are some proposals for introductory exercises. When meeting a new group or when approaching the issue for the first time, it is essential to begin by finding out which specific issues will be the most important to work with, and what previous knowledge the group might have. Then we suggest a number of special subjects to work with. These represent some principal issues that are currently "hot" in the large carnivore debate. There is quite a big chance that one of these issues will turn up during the introductory exercises and then you can go on working within one of these subjects. Many of the questions are also intertwined with one another, so it may be difficult to isolated single issues. One of the challenges will be to focus on manageable single issues while keeping the holistic overview.

To conclude, it is important to look forward and identify the possibilities and solutions that exist.

Good luck with your work!

## 3 Methods

Respecting one another as human beings is a way to lay a basis for positive learning, where people little by little may arrive at common, constructive results. A living discussion!

### 3.1 A living discussion

The large carnivore debate is of great concern to many Europeans. Few people can be unaware of the debate about whether these animals have the right to exist, as well as about where large carnivores should be allowed to live. Many people have a strong opinion, for or against.

The debate has been very intense, and still is. Say "wolf" and the person you are talking to will in most cases have his or her attitude clear - either as an advocate or as an opponent. In other words, it is not an easy task to supervise a study circle or a series of lessons about living in areas that also harbour large carnivores. Many people might hesitate to take on such a responsibility. However, the problem has to be elucidated. The large carnivores do in fact exist in many European countries and the populations of bears, lynx and wolves are increasing in many areas. Furthermore, many parliaments, have stipulated that their country shall, on a long-term basis, harbour viable populations of large carnivores, a decision which is usually supported by both nature conservation and game conservation organisations, and a majority of the public. It is a challenge to any discussion in cases where some participants / pupils have clearly opposing attitudes towards this overall goal.

It is not always possible and maybe not even desirable, to become united in such a situation. The goal may instead be to let all attitudes, standpoints and perspectives come up to the surface and to try and achieve mutual respect for the beliefs and feelings of every individual. The most important thing is to have people with different standpoints sit down and talk about their own experiences, how they regard their situation, their worries, their fears and their hopes. To listen to each other and try to understand other people's emotions, attitudes and knowledge. It is not necessary to completely shift one's own opinion about the problems but to attempt to understand how other people feel and think. Letting everybody speak their own mind, mak-

ing everybody understand that their thoughts are as important as those of others, listening and above all respect other points of views - these are the real goals. The benefits of this approach are not just confined to large carnivores, but can set a foundation for virtually any debate about issues of importance to society.

### 3.2 The role of instructor

For an instructor this subject field is hard to pin down because it is full of attitudes and values rather than simple "facts". It is, however, also rewarding because it is absorbing. Most people have beliefs, emotions and experiences that in one way or other are associated with one or several large carnivores.

The aim of this manual "Living with Large Carnivores" is to allow these beliefs and emotions to come to light during the acquisition of knowledge rather than dictating and teaching single facts. Since it is a contradictory subject, where many opinions meet and diverge, it may be a good thing to use methods that allow for a great deal of participation among and by the participants/pupils. It also means that the role of the instructor vis-à-vis the participants/pupils will, to a large extent, consist of supervising their learning, and helping them to structure and organise the work. It also means that you as a leader are passively active, i.e. that you observe how the process of learning advances and can step in and support only when needed.

Working with fields of knowledge that contain a lot of attitudes and values calls for a climate of trust in the group and a good relationship between the leader and the group. The value exercises are not going to function if the group does not have an open attitude and respect for every individual in the group. If the group feels safe, the values exercises will act as good working tools for the individual as well as the group in order to increase the awareness of their own and other people's values.

If you feel that the group does not have the openness you wish for, it might be wise to begin with exercises in listening, the ability to listen, and the ability to respect one another. Another important requirement is that the value exercises are to be put in a context and that you continue to work in this way. If not, it will just be some odd feature in the everyday life, a thing not to take very seriously.

The goal should be to create a values exercise that you yourself think is suitable in your own context. Before reaching that far it may be wise to use ready-made examples in order to obtain increased experience

both in the group and for you as a leader. It is important that you make it clear to yourself how to behave as a leader. Either you take part in the exercises and take your stand just like the participants or you remain totally neutral.

For persons working with younger children it might be wise not to take part, since children are easily affected by what the leader thinks. In that case, it is especially important to be neutral when discussing the children's opinions in order to underline that there is no right or wrong answer. For small children it could be enough with the leader's almost invisible nod as confirmation of somebody's answer.

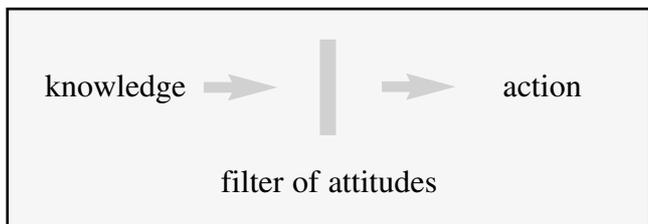
Photo: Ola Jennersten



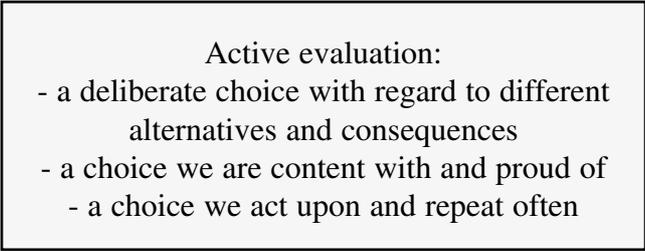
### 3.3 Values exercises from a general point of view

Values exercises are used to explore people's attitudes and values. Every day we all encounter different situations that force us to reflect and make decisions. Everything we do is based on conscious or unconscious convictions. In everyday life it could be matters about clothes, friends, recreational activities, profession, politics etc. In today's society we have to form our own opinions much more actively than before. In old days, the church, school and family dictated and shared most of the same attitudes and values. Today there are many other factors that influence us like the media, music, globalisation etc. Many attitudes to life and our future reflect fundamental values, which are often based on experiences from childhood, adolescence and growing up. We are not always aware of which attitudes and values we have, much less of how they control our actions, or where they have come from.

With many issues it is often enough with a superficial knowledge of basic facts to make decisions and guide our actions. However, in complex subjects with an interdisciplinary character it is not always enough with facts to guide our behaviour. An example is the automobile. Today we know a lot about how our environment is negatively affected by cars, their exhaust fumes and the infrastructure of roads. This knowledge should be sufficient enough for us to change our patterns of behaviour, for example to use more public transport. But other things also play an important role. For some people there are a feeling of freedom to use their car, for others the pleasure of speed while driving is central, and so on. As a result even people who care about the environment use their cars more than they need. Our behaviours, attitudes and values regarding cars have little to do with facts. Even if facts do exist they are "filtered" through our "filter of attitudes" and not until then does the whole result in action.

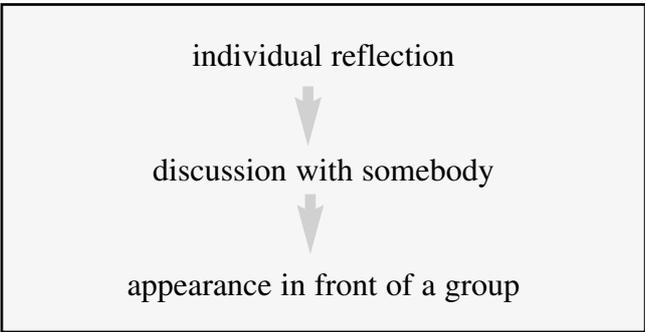


The objective of working with values methodology is that every individual should achieve an active ethical norm. It may take a long time to influence attitudes and values and it is only by an individual person's shift of opinions or actions that you are able to see changes in attitudes. The first step may often be to become

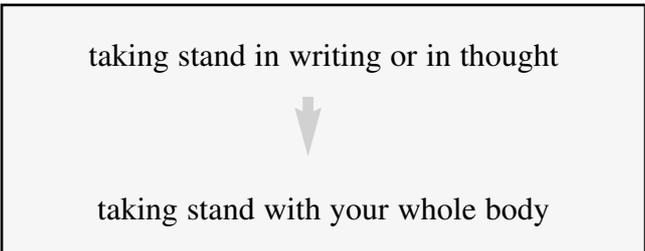


aware of one's own opinions and actions and how they are determined. Here values exercises may be of help in that they make clear how you think and feel about certain questions.

It is of pedagogical value to let the aim of the values exercises stop with the attempt to increase people's own awareness. A clearly expressed wish for a desired influence or change values will easily awaken defense mechanisms and cause blockages. A fundamental rule for those working with value methodology is therefore to regard answers as being neither right nor wrong. Everybody must have a right to express attitudes or values without being afraid that they should be looked upon as being "wrong". Besides, the participation is voluntary. The next step is to communicate, to express one's thoughts to other people, to share them with other people, maybe with one person at a time, instead of the whole group.



There are various types of values exercises that can be used in these different steps. Sometimes the participants have to take stands by reflecting and maybe by writing some notes. Other values exercises require that they show their standpoints with their whole body, for example by walking to a certain spot which indicates a choice. Thus, their choice is openly shown to the group.



### 3.4 Different types of values exercises

The following exercises are to be regarded as an introduction to values methodology. When working in this way you do not just focus on the actual subject field but regard the actual question as part of a greater whole. The objective is to try to prevent blockages that put the lid on the debate.

Instead, the aim is to open up, to make people want to communicate what they think about various matters, to provide a broad entrance towards a dialogue about our large carnivores. Therefore, these examples are not merely focussed on large carnivores. Most examples are equally suitable for all ages. However, we still recommend you as instructor to make suitable adjustments and changes for the group you are currently working with.

#### **Change of seat**

This exercise is suitable as a first exercise when you start working with the group. It is suitable for big groups. The participants seat themselves in a circle on separate chairs. Beneath one of the chairs are a number of pieces of paper with a question on each piece. The person sitting on this chair reads one of the questions aloud. The persons in the ring who want to say yes to that question stand up and change places with somebody else who has also stood up. The person who has asked the question always stands up and changes seats. Those who want to say no to the question remain seated, as do those who don't want to answer the question at all. The participants do not have to explain or justify their opinions, they only change seats if they want to say yes. It is recommendable to begin with easy questions to overcome the fear of standing up.

