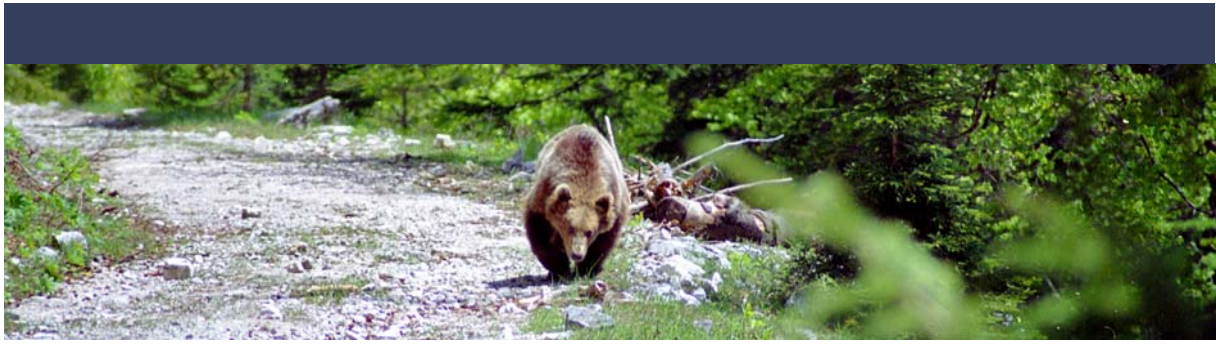




Bears in Austria – a managementplan

Reviewed version 2005





Editor: Coordination board for Bear Management in Austria

The Coordination board for Bear Management in Austria was established to coordinate the management of brown bears in Austria across provinces. Members of the coordination board are: representatives of the provincial governments for hunting and nature conservation from the provinces of Carinthia, Lower Austria, Salzburg, Styria and Upper Austria, the Federal ministry of Agriculture, Forestry, Environment and Water management, the Central Hunting Organisation of Austria and WWF Austria.

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1. Introduction

1.1. Background for the revision of the management plan

In 1996/97 the first Management Plan for the brown bears in Austria was published. The main reason for this first version was the “trouble year 1994” – a year in which an exceptional high amount of damage caused by bears was reported. Consequently, the focus lied mainly on the handling of human-habituated bears and on understanding the bear-human-relationship.

Nowadays, these issues are no longer in the foreground of the discussion as there haven't been any major problems with nuisance bears in the last few years. It was therefore necessary to review the old Management Plan focusing on new aspects.

The main reasons for a revision of the Management Plan are:

- » The Austrian bear population has remained stagnant for some years. The current version of the Management Plan deals also with aspects of protection and necessary measures for the conservation of brown bears in Austria.
- » The EU commission strongly advises the participating countries to develop Management Plans for the large carnivores (bear, lynx and wolf).
- » In the last few years EU habitat directive (92/43/EW) has been converted to national laws. The brown bear is listed as a priority species in the habitat directive (Appendix II and Appendix IV). The legal status of the bear has thus recently changed in several provinces. An over-

view of the legal status in each province and its respective damage regulations will be given (for further details see the study “Legal situation of Large Carnivores in Austria” – in German¹).

- » Due to article 6, paragraph 1 of the EU habitat directive, the member countries must determine necessary conservation measures for Natura 2000 areas. These should include plans for cultivation and development as well as appropriate legal, contractual and administrative measures meeting the species of priority's ecological requirements. This Management Plan should provide the basis for future development of management plans for protected areas with bears.
- » The connectivity of habitat is essential for the long term conservation of bears in Austria and must be carried out over the entire Alpine region. Nevertheless, this aspect of bear management must already be integrated on an Austrian level.
- » A standardised procedure regarding nuisance bears is indispensable. This Management Plan shall serve as a professional guideline for authorities.
- » The organisational structure of the bear management had to be re-adapted due to past experiences.