Such questions might be:

- Do you like to go to the cinema?
- Do you prefer being outdoors in your spare time?
- Do you like to receive gifts?
- Do you have an animal?
- Would like to have a job where you work with animals?
- Do you know what a large carnivore is?
- Have you seen a large carnivore in a zoo?
- Have you seen a large carnivore in the wild?
- Are there any large carnivores where you live?
- Do you think that there should be wild large carnivores in your country?

- Would you like to have large carnivores close to where you live?
- Have there always been large carnivores in your country?
- Do you think that there are large carnivores close to where you live?
- Do you think that there should be wild large carnivores in your country - where you live?

Adjust the questions according to the age of your pupils/participants!

#### **Lists**

Another good introduction to values methodology is to give the participants time to individually reflect and write down lists which later could be used as a starting point for making priorities. The instruction could be: Please write down at least ten animals that you like. The pupils/participants should make their lists without speaking to one another. Letting everyone think for themselves without being influenced by the opinions of the others is a way for you to show respect for each person's thoughts. It is important for you as a leader to encourage everybody to dare and wish to express his or her own opinion.

After that they can put a "D" for animals they would like to have as domestic animals, and a "R" for the ones they have seen in real life, and an "A" for the ones they are afraid of, etc.

N.B.! It is important to remind them that there is no right or wrong!

When they are ready they can talk in pairs and compare lists and priorities.

## Incomplete sentences

This exercise is suitable both in small and big groups. On a piece of paper there are some sentences that are started but not finished. The participants are to complete the sentences according to their own beliefs and opinions. If you have a group where people don't know each other very well it might be enough to do this in writing but if you wish you could always ask somebody to voluntarily read some sentences aloud.

Examples of sentences:

- I like my country because .....
- The season I like most is .....
- An animal that I would like to have as a domestic animal is .....
- The type of nature where I feel most happy is ...
- An animal that I would like to know more about is: .....

## Order of preference

Ranking how to prioritise among different alternatives is also a model that could be used both for individual reflection and for group discussions. It is possible to vary the degree of difficulty by having alternatives that are more or less difficult to choose between.

For instance:

What needs to be prioritised in your home community?

- the immediate surroundings for recreation?
- bicycle routes
- better traffic planning

Which organisation would you prefer to be a member of?

- A large carnivore conservation organisation
- WWF
- Greenpeace

## Dilemma

Another kind of values exercise is to tell or hand out a story, a situation that contains many different perspectives and angles of approach, where you ask the group to reflect on possible and suitable solutions. On page 22 in the section about livestock, you will find a concrete example of a dilemma exercise.

## Lining up

You had better wait with this exercise until the group has got to know one another. It implies that they show their opinion by taking a place besides a special marking. The marking is a piece of paper with one of the numbers 1- 6.

These numbers are placed along an imaginary line on the floor and the participants go to stand where they feel that they belong. Note that there is no middle ground, you have to take a stand within one of the groups. Wait until everybody has made his or her decisions before anybody steps forward. The exercise is presented by two extremes. Two persons have a garden each with a small group of trees. "Pedantic Peter", keeps his group of trees tidy. He rakes up leaves, cuts away all dead branches, and prunes his shoots, so that it looks more like a park than a group of trees. The other extreme is "Bohemian Betty", who lets her group of trees develop totally without her assistance. Nature is allowed to look after itself. It becomes overgrown, if branches fall to the ground they will remain there, and so on.

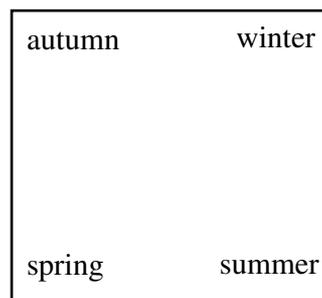
Pedantic Peter

Bohemian Betty

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 \_\_\_\_\_ 6

## Four corners

This exercise uses the four corners of the room as four different alternatives to choose between. Like in the previous exercise you show your opinion by standing in the corner of preference, thereby showing what you feel and think. A simple question to reflect on, and also suitable to begin with, might be: Which season do you like most?



### 3.5 Active listening

When you listen you can listen passively as well as actively. In order to listen actively you must have a genuine wish to find out what a person says, and a wish to understand another person's thoughts and experiences. It is not always easy to listen actively, you need training and also empathy and power of insight. Furthermore, you must be able to forget yourself for a while in order to really listen actively to somebody else. In active listening you also try to hear what is not said, and identify which things do not come up during the conversation.

As an instructor it is important not to get caught-up in what the group usually says but to listen specifically to what is said on the occasion in question. In order to make a person wish to express his or her opinion it is vital that they do not perceive your attitude as being superior or condemning. Therefore, in active listening, it is better to use questions like:

- What do you think...
- What do you mean by ...
- Could you tell me more about...

Questions starting with "why" could be interpreted as if the pupils have to explain or justify themselves and thus the dialogue will be more of an interrogation than a discussion.

When training to listen actively it is wise to begin by talking in pairs, whereby one person is telling something and the other is just listening. It might perfectly well be something quite ordinary, like what they did last evening or what they like to do in their spare time. The important thing is that the person who listens merely listens and lets the talker talk without being interrupted. When the talker is ready the listener should try to retell as much as possible of what has been said. Thereafter the listener may ask questions to get to know more or to understand better.

Then the roles are reversed. Most people will discover how difficult it is not to interrupt but to let the talker talk undisturbed.

#### ***Living with large carnivores - exercise***

You work in pairs. Each person prepares himself by reflecting in silence on what it would be like to live with large carnivores close to your home. Encourage the group to think about which problems might arise and how to tackle these. Then one person talks while the other listens actively without interrupting. When the first person has finished they exchange roles.

When both have finished they discuss questions like:

- What differences were there in the stories?
- What more would you like to know to make yourself better acquainted with the topic?



Photo: Mats & Karin Ericson

### 3.6 Teaching in the open air

When you work as a teacher outdoors it is important to think about what backgrounds the group has. It is not automatic that people are used to being out in the countryside, or that the participants/pupils feel safe in such a situation. The same applies to groups of children, since it is a fact that many children today do not have regular contact with nature like in earlier times when more people were living in the countryside. Nowadays people have lived for several generations in densely built areas, life is more stressful, there is no time for excursions to the countryside, and spare time must be spent on practical everyday duties.

So it is necessary to consider the group's starting position if the experience of wildlife will be regarded as positive. It means that you have to understand and show respect for feelings of insecurity and fear. It also means that you have to organise your outdoor lessons so that physical performance or equipment (like boots or waterproof clothing) won't be a determining factor.

The adventure is the starting point for learning in the open. Previous experiences and knowledge will meet the environment and during this encounter the leader has an important role - to make this new experience a challenge. The encounter could be a confir-



Photo: Ola Jennersten

mation of earlier experiences but also a readjustment and a new experience. You can influence learning by adding new perspectives through suggestions and questions.

The experience affects the whole individual, all senses, feelings, values and thoughts. Nothing can compensate for the direct, genuine experience of the wild. It affects you in quite another way than watching a TV program about wildlife or a picture of a beautiful landscape. If you make use of the participants' delight at making their own discoveries and explorations, the motivation to learn will increase. It is then important that the leader does not only show, point, and explain things but that the participants are allowed to be fascinated themselves by what nature offers.

It could be enough to drink in all the colours of nature, or discover how many species of moss there can be on one single stone. This will engage emotions, attitudes and values. The role of the leader is more one of evoking reflections and formulating thought-provoking questions that encourage the participants to make their own observations, explorations and investigations. The role of the leader is also to point out the connections and the complexity in nature rather than to teach separate facts. In this way a basic understanding is established, which on a long-term basis yields intimate knowledge and a positive feeling for nature.

### 3.7 Exploring and researching

In today's educational system you speak about pupils doing research which of course is not the same as the scientific concept. Still it could be valuable to reflect on what the concept means when it is not within the academic field. It means to gain new knowledge and to incorporate that with previously won knowledge. If you stick to this meaning it implies that the research must start from a genuine question and contain some form of investigation which will result in the production of new knowledge. Then the pupils are able to compare this to previously formulated knowledge gained from books, etc. This is a very convenient method to use when discussing our large carnivores. It opens for many opportunities for the pupils to make their own investigations with support and guidance from the instructor.

The working method is equally suitable in groups of grown-ups where experiences and knowledge vary a lot. In practice it means that you choose to deepen your knowledge according to interest and that not everybody in the group must do the same thing.

Example of working structure:

- Question
- Hypothesis (i.e., what result do you think you will get)
- Investigation, choice of method
- Result
- Conclusions

Examples of research-oriented questions:

- What do people around us think of our large carnivores?
- What differences are there regarding people's opinions of the different large carnivores?
- What do people know about the large carnivores?
- What do hunters think of our large carnivores?
- What do owners of hunting dogs think of our large carnivores?
- What kind of damage prevention measures does a sheep owner need to adopt in order to be able to coexist with large carnivores?

### 3.8 Project work

Working with a project allows the pupils / participants to choose their own methods both for the implementation and the account. It is then possible to achieve a more differentiated learning than usual.

When the project work is about to begin it is desirable that the participants start their project with a distinct question. This facilitates their searching for knowledge since they know which question they want to have answered.

You should try to give each person as much latitude as possible. This includes:

- choice of issue
- choice of working method
- how they are to report on their knowledge and experiences
- who will be the receiver of the report

It is desirable that there is a clear receiver of the work, somebody in addition to the instructor and the group/class. Perhaps they might present the report in the library, in the dining-hall, in front of parents or in the municipal hall.

Suggestions of project issues where some of the above investigative questions might fit in:

- How do people that live in close vicinity of large carnivores think?
- How do people that live far from regions where large carnivores appear think?
- Why are there so many different opinions about the right of large carnivores to exist?

### 3.9 Documentation - follow-up

Whatever structure we may choose it is still most important to document not only the results but also the process. It makes it easier to see one's own learning and to find continuity without "loosing the thread".

In areas of knowledge which engage both thoughts and emotions there must be a time for reflection and dialogue. The reflection might be individual as well as shared with others. Since the individual reflection tends to be forgotten it is advisable to secure it, for instance by a "diary of reflection". This could be based on the observations and experiences made during the work and could with advantage be used for quite a long period of time. The leader needs to assign time and directed tasks to the pupils, if the diary of reflection is to become a continuous documentation. The working tasks might of course vary according to working field and subject. Many pupils/participants will be motivated by reading their diary of reflection where they, often with surprise, notice how little they knew and how ignorant they were at the beginning of this book.

A task which is usually appreciated both by grownups and children is to search out a special place out of doors, not far from home, to go and sit on a regular basis, about half an hour per week, and regard and follow what happens there, keeping in mind some question to reflect on and document. This might later be followed-up and reported on in the group.

Photo: Ola Jennersten





## 4. Introductory exercises

It is important to find out what kind of group you will be working with, how they think and which previous experiences and knowledge they carry with them. When it comes to the question of large carnivores there are also many emotions that must be allowed to come forward during the work.

### **Chart of thoughts**

#### *Aim*

This is an exercise which is suitable when you meet the group for the first time. The sorting out/categorising of a chart of thoughts may have several aims: one is to bring out existing knowledge and experiences in the group which are important to pay attention to and which could be a resource for the whole group. Another aim could be to bring out the existing attitudes and emotions in the group so that you as an instructor will be able to lead the group in a better way.

#### *Implementation*

In order to catch their thoughts, knowledge and feelings you might simply ask: What does a large carnivore mean to you?

Let everybody have the opportunity to talk, write down everything they say on a flip-chart or a board so that all that is said will be visible for everybody.

If you are used to working like this you might in the meantime categorise what they say under different headings. If not, you may let them talk freely at first and then help them to sort among what is said.

### **Own images**

#### *Aim*

The aim with this exercise is to help the participants to find where they stand in the coming discussion about large carnivores. How do I feel about nature and its inhabitants, how would I like the future to be?

#### *Implementation*

Assemble the group - indoors or outdoors. If outdoors, why not around a camp fire?

### **OUT OF DOORS**

The instructor takes an instrument of some kind - drum, flute, violin, cowbell, or something that does not have too high a pitch, gives the instructions for the exercise and sends off the participants with the help of the instrument. The participants walk individually straightforward in different directions until the sound of the instrument becomes very weak or until they find a beautiful place to be alone in the forest. There they sit down - or lie down - trying to search out their own associations and feelings for the large carnivores.

- What would it be like if one of the large carnivores came into sight here and now?
- How would I like the large carnivores to live in my country in 50 years?
- What worries me with regard to their development during the next 10 years?

Let your thoughts travel and try to find your real standpoint. Enjoy the forest. When the leader starts to play again after 25-30 minutes it is time to gather around the fire. Exchange of thoughts within the group will preferably take place in connection with the next exercise ("walkabout discussions").

### **INDOORS**

The instructor briefs the participants about the exercise and asks them to go and sit in a place where they are able to reflect peacefully and individually. There they sit down - or lie down - trying to search out their own associations and feelings for the large carnivores in Europe.

- What would it be like if one of the large carnivores came into sight here and now?
- How would I like the large carnivores to live in my country in 50 years?
- What worries me with regard to their development during the next 10 years?

Let your thoughts travel and try to find your real standpoint. After 25-30 minutes it is time to gather again. Exchange of thoughts within the group will preferably take place in connection with the next exercise ("walkabout discussions").

## ***Walkabout discussions - an example of active listening***

### ***Aim***

The aim of the exercise is that the participants should get to know one another in a personal and trustful way and be able to formulate their experiences and references aloud.

### ***Implementation***

Will benefit from the previous exercise (own images) but might also be done separately. Out-of door exercise, preferably in a forest and with a campfire. Each participant pairs together with somebody unknown and they go on a walking-tour, lasting for about 10+10 minutes, for instance in a wide circle around the camping place.

First one person tells his or her story without being interrupted. The other person listens. The theme of the story should be experiences and memories, associations and feelings towards one or several of the large carnivores. The storyteller must feel that he/she owns the time. It does not matter if his/her mind is blank sometimes, just walk silently until next thought is formed. The listener must not comment with words or gestures, just concentrate on listening and understanding the story. After around 10 minutes they alternate. They wind up the walk by talking about their feelings during the exercise.

Afterwards all participants assemble around the campfire and discuss the exercise. Give everybody has the chance to say something. If the participants have not yet been introduced to one another this would be a good occasion.

## ***Introductory values exercises***

### ***Aim***

Introductory exercises aiming at getting to know one another in the group while at the same time catching some thoughts and ideas in the group.

### ***Implementation***

Rank the alternatives from 1 to 3, where 1 has the highest priority.

Where would you like to live most of all?

- a farm in the countryside
- a detached house in a town
- an apartment

Which activity do you wish to have time for most of all?

- fishing or hunting

- picking berries and mushrooms?
- playing golf?

What would scare you most of all to meet in nature?

- a moose
- an adder
- a brown bear

Which field of research should, according to you, receive most economic support?

- large carnivores
- marine biology
- environmental pollution

What could you do without?

- public access to nature for berry picking or hiking?
- the possibility to hunt?
- the possibility to fish?

Photo: Marie-Louise Bengtsson



Who has precedence:  
do large carnivores and man  
compete for the game?



**Who has precedence - nature or man?**

**Aim**

To elucidate different perspectives and approaches regarding human beings' relationship with nature.

**Implementation**

The leader introduces the issue and has marked 6 positions on the floor with pieces of paper numbered from 1 to 6. Everybody has to decide where to take their stand in relation to the extreme alternatives that are presented on each figure. Everybody has to make up his own mind before anyone takes a place. Those who then are standing on the same figure can talk together about why they chose the alternative in question.

Who has precedence: nature or man?

- |   |   |   |  |   |   |
|---|---|---|--|---|---|
| 1   | 2 | 3 | 4  | 5 | 6 |
| Man has the right to try to rule the nature |   |   | Man should exert as little influence as possible |   |   |

**Is nature important?**

**Aim**

This exercise is suitable for older pupils or participants of study circles and aims at bringing out deeper ethical values about man's relationship to nature.

**Implementation**

The exercise is to be implemented only if the group is reasonably confident and secure, that is to say that each person in the group has the courage to express their thoughts and convictions in front of the whole group. Read out the question and show which four alternatives there are by allocating the alternatives to the corners of the room. Encourage everybody to silently reflect on which alternative to choose. Ensure that everybody has made their decisions before they go to a corner. If somebody walks away immediately it is a risk that more people just follow and choose the same alternative - without having made a choice of their own.

Each corner discusses among themselves why they have chosen that alternative and then tells the other corners why. They are of course allowed to shift corners if they change their minds. Encourage the pupils/participants to think independently and to make their own choices.

What is most important about nature?

- to conserve as much as possible of our flora and fauna
- the progression of science in order for us to learn more about how nature functions
- that we as human beings learn more about how to use nature
- that nature can be left as unspoilt as possible

### **Focus on large carnivores**

#### ***Aim***

To begin focussing on the issue of large carnivores.

#### ***Implementation***

The leader reads out the question and the four alternatives. Each alternative is assigned to one corner of the room. Everybody must have made up their minds before anybody moves to the chosen corner.

Each corner talks about why they have chosen their alternative and then tells the other corners. It is of course permitted to shift corners if somebody changes his or her mind. Encourage the pupils/participants to think independently and to choose the corner that fits in with their own opinions.

Which animal is of greatest interest to you?

- wolf
- lynx
- wolverine
- bear
- iberian lynx

Which animal, according to you, should have most protection?

- wolf
- lynx
- wolverine
- bear
- iberian lynx

Which animal, according to you, is most threatened?

- wolf
- lynx
- wolverine
- bear
- iberian lynx

### **What is your opinion about having large carnivores in your country?**

#### ***Aim***

To elucidate different perspectives and approaches to large carnivores

#### ***Implementation***

The leader introduces the problem and has marked 6 positions on the floor with pieces of paper numbered from 1 to 6. Everybody has to decide where to take their stand according to the extreme alternatives that are presented on each figure.

Everybody has to make up his mind before anyone takes a place. Those who then are standing on the same figure can talk to one another about why they chose the alternative in question.

What is your opinion about having large carnivores in your country?

1	2	3	4	5	6
Strongly against large carnivores in my country				Very positive to having large carnivores in my country	

#### ***Facts***

In European countries where large carnivores have always been part of nature, having or not having large carnivores is not an issue. People might not like to have carnivores in their neighbourhood, but they recognise the right of existence for the carnivores just like for other species.

In countries where the carnivores have been effectively extinct during recent decades and are now slowly returning the picture is a bit different. This is especially the case for wolves. Wherever wolves return to a new area a lot of people are skeptical or negative, especially hunters and livestock owners. Often it is a lack of knowledge and information that causes negative attitudes - something unknown is moving into your neighborhood.

Towards bears and lynx the general attitude in most European countries are neutral or positive. Some hunters think that the bear is competing with man for moose and the lynx is competing for roe deer. The general attitude towards the Iberian lynx is either positive or neutral. The general attitude towards the wolverine is mainly either positive or neutral. Some reindeer owners in Scandinavia have a negative attitude, since the wolverine kills reindeer.

Different attitude studies in some European countries show a general trend that urban people are more positive towards large carnivores and rural people have a more negative attitude. On the other hand, urban people answer more often that they feel afraid of large carnivores. For people used to live in coexistence with large carnivores fear does not seem to be an important concern.



## 5 Topics for Study

Some suggestions for activities are provided below under seven different headings. Most of these headings represent a couple of so called key issues; that is issues that often occur in discussions about conflicts. One or several of these questions might have come up during the introductory exercises and these may be especially important to continue working with.

### 5.1 Fear and large carnivores

#### *Background facts*

A lot of people, mostly those not used to living with large carnivores, are anxious or afraid that large carnivores will attack them or their family. What they fear most is an attack from a wolf or a bear.

Bears do occasionally attack, and even sometimes kill people. In almost every case the bear is provoked in some way, like being shot at and wounded. It is very rare that people who are hiking, picking berries or mushrooms are attacked. A female with young cubs can be aggressive in defending her young, although in

many cases they will only launch bluff attacks. In an exceptional event, in September 2004, a bear was reported to have attacked 11 people in the forest surrounding the city of Brasov in Romania. One man who was picking mushrooms was killed by the bear. A hunter shot the bear and later examinations confirmed that it had rabies.

Most cases of wolf attacks on humans are made by rabid wolves. The most recent attack in Europe, by a rabid wolf, happened in Latvia in 2001. The two persons who were attacked survived following treatment. As the incidence of rabies has been greatly reduced in both domestic dogs and wildlife throughout Western Europe, the incidence of attacks by rabid wolves has dropped. There are currently an estimated 10 000 - 20 000 wolves in Europe. Even with these numbers scientists have managed only to find records of 4 people being killed in Europe (in Spain) by non-rabid wolves during the last 50 years. The risks of being attacked by a wolf is not zero, but are clearly so low that they are virtually impossible to quantify, especially when compared with other background risks associated with modern life. This is known by people who coexist with wolves who rarely fear them. Why then are some people afraid?

What do you find frightening?

What scares you in densely built-up areas and in the countryside, respectively? What is the relationship between fear and risk?

Compare this picture with the one on the next page.



## Myth or reality

### Aim

The large carnivores often symbolise danger. Thus, they are also a good starting point for the discussion about one's own fears, and about which things in life are really dangerous.

### Implementation

You could arrange this as a late activity in a stretch of forest where there is no light from streets or houses. Go there at twilight and wait for darkness.

Talk about how it feels - peaceful or scary.

The pupils/participants can walk in pairs. Encourage them to tell each other what they are frightened of, in nature and in society.

When they come back to the group the companion retells the other person's fears.

Discuss in small groups about various fears.

From where does the fear come?

What experiences are there in the group?

How can fear be managed?

Tell the myth about the badger biting your leg until it breaks.

Show that the skull of a badger is not big enough for the mouth to clasp around the leg of a human being.

Let the participants tell their own stories or myths. Compare with real facts. Which myths are relevant for us today?

If an anthill is available, make the group stand around it and let the ants walk on them. Take one ant in your hand. Notice how it tries to bite a hole in your skin but does not succeed.

Talk about how you could work with your fears in order to better protect yourself against the real risks.

Encourage the group to test how it feels to walk back in silence. Let them lead the way one at a time - with or without a torch. Remember that most of us see better in the dark than a bear!

### Tip

Make an inventory of urban legends, myths and proverbs. Interview older people and visit museums, libraries or centres for ethnology.

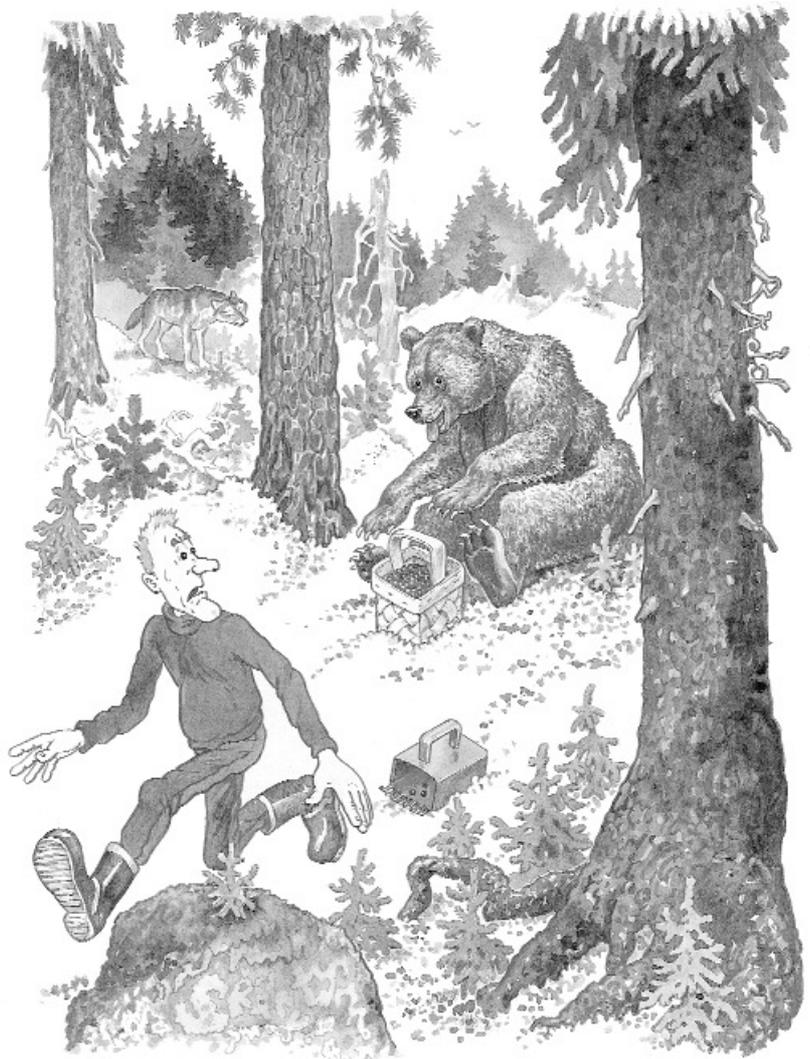
## Strange or familiar

### Background

Vast parts of Europe have been devoid of large carnivores for 100-150 years. The fact that lynx and bears are expanding and wolves have returned to some of their old haunts, implies a change. There is something new and unfamiliar in the forest, something that many of us lack knowledge about.

The unknown is often frightening and we react with fear. Of course it is allowed to be afraid, fear being in many cases a life-saving reaction, but often we are afraid without cause and of the wrong things and for the wrong reasons.

For instance, a lot of people in Europe are afraid of wolves and bears. They are afraid to let their children walk to school, they are afraid to pick berries and mushrooms in the forest, or they are afraid that a bear or a wolf will attack their domestic animals. Must we then refrain from picking berries and mushrooms or engaging in other activities out there in the forest only because there are bears or wolves in our vicinity?



### *Aim*

The aim of this exercise is to investigate the circumstances in other countries where large carnivores have always lived.

### *Implementation*

Find out more about the attitudes to wolves and bear in other parts of the world where they live. Look for and discuss reasons for differences and similarities. Use the library, internet and newspaper articles etc. See the movie "Never cry wolf" and reflect on if it presents a realistic picture of wolf behaviour. Are you afraid of going out in the forest where wolves or bears live?

Another example of a suitable movie is the BBC-movie about the wolf, Timish, who wandered right through the city of Brasov in Romania. There are also films about the garbage bears in Racadau, a suburb of Brasov where people hand-feed bears at night.

## **Reflection exercise: Large carnivores and fear**

### *Aim*

In areas of knowledge that engage both thoughts and emotions there must be time for reflection and dialogue. The reflection could be both individual and together with other people. A diary of reflections would support the individual reflection. The aim is to stimulate reflection on observations and experiences made during the working sessions.

### *Implementation*

The participants search out a special place out of doors, not far from home, to go and sit on a regular basis, about half an hour per week, and regard and follow what happens there, bearing in mind some question to reflect on and to document. This might later be followed-up and reported on in the group.

Here are some suggestions for questions for this type of work:

- Am I afraid of large carnivores?
- Of all species?
- Of which species?
- Am I afraid of some other animals?
- Of which?
- What is it that I am afraid of?
- What could make me less afraid?

## **5.2 The large carnivores**

### **Background facts**

In all subject fields it becomes natural to weave in facts about large carnivores, how many they are, how they live etc. It is also interesting to compare that data with human population data. Some people think that large carnivores only live in virgin wilderness areas, if we compare the two tables in the Annex we will find that it is not always the case. (vide Table 1 "Numbers of carnivores in Europe" and Table 2 "Total population and number of hunters in Europe" in the Annex on page 32f)

### **Tracking**

#### *Background*

We all know what a deer or a fox look like. Most of us have seen some of our wild animals on various occasions but how many of us know how the animals live, what they do when they are undisturbed and we cannot see them?

Following a game track on a winter's day with some newly fallen snow is a fantastic, exciting, and instructive experience which may create a better understanding of the animal in question.

In northern and central parts of Europe this can be done. In southern parts this activity is probably hard to realize, although looking for tracks in sand may be possible.

#### *Aim*

To increase the knowledge about the behaviour of large carnivores through own experiences with the help of tracking. To discover a new dimension with outdoor activities during wintertime.

#### *Implementation*

You need a good tracking book and an area where you believe that wild animals might be encountered. Make the group ponder about where such an area could be found and why they believe that this area might be suitable.

It is possible to learn to recognise the different tracks of animals all year round. On places lacking snow it is easier if the ground is damp or sandy, but of course it is most easy on snow-covered ground.

The best time to track is 2-3 days after a snowfall.

Most animals do not move much during and immediately after a snowfall. In many hunting organisations there are experienced track interpreters. It would be useful to have such a person with you to show and explain what you see.

All tracking is performed backwards, in the direction from where the animal came, in order not to disturb the animal.

Usually it is not very difficult to find prints of a fox. The tracking will be extra exciting if you find tracks from a lynx or a wolf.

- What has the animal been up to? How far has it walked? Mark the route on a map.
- Which type of motion was most often used?
- Is it possible to differentiate between tracks from forepaws and hindpaws?
- From right or from left feet?
- Has the animal tried to hunt something?
- What?
- Can you find any daylair?
- Try to put yourself in the animal's place - what has the animal been thinking? (Do animals think?)
- Would you like to be in the animal's place?

## 5.3 Hunting and large carnivores

### **Background facts**

In Europe there are from five to seven million hunters, out of a total population of almost 600 million people. To them, and to many others, hunting is an important and natural part of life. Hunting provides food, but today it is usually more important as a social or traditional activity that provides a sense of community. Sometimes hunters are concerned that the large carnivores will compete with them for their prey. That is one reason why a lot of hunters have a negative attitude towards

How can we protect sporting dogs? Right now dog vests, small brass bells and wolf telephone are tested.



the wolf or the lynx. It is a matter of course that wolves and other large carnivores have an impact on the ungulate populations. In a lot of European countries the ungulate populations are currently very large, which means that the hunters will not notice very much of the predation from large carnivores. But in some areas, with harsh environmental conditions and accordingly fewer ungulates, the competition may be more intense.

In some European countries, where free running dogs are used in the hunt (to find or drive game), another disquieting factor in the relationship between hunting and large carnivores is the risk that dogs will interact with wolves and be killed. For many hunters it is a calculated risk to let the dog loose in the forest, as a lot of things can happen to the dog. Others accept that the dog can get kicked and killed by a moose or bitten by a wild boar, but they do not accept that a wolf can kill their dog. In places where people are used to live with large carnivores it is usually not a big concern that wolves kill dogs.

The bear is mostly looked upon as a valuable game animal, from the hunters point of view. Even though accidents sometimes occur when hunters shoot and wound a bear most hunters have a positive attitude towards bears. In Scandinavia bears kill moose calves in the spring, but most hunters accept this since they have the chance to shoot bears. Also the moose cow often compensates for the early loss of a calf by giving birth to twins next year.

In most European countries lynx numbers are relatively low and not a big concern for most hunters, but in some places the lynx and the hunters do compete for the deer.

## **The population ecology of roe deer**

### **Aim**

The aim of this exercise is to understand the importance of different factors in the environment which affect the number of individuals within a given habitat. The aim is also to follow and understand connections caused by changes in the environment.

### **Requirements**

A fairly open area in the forest, at least 15x40 metres, shut off from other people's view. Preferably at least 15 participants.

### **Implementation**

The participants are divided into two equal teams. One team will be the roe deer, the other their resources. The participants line up at each short side of the training ground, their faces towards the participants on the opposite short side. Roe deer have some basic requirements for life. They need food, water and shelter.

Food = keep your hands on your stomach

Water = keep your hand in front of your mouth

Shelter = you keep your hands above your head

Each roe must now decide which resource is most important. The persons representing the resources must also decide if they are going to represent food, water or shelter. When everybody has made up their minds, standing facing away from each other, the leader gives a signal implying that everybody should turn around. Now the roe must see to it that their demands are satisfied by running and catching the person showing the resource they wished for. If the roe can catch its resources it will survive the season and is furthermore able to breed with the help of its resource which is consequently allowed to accompany the roe back to the short side of the roe area and become a roe deer. The roe deer whose demand is not met with, who cannot catch its resource, dies and will in short be recycled into the environment.

Play the game a couple of times in order to make everybody understand the rules. Let somebody follow the variations in number of roe and resources in nature by counting the number of people standing on each side after each round.

Take a break after a while and reflect together on the shifts in populations and resources. After that you can introduce various disturbances like cars, hunters and large carnivores. From this exercise you may discuss the competition for the prey. It is equally important to reflect on the result as to implement the exercise, if the purpose is to be achieved.

## **Values exercise - lining up**

### **Implementation**

This exercise deals with the question about who is most entitled to game animals like roe deer, red deer and moose: man or large carnivores? You had better wait with this exercise until the group has got to know one another. It implies that you show your opinion by taking place on a specially marked place. The marking is a piece of paper with one of the figures 1- 6.

These figures are placed along an imaginary line on the floor and the participants go to stand where they feel that they belong. Wait until everybody has made their decisions before anybody steps forward. Figure 1 represents man in his capacity as hunter and figure 6 represents large carnivores, mainly lynx and wolf.

Who, according to you, is most entitled to the game animals?

1	2	3	4	5	6
Man as hunter				Wild animals in their capacities as large carnivores	

### **Tip:**

In order to go deeper into this problem the participants might get a research question like:

- How many ungulates are taken by the large carnivores?
- How many are taken by the hunters?
- How many ungulates are there in the forest?
- How do they affect the other animals and plants in the forest?
- Could the forest run out of ungulates if the large carnivores increase?
- If possible, compare statistics from different parts of the country.

## **When and how did wolf become a dog?**

### **Background**

Today scientists agree that the wolf is the ancestor of the dog but where and when did that happen?

There is a very large research material to draw information from. The oldest dog in Europe that we know today is around 14,000 years old and was found during archaeological excavations in Oberkassel in Germany. Exciting findings also come from Sweden, where the oldest findings of almost complete dog skeletons were found in excavations near Hornborgasjön. These dogs, the five so called "Almö dogs" are nearly 10,000 years old and they were buried by their masters/mistresses, which shows that

the Stone-Age people really appreciated their hunting companions, the wolf - the dog

### **Aim**

To learn more about the dog's development, the similarities and differences between dogs and wolves, and to get some insight into the history of the fauna and the life of the Stone-Age hunters.

### **Implementation**

Read more about these things and compare with your own dog or some dog you know. What would you do if you lived during the Stone Age and needed a hunting companion?

## **The dog is not a wolf but there are similarities**

### **Aim**

To learn about the behaviour of the wolf by studying and reflecting on the behaviour of dogs.

### **Requirements**

You will need

- some dogs - borrowed or belonging to the participants - who are allowed to meet and play
- open grounds where the dogs can move freely.

### **Implementation**

Have the participants study the dogs for a while and make notes of what the dogs are doing at given times. Suggestions for dog behaviours to note:

- shows watchfulness and/or aggression
- plays by itself
- plays with other dogs
- bites
- carries objects around
- runs away or steps aside
- approaches another individual
- tests the dominance order
- makes sounds
- uses body language
- licks another dog
- licks itself
- looks around
- begs
- inspects objects
- digs
- sniffs
- rests

After the observation you sum up the results and try to interpret them.

- Which behaviours are innate and which might be adaptations to human demands?
- Which qualities have we appreciated and made use of?
- Which qualities are harmful to the human society?
- What might happen if a dog meets a wolf?

Discuss and reflect on the similar behaviours of these animals.

Take the opportunity when there is tracking snow and go out with a dog. Study the way it places its paws when moving at different paces. Try to differentiate between right and left, fore and back paws.

If possible, allow the dog to move freely.

- How do you think a wolf would have moved?

## **Who took the hunting dog?**

### **Aim**

To reflect on different perspectives and approaches, and to increase the knowledge about accidents involving hunting dogs.

### **Implementation**

The leader presents the issue and has marked 6 positions on the floor with pieces of paper numbered from 1 to 6. Everybody has to decide where to take their stand in relation to the extreme alternatives that are presented on each figure. Everybody has to make up his own mind before anyone takes a place. Then, those who are standing on the same figure can talk together about why they chose the alternative in question.

How would you like to solve the problem with the risk for hunting dogs being killed by a wolf?

1	2	3	4	5	6
Hunt and kill all wolves				Take preventive measures, for example teaching the dogs not to follow wolf tracks	

### **Alternative implementation**

Study various basic facts and statistics about accident risks for hunting dogs. Discuss the proportions of the risks. How can we prevent hunting dogs being attacked by wolves?

## 5.4 Domestic animals and large carnivores

### Background facts

It happens that large carnivores hurt or kill domestic animals. In most cases sheep are attacked, on rare occasions horses or cattle. It is important to prevent damage on livestock and various methods are being developed and tested.

Electric fences, mostly with five wires and high voltage, are being successfully used in many different parts of Europe to protect livestock from large carnivores. In countries where shepherds guard the sheep an electrically fenced area can be used during the nights (when most attacks happen), to ease the shepherds work.

Another old and reliable method used with success is the special breeds of dogs as livestock guarding dogs for flocks of sheep. In some countries, especially in southeastern Europe, shepherd's dogs together with a shepherd protect freely roaming livestock against attacks from large carnivores.

In Poland, for example, a quite popular method of preventing attacks from carnivores is the use of a fladry barrier. (Fladry is a rope with 40 cm long strips

of red material sewn at 40-50 cm intervals, suspended 50-60 cm above ground around the pasture). For reasons unknown wolves will rarely cross a fladry line.

In Scandinavia the reindeer herders have problems to protect their semi-domestic reindeer herds. So far no good prevention measures, besides guarding or moving the reindeer, both involving very expensive and time-consuming work, have been developed.

Many countries compensate livestock-owners for their losses, and in some countries the livestock-owners also get economic support for adopting damage prevention measures.

### Dilemma for a sheep owner

#### Aim

To put oneself in the role of a sheep owner and to reflect on, and elucidate, different approaches and alternatives.

#### Implementation

This exercise is quite a profound value exercise and is not suitable unless the group is used to such exercises. The exercise is of greatest value if the group



How can we prevent large carnivores from attacking livestock?

members really trust each other. Then they will dare, and wish, to share their own attitudes and values.

*A sheep-owner is visited by a wolf a couple of times. The wolf has killed both lambs and ewes and the sheep-owner is worried. He gets compensation for his losses, but he still does not think it is pleasant or appropriate to go on keeping sheep. He feels uncomfortable that the wolf is attracted to his farm because of the sheep.*

*Also other people have benefited from the sheep, for instance school children in a nearby village have often visited the sheep and learnt a lot about sheep and how they live. Most of the children do not have any animals at home and for the teacher the contact with the sheep-owner has meant a great difference in making the lessons more stimulating and realistic.*

*The sheep-owner is a member of a hunting team and other members put pressure on him because they believe that there should be more hunting for wolf. However, he hesitates since after all he believes that wolves have the same right to live as other animals but at the same time he feels sorry about not being able to protect his sheep.*

- What are the consequences if he stops keeping sheep?
- What do you think that he should do?

Discuss possible alternatives. Make a list of them all. Go on with the discussion in small groups and give precedence to the most suitable alternative from the list.

## **Welcome to a panel debate**

### ***Aim***

The conflict between large carnivores and livestock owners contains many diverse aspects. Various interest groups should be put together so that they cooperate in finding solutions from an overall viewpoint. With this exercise the participants can enter different roles and identify with different parties. They can produce arguments they are confronted with in the practice.

### ***Implementation***

The scenario is a panel debate. The issue of the meeting is: How can livestock-owners and large carnivores coexist in the same landscape?

It is advisable to use booklets and materials from different interest groups and organisations, to learn their different opinions.

The panel might consist of:

1. Lotta - representative of the sheep farmer's association
2. Djuro - representative of the regional hunter's association
3. Norbert - large carnivore co-ordinator from the Forest Administration or from the conservation unit of the county administrative board
4. Agnieszka - representative of the Large Carnivore Association or some kind of NGO
5. Christoph - representative of the National Environmental Protection Agency
6. Luigi - chairman of the local council, conference leader and moderator

Chairman Luigi opens the meeting with a few remarks, hoping for an open and constructive discussion. Each representative, in order decided by drawing lots, begins with a speech for two minutes. Then there follow replies, questions and answers.

The replies must not exceed one minute. Luigi may interrupt and ask his own questions at any time. After 30 minutes a round concludes the discussion where each panel participant is allowed one minute to give an account of his or her view of the discussion and propose a suggestion for action.

After the panel debate there is a discussion about how the debate was carried out, how they felt in their different roles and reflections on the value and possibilities to arrange something similar in real life.

If the group consists of more than 7 people it is of course possible to double-up or enter more characters - for instance an audience, media or two separate panels debates which later could report to one another.

Hand out the tasks and characters in advance so that the participants may prepare themselves with material or maybe even suitable clothes. Put nameplates on the tables etc.

## **Wolf fences**

### ***Aim***

The participants should look into and learn about electric fences as a method to protect livestock against large carnivore attacks. This exercise and the next one are suitable also for the subject of large carnivore opportunities (5.7).

### ***Implementation***

If possible, visit or invite a livestock-owner who has experience of the kind of electric fence that we are talking about here. Information can be found at the

conservation units of the county administrative boards in counties where wolves live. Some game management associations might also help.

If there is a Wildlife Damage Control Centre they probably have valuable information about fences and damage compensation statistics.

Think about and talk to one another about how a wolf would react to an electric fence. Some persons in the group may have experiences on how a dog reacts and might draw some conclusions from that.

Discuss differences and similarities between how the dog reacts and how you think the wolf reacts.

Discuss why the electric fence has such a deterrent effect on animals (both tame and wild ones). Would you as a human being (very hungry) be deterred by an electric shock from a fence? You may also think of some other fields of application where an electric fence could be used to keep large carnivores away.

Could such fences prevent bears from attacking beehives?

Study "wolf deterrents" and other methods used in e.g. Minnesota.

## **Shepherds**

### ***Aim***

To investigate one of the methods to protect livestock against large carnivores.

### ***Implementation***

In southeastern and southern Europe especially, shepherds guard sheep and other livestock to protect them from attacks by carnivores (and from thieves). In Scandinavia it is argued that it is way too expensive to pay shepherds to protect their livestock, since the salaries are too high. One could then think that there is a relationship between the existence of shepherds and GNDP per capita. But in countries like Italy and Spain, where shepherds are common, the GNDP per capita is almost as high as in the Scandinavian countries. Why is that?

Probably it has more to do with the fact that people in countries like Spain and Italy always have coexisted with large carnivores, and carnivores are regarded as integral parts of nature. In central and northern Europe the carnivores have been gone, or almost gone, for such a long time that people now, when the carnivores return, have forgotten how to live with them.

Is it worth while to use tax revenue to support shepherds?

Reflections that might arise are for instance the mountain pastures as a cultural heritage, the preservation of endangered breeds of livestock, or dogs, tourism, working opportunities, dangers for the

domestic animals and their shepherds, the risk of hikers being attacked by the shepherd dogs, etc.

Seek facts about older animal breeding (for instance in the 18th century and beginning of the 19th century, when large carnivores were abundant in many parts of Europe.) Use old homestead museums, municipal libraries, parish registers etc.

Would you consider working as a shepherd? Think, discuss.

Contact the county administrative board and see if there is a chance of getting subsidies for shepherds.

Read about shepherd's dogs and how they are used.

Are shepherds used in your country?

If not - would they be a possibility in your country?

What are the problems?

What are the opportunities?

Get hold of the report "*Livestock guarding dogs: their current use world wide*", by Robin Rigg, Department of Zoology, University of Aberdeen, UK, e-mail: r.rigg@abdn.ac.uk.

Tip about home pages:

Livestock Guarding Dog Association: [www.lgd.org](http://www.lgd.org)

Flock & Family Guardian Network Livestock and family guardian dog comprehensive resource gateway:

[www.flockguard.org](http://www.flockguard.org)

Dog Owner's Guide: Livestock guard dogs:

[www.canismajor.com/dog/livestck.html](http://www.canismajor.com/dog/livestck.html)

## **Reflection exercise on Large carnivores and Livestock**

### ***Aim***

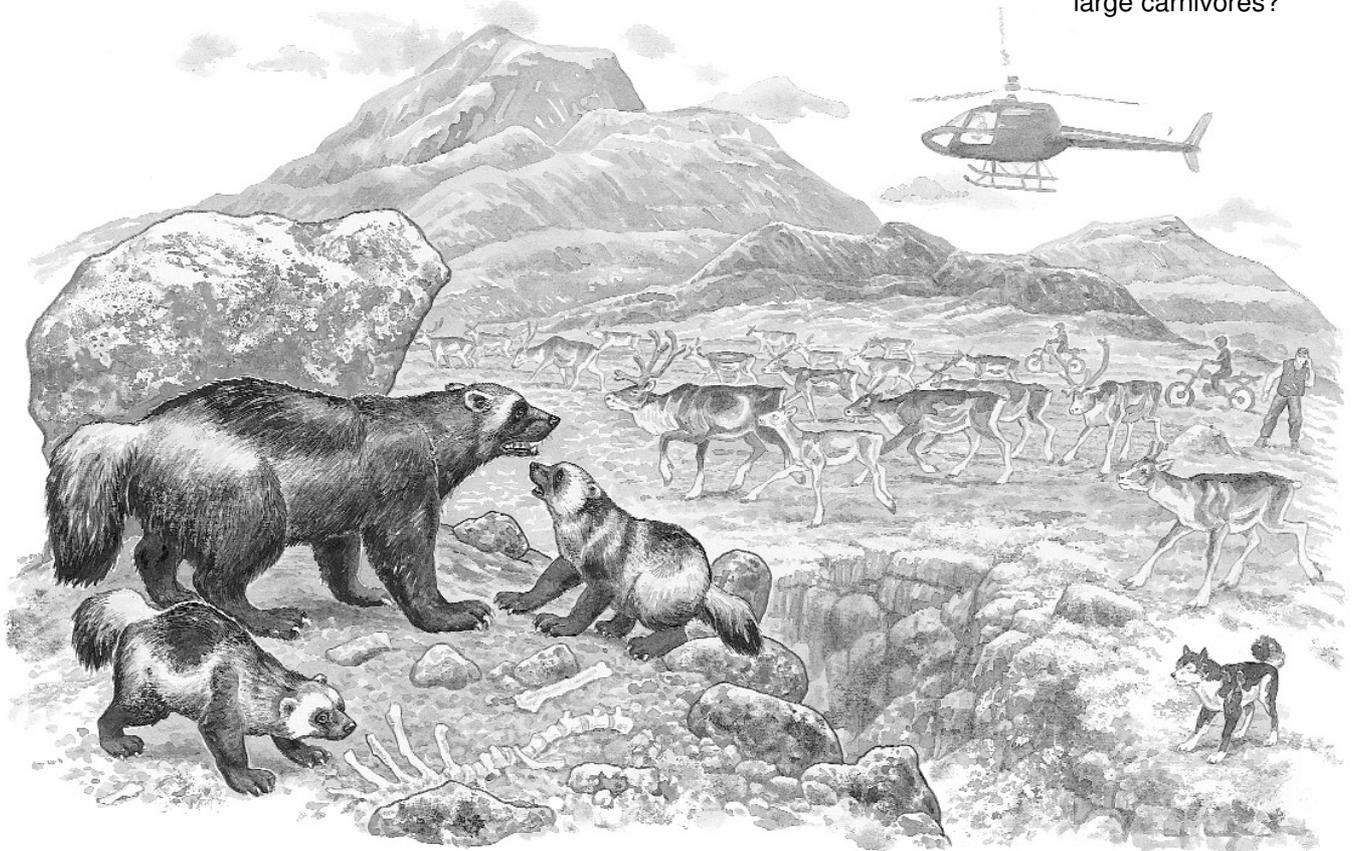
In subjects that engage both thoughts and emotions there must be time for reflection and dialogue. The reflection may be individual as well as together with other people. This exercise secures the individual reflection through a diary of reflections. The aim is to stimulate reflection on the observations and experiences made during the work.

### ***Implementation***

The participants search out a special outdoor place, not far from home, to go and sit on a regular basis, about half an hour per week, and observe what happens there, bearing in mind some questions to reflect on. This might later be followed-up and recounted in the group.

Here are some suggestions of questions for this scope of work: Which problems concerning large carnivores might arise in my region? For me? Have any accidents occurred in this region? For me? How could I diminish the risk of attacks? Which preventive methods are available?

How can freegrazing reindeer husbandry be carried out in areas with large carnivores?



## 5.5 Reindeer husbandry and large carnivores in Sweden

### **Background facts**

Semi-domestic reindeer are herded by the Sami people over 40 per cent of the surface of Sweden, in the northern part of the country.

In this area bears, lynx and wolverines, and occasionally wolves, roam on the same area as approximately 250,000 reindeer. The heaviest losses for the 2 500 reindeer owners are, without doubt, due to large carnivores, with 20,000 to 30,000 reindeer being killed every year. The compensation for losses due to large carnivores is paid to each Sami village, or reindeer herding co-operative, in proportion to the number of rejuvenation or established occurrence of large carnivores in the samivillage region.

Finding good methods for protecting reindeers against attacks from large carnivores is difficult since the reindeers move freely over large areas. The use of guarding dogs is not practical because of the need for costly shepherding and the behaviour of reindeer. Likewise, electric fencing does not work because the animals need to constantly move to avoid overgrazing the habitat. Only intensive herding, or moving the entire herd away from areas with many carnivores, can

reduce losses. Despite the heavy losses, most herders believe that low densities of large carnivores have the right to coexist in the same landscape - with the exception of wolves. The reindeer herders claim that wolves simply cause too much damage, both through the direct killing of reindeer, and by scattering the herds, to permit coexistence. Although - historically the reindeer herding area was also populated by the wolf.

### **Research about reindeer husbandry and large carnivores**

In order to gain more knowledge about reindeer husbandry it might be suitable with a research exercise. The issues could include:

- How many reindeer are killed by large carnivores in Sweden?
- By which large carnivores and where?
- How has the large carnivore problem been solved in the reindeer herding area of Sweden?
- How does the compensation system work in Sweden?

Tip about home pages:

[www.suri.ee/eup/samis.html](http://www.suri.ee/eup/samis.html)

[www.sametinget.se](http://www.sametinget.se)

[www.itv.se/boreale/bovts.htm](http://www.itv.se/boreale/bovts.htm)

[www.fao.org/docrep/w1033E/w1033e05.htm](http://www.fao.org/docrep/w1033E/w1033e05.htm)



Photo: Mats & Karin Ericson

## **"Forum play" Being a reindeer owner**

### ***Aim***

To put oneself in the role of a reindeer herder. The participants should practice managing crisis situations in a constructive way.

### ***Requirements***

A stage, preferable out-doors, some props for those who play the various characters in the plot.

### ***Implementation***

The idea with a Forum play is to first depict a development that leads to a crisis through a short role-play with some role-players. Then you make a break and repeat the whole thing once more. During the repetition the watching participants may intervene at any time and take the place of some of the actors and instead play another possible story themselves. By way of introduction some actors are chosen who could rehearse once and then perform the plot.

The plot might be as follows:

It is late April and two reindeer herders have begun herding their reindeer from the forest, where they spend the winter up to the calving grounds in the Swedish mountains. The reindeer walk and the reindeer herders drive their snowmobiles. On their way they see tracks of a wolverine and as they follow them they discover a wolverine den (females give birth in a den in early spring) in the area of the calving grounds. The younger of the reindeer herders contacts the county administration and asks for help but is told that there is nothing to do, law protects the wolverine and the reindeer owner cannot document any problems so far.

On the way back to the herd of reindeer they find a reindeer killed by a wolverine. A skiing tourist who has backtracked the wolverine appears on the kill-site.

The reindeer herders disagree on what to do.

The older reindeer herder makes up his mind and starts driving back to dig the den out. The tourist, who knows that wolverines are on the national red list and protected by law, gets suspicious when he sees the older reindeer herder driving away on his snowmobile.

At this critical point you make a break and then perform the sketch once more. During the repetition the watching participants may intervene at any time and replace some of the "actors" and instead play another possible course of action. At what moments are there any alternative courses of action?

Is it possible to come out of the crisis with a positive ending for any of the different parties - maybe for all?

## **5.6 Democracy and large carnivores**

### ***Background facts***

Most countries in Europe have signed the Bern convention, of which the most important message is that every subscribing country undertakes to help safeguard all naturally occurring species. The countries that have joined the European Union are also committed to implement the Habitat Directive, which means that we should do everything possible to conserve the species included in the directive (among them brown bear, wolverine, Eurasian lynx, Iberian lynx and wolf) in their natural habitats.

These are commitments between countries, and most people think that they are good. These conventions and commitments have to be ratified by each country and when this is done some people think that the laws and the decisions are made "over their heads". People, mainly those who have a negative attitude towards carnivores, or are unsure about how to protect their livestock, or maybe are afraid of carnivores, feel that they are not listened to and that decisions are made by bureaucrats far away. You may hear voices about "we" and "them", "rural districts" versus "big cities" and "misuse of power".

How could one overcome such distrust?

In most European countries poaching (illegal killing) of large carnivores is a major problem for their conservation. This is a problem because it makes it very hard to make and implement good national management plans. It is a democratic problem when some people think that they have the right to make their own laws and that they have the right to decide which animals should roam the forest. When decisions are made by an elected government they are democratic decisions that should be respected and followed. Yet, this is not always the case.



## Journalism

### *Aim*

The exercise aims to develop the ability to critically examine the media.

### *Implementation*

- What do various newspapers write and why?
- How are we affected?

Collect cuttings from different papers (daily press, hunting magazines, environmental magazines) for a couple of weeks. Review reports dealing with large carnivore issues.

Use the dilemma exercise. The participants read the story and then play the roles of journalists from different papers (national press, local press, hunting or environmental magazines) and describe the same story by writing an article about it. Discuss the results.

## Values exercise - illegal hunting

### *Aim*

To elucidate different perspectives and approaches regarding human beings' relationship with nature. Reflect on whether we appraise illegal hunting differently depending on what is being shot.

### *Implementation*

You own about 25 acres of land which includes hunting rights. You discover that there are poachers on your grounds. What do you do?

1. Call the police and make a report
2. You try to find out yourself who the poachers are
3. You don't bother about it
4. Other options

Firstly, ask each person in the group to make his or her own decision and choose one of the alternatives.

Then make the participants meet in smaller groups to discuss the pros and cons of the different alternatives.

The group must then agree on one alternative, present it and argue for it in front of the others.

Conclude with a discussion in the big group.

Now make the problem more complex, say that the poachers were shooting a bear. Again ask everyone to make his or her own decision and then continue with the dialogue as above.

Will the distribution of participants in the groups differ? Think about similarities and differences and try to reach some explanations.

## Shoot, shovel, and shut up. (S.S.S.)

### *Background*

This phrase often turns up in areas where wolves recolonise, and people discuss large carnivore issues in private. It even happens that some writers of hunting articles recommend, in a roundabout way, their readers take matters into their own hands, that is to shoot, shovel and shut up!

In Sweden, poaching has been identified as responding to between 10 and 25 percent of the annual mortality for large carnivores. What does this attitude of solving a problem mean in relation to democracy?

Democracy is a difficult thing and while many people may be happy if they get their way, it may lead to a feeling of disappointment and of being treated badly for a person who does not get his or her way. Wherever, people hold different views it is likely that one group's wishes will prevail over the others', unless a compromise is reached. A French philosopher once said that democracy is the majority's tyranny over the minority! Yet, what is the difference between a minority overruling a majority than a dictatorship? Democracy is a balance between the majority getting what they want, while respecting the rights and wishes of the minorities.

### *Aim*

To discuss democracy and a democratic approach with respect to large carnivore issues, to reflect on the concept of "shoot, shovel, and shut up" and how that fits in with our view of democracy.

### *Implementation*

Reflect on the problem and talk about the concept of democracy starting from the notion of S.S.S.

Compare this issue with other issues of attitudes in society where the rules of democracy are put into a more everyday form, e.g., traffic problems, crime or local social issues.

What would you do if your neighbours started talking about S.S.S.?

Here it might be suitable to start with the "Active listening" method from page 9.



How do we act when we do not agree with government policy?

## 5.7 Opportunities with large carnivores

### **Background facts**

Many people highly value the positive emotional experience of wandering in forests that provide a haven for large carnivores, or simply feel that the world is a better place knowing that some wildness still remains out there. However, the economic value of these experiences or feelings to people is difficult to quantify. There are two areas, however, where it may be possible to quantify a real economic benefit of large carnivores. Firstly, because seeing tracks of lynx, hearing a pack of wolves howling, or catching a glimpse of a bear is a dream for many people, large carnivores may be used to attract ecotourists to a region. Secondly, a much more controversial benefit lies in the sale of trophy hunting, where hunters pay large fees to shoot a bear, wolf or lynx.

As most countries have taken the decision to help conserve viable populations of large carnivores and manage their populations in a sustainable way it is important to elucidate the positive effects and possibilities of the existence of large carnivores. At the same time we need to develop routines that decrease the risk of attacks from large carnivores on livestock, see to it that the government pays reasonable compensation for losses, and find ways to solve the other problems that may arise. Now is the time for creative and positive thinking, to adopt and develop other people's ideas.

### **Love-bombing**

#### *Aim*

To start develop ideas about the opportunities that exist. The result may be gathered in a think-tank to be used in the next exercise.

#### *Implementation*

The idea behind this exercise is to let one of the participants describe a large, difficult and complex problem. Then, the other participants start to "bomb" this person with ideas on how to solve the problem. No negative suggestions, only positive ones, more or less realistic, are allowed. The person in question must only receive the ideas, make notes and ask questions to clarify points, but must not argue or refute any of them.

## **Laboratory for the future**

### *Aim*

The aim of a laboratory for the future is to imagine a life where people can successfully coexist with large carnivores while minimising conflicts.

### *Implementation*

**Alternative 1:** The starting-point is a story or a picture of a situation composed of a densely populated area with some human beings and an environment rich in wildlife, including large carnivores.

**Alternative 2:** The starting-point is a region/community that has been designated as a pilot area to show how to solve large carnivore issues. This type of working suits pupils who are a bit older, or grown-ups.

### *Step 1*

Create the vision - the ideal situation in pictures and text. Describe the desired situation, where everything in the landscape was harmonious - with room for both man and large carnivores.

Try to ponder over as many different perspectives and questions as possible, bearing in mind that all living creatures in the area should be able to remain there for far into the future.

### *Step 2*

Break down the vision into concrete steps or sub-goals that have to be reached in order to make the vision possible.

### *Step 3*

Draw up strategies to reach these concrete sub-goals. What do you need? Of whom? Also identify obstacles to these strategies, if any.

Choose a concrete first step, which the group agrees on and considers both possible and desirable.

### **And finally:**

In conclusion we would like to stress the importance of evaluation. You can find some tips on page 6. We would also like to propose that you repeat the value exercises after having been through several sessions. Have the attitudes of the pupils / participants changed?

In the same way you could also repeat the walk-about discussions.



## 6 Suggestions on sources of information

### **BROWN BEAR Links**

- International Association for Bear Research and Management  
<http://www.bearbiology.com/>
- Artus (French)  
<http://membres.lycos.fr/artus/>
- Alertis: Fund for Bear and Nature Conservation (English, Dutch and German)  
<http://www.alertis.nl/>
- Parco Naturale Adamello Brenta (Life Ursus) (Italian, German and Spanish)  
<http://www.parcoadamellobrenta.tn.it/>
- WWF Austria / Brown Bear LIFE-Project (German and English)  
<http://www.wwf.at/Projekte/artenschutz/bearlife/>
- <http://www.bearproject.info/preliminary/2/index.htm>

### **WOLF Links**

- IUCN Canid Specialist Group  
<http://www.canids.org/>
- Canid News (online newsletter)  
<http://canids.org/canidnews/>
- The Searching Wolf  
<http://www.searchingwolf.com/>
- Loup.org (French and English)  
<http://www.loup.org/>
- Kora Carnivore Research (French, German and English)  
<http://www.kora.ch/>
- The Association for Nature, "WOLF" (Poland)  
<http://www.wolf.most.org.pl/eng/>
- Programme LIFE - Loup (French)  
[www.paca.ecologie.gouv.fr](http://www.paca.ecologie.gouv.fr)
- German Wolf Association (German, English)  
[http://www.wolves.de/index\\_e.phtml](http://www.wolves.de/index_e.phtml)
- [www.skandulv.nina.no](http://www.skandulv.nina.no)

### **WOLVERINE Links**

- Wolverine Foundation  
<http://www.wolverinefoundation.org/index.htm>
- [www.jarvinfo.no](http://www.jarvinfo.no)
- <http://www.wolverinesymposium2005.se/>

## **EURASIAN LYNX Links**

- IUCN Cat Specialist Group  
<http://lynx.uio.no/catfolk/>
- European Lynx Online Information System  
<http://www.kora.unibe.ch/en/proj/elois/index.html>
- World Lynx Home page  
<http://lynx.uio.no/jon/lynx/lynxhome.htm>
- Projet lynx en France (French)  
<http://www.jura-france.com/lynx/>
- Luno (German)  
<http://www.luno.ch/>
- Italian Lynx Project/Progetto Lince Italia (Italian and English)  
<http://www.progetto-lince-italia.it/>
- Kora Carnivore Research (French, German and English)  
<http://www.kora.ch/>
- www.bigcats.com (lists research papers available on Eurasian lynx)  
<http://bigcats.com/researchlynx.mv>
- Cat Action Treasury  
<http://www.felidae.org/>

## **IBERIAN LYNX Links**

- IUCN Cat Specialist Group  
<http://lynx.uio.no/catfolk/>
- Iberian lynx (Portugal) (Portuguese and English)  
<http://lynxpardinus.naturlink.pt/>
- Estación Biológica de Doñana (Spanish and English)  
<http://www.ebd.csic.es/>
- SOS Lynx (Portugal)  
<http://www.soslynx.org/>
- WWF Spain/Adena (Spanish)  
[http://www.wwf.es/especies\\_lince.php](http://www.wwf.es/especies_lince.php)
- www.bigcats.com (list of Iberian lynx research papers)  
<http://www.bigcats.com/researchiberianlynx.mv>
- Cat Action Treasury  
<http://www.felidae.org/>

## **General Links**

- WWF Sweden  
[www.wwf.se/rovdjur](http://www.wwf.se/rovdjur)
- WWF International  
[www.panda.org](http://www.panda.org)
- LCIE Large Carnivore Initiative For Europe  
[www.lcie.org](http://www.lcie.org)

## 7 Annex - Tables

**Table 1:** Numbers of carnivores in Europe

Population estimates are presented according to best available data.

Quality specification:

1 - reliable quantitative data,

2 - limited quantitative data, some corrections and interpretations applied,

3 - limited quantitative data, no corrections and interpretations applied,

4 - extensive expert judgement,

5 - limited expert judgement,

6 - combination of quantitative data and expert judgement.

country	wolves		brownbears		lynx		Iberian lynx		wolverine	
		quality		quality		quality		quality		quality
Albania	250	6	250	5	15-25	5				
Austria	0	5	23-28	3	24	2				
Belarus	2000-2500	5	250	5	250?	5				
Bosnia-Herzegovina	400	2	600	5	40	5				
Bulgaria	800-1000	4	700	4	single ind.	2				
Croatia	130-170	3	600-1000	3	40-60	4				
Czech Republic	<20	3	2-3	5	120	4				
Estonia	<500	2	440-600	3	900	2			0	5
European Russia	no data	?	36000	5	?	?			1500	4
Finland	100	3	800-900	4	870	4			110-120	4
Former Yugoslavia	1000	2	?	?	?	?				
France	30-40	2	8-10	2	70-130	2				
FYR Macedonia	800	6	100	5	35	4				
Germany	10-15	2	0	2	30-70	4				
Greece	1500-2000	4	110-145	4	0	6				
Hungary	<50	4	0	2	1-5	2				
Italy	400-500	2	40-80	5	14	2				
Latvia	750	2	4-10	3	648	1			0	5
Lithuania	600	2	0	4	103	2			0	5
Moldavia	no data	?	no data	5	?	?				
Norway	23-26	1	26-51	3	330	1			245	1
Poland	600-700	2	100	3	180	2				
Portugal	200-300	4	0	?	0		0	2		
Romania	4100	3	6300	4	1800	4				
Serbia & Montenegro	500?	2	300	5	80	4				
Slovakia	350-400	3	700	4	400	4				
Slovenia	30-50	3	500	3	50	4				
Spain	1700-2500	2	70-85	2	0		150-200	2		
Sweden	68-94	1	1600-2800	2	ca 1400	1			325	1
Switzerland	3	2	0	4	100	1				
Ukraine	2000	5	400	5	250-260	5				

**Table 2:** Total population and number of hunters in Europe

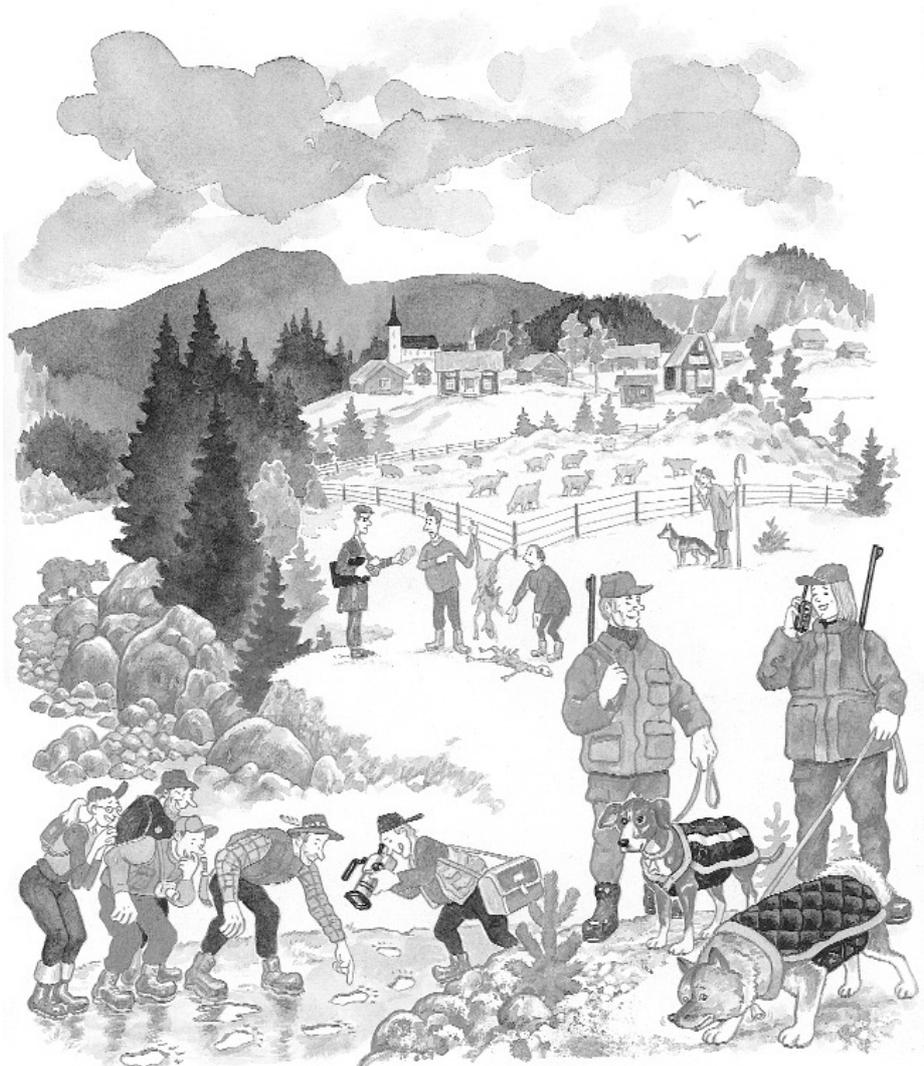
country	areal sq.km.	total population	population/ sq.km.	hunters	%hunters of total pop.
Albania	29 000	3.400 000	117	17 000	0,5%
Austria	83 800	8.100 000	97	115 000	0,42%
Belarus	207 600	10.400 000	50		
Belgium	30 500	10.200 000	334	20 000	0,20%
Bosnia-Herzegovina	51 000	4.000 000	78	55 000	1,38%
Bulgaria	111 000	8.000 000	72	95 000	1,19%
Croatia	56 400	4.500 000	80	55 000	1,22%
Cyprus	9 200	750 000	82	45 000	6,00%
Czech Republic	79 000	10.200 000	129	110 000	1,08%
Denmark	43 000	5.300 000	123	160 000	3,02%
Estonia	45 200	1.500 000	33	15 000	1,0%
European Russia	?	?	?	?	?
Finland	304 500	5.200 000	17	290 000	5,56%
Former Yugoslavia	-	-	-	-	-
France	545 000	61.000 000	112	1.400 000	2,3%
FYR Macedonia	24 900	2.000 000	80	?	?
Germany	357 000	82.800 000	232	340 000	0,41%
Greece	131 000	10.600 000	81	270 000	2,55%
Hungary	93 000	10.000 000	107	50 000	0,5%
Ireland	70 000	3.800 000	54	350 000	9,2%
Italy	294 000	57.600 000	196	900 000	1,56%
Latvia	64 600	2.400 000	37	25 000	1,04%
Lithuania	65 000	3.600 000	55	25 000	0,69%
Luxembourg	2 600	400 000	154	2 000	0,5%
Moldova	33 400	4.400 000	132	?	?
Malta	316	400 000	1265	15 000	3,75%
Netherlands	34 000	15.900 000	468	30 000	0,19%
Norway	385 000	4.500 000	12	190 000	4,22%
Poland	304 000	38.600 000	127	100 000	0,26%
Portugal	92 000	10.000 000	109	230 000	2,3%
Romania	230 000	22.400 000	97	60 000	0,27%
Serbia & Montenegro	102 000	11.000 000	108	80 000	0,73%
Slovakia	48 800	5.400 000	111	55 000	1,02%
Slovenia	20 000	1.900 000	95	20 000	1,05%
Spain	504 800	39.900 000	79	1.100 000	2,76%
Sweden	411 000	9.000 000	22	290 000	3,22%
Switzerland	39 700	7.200 000	181	32 000	0,44%
Ukraine	603 700	49.100 000	81	?	?
United Kingdom	241 600	59.500 000	246	800 000	1,34%

# A Guide to Living with Large Carnivores

Large carnivores generate powerful positive and negative emotions in people. Living with large carnivores in our modern, crowded, European landscapes is a challenge that we are confronted with in many areas in Europe. Large carnivores are a natural part of our environment and we have to find ways to coexist with them. We hope that this study material from the WWF and the LCIE will be a useful tool in this work.

This guide is intended for you as a teacher or a study circle leader. The aim of the guide is to support you in your role as instructor, to suggest methodology and concrete activities.

This is a comprehensive material for you to pick from and use during lessons about the environment in a variety of educational situations from small children to adults.



**A LARGE  
CARNIVORE  
INITIATIVE  
FOR EUROPE**

**The Large Carnivore Initiative of Europe (LCIE)**, is a working group of the World Conservation Union's (IUCN) Species Survival Commission. The LCIE consists of a group of experts in large carnivore ecology, conservation and management who are working to help governments and NGOs develop and implement sound policies to reintegrate large carnivores back into the fabric of the European landscape. The LCIE was initiated by WWF in 1995.

**The Large Carnivore Initiative for Europe, LCIE**

[www.lcie.org](http://www.lcie.org)

**The World Wide Fund For Nature (WWF)**, is one of the world's largest and most experienced independent conservation organisations, with almost five million supporters and a global network active in 90 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption.

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