Division

In order to stress the expansion of the subject areas, this revised version of the Bear Management Plan is divided into 2 parts:

The first part deals mainly with the management of coexistence between humans

¹ Strasser, V., Proschek, M. (2004): Die rechtliche Situation von Bär, Luchs und Wolf in Österreich; Rechtliche Bestimmungen der Bundesländer, des Bundes, der Europäischen Union sowie internationale Abkommen. WWF Österreich, Wien, 138 S. In German.

Both the “Action plan for the conservation of the brown bear in Europe”² published by the Council of Europe and the “Action plan for the conservation of brown bears in Austria”³ represent an important basis for the Management Plan at hand.

and bears in cultural landscapes. It presents the current organisational structures of bear management and determines important action plans for possible crises and conflict situations.

It serves as a guideline for public authorities and contains especially recommendations for the handling of nuisance bears, crisis management, regulations of damage compensation, prevention of damage and public relations.

The second part will be published independently and deals with the management of the bear population. It contains the basics of brown bear biology and ecology, an analysis of the bear population’s current situation, a habitat analysis as well as ecological aspects regarding a long-term perspective of the Austrian alpine brown bear population. Need of action and suggested solutions of existing problems such as the fragmentation of habitat are central issues of the text. This part is mainly addressed to those authorities that according to the implementation of the habitat directive are responsible for maintaining or eventually re-establishing a favourable conservation status of the bear population.

1.2. Definition of wildlife-management

Wildlife management is considered as the implementation of measures to achieve predefined targets for a wildlife species (e.g. population size, density or distribution of the species)⁴. The potential measures to reach these predefined targets can be diverse and range from manipulation (reduction, sustainable hunting, re-introductions/re-stocking) to full protection of the species. To continuously control whether the applied measures actually show the desired result, is a fundamental issue in modern wildlife management.

Another main issue is the discussion of management targets for the relevant species which must be repeated in intervals. Equally important is a discussion on the measures used to reach the goal. The measures can range from passively waiting for immigration to actively re-stocking the species. Public involvement in such discussions is especially important in a landscape as formed and used by humans in Europe, while also considering international treaties as the Berne Convention or the EU Habitat Directive. For the wildlife management to succeed in European cultural landscapes it has to include programs to keep interest groups and the general public informed.

Large carnivores such as the brown bear have home ranges of several hundred square kilometres ignoring administrative units. This calls for the creation of guidelines for the handling of the species that are consistent throughout Austria.

² Swenson, J.; Gerstl, N.; Dahle, B.; & A. Zedrosser (2000): Action plan for the conservation of the brown bear (*Ursus arctos*) in Europe. Council of Europe T-PVS (2000) 24, 68pp. <http://www.lcie.org/public.htm#cdp>.

³ Zedrosser, A.; Gerstl, N.; & G. Rauer (1999): Brown bears in Austria. 10 Years of conservation and actions for the future. Umweltbundesamt Wien, Monographien M-117, 42pp.

⁴ Caughley, G. & A. Sinclair (1998): Wildlife ecology and management. Blackwell Scientific Publications, Boston, 334pp.

In order to protect the survival of the species it is necessary to limit risks and threats for the bear and to provide coexistence without conflicts between the local populace and the bears. A Management Plan will help significantly to coordinate bear management activities within the European context.

“Management plans are a manual for the authorities to solve conflicts between large carnivores and humans and between local residents affected by large carnivore conservation and the agencies responsible for their management.”

Quoted from: Guidelines for developing Large Carnivore Management Plans (Promberger & Hofer, 1998)

1.3. Target and principles of the bear management in Austria

Target of the Bear Management Plan

The target of the Austrian bear management is to protect resident and immigrating brown bears in Austria and to establish and maintain in the long term a viable population in a favourable conservation status.⁴

- » Special emphasis is on a peaceful coexistence of humans and bears.
- » Creation of necessary conditions to connect existing populations to allow the bears to expand into suitable habitats.

Legal validity of the Bear Management Plan

The validity of the Management Plan covers the entire Republic of Austria.

Coverage of the Bear Management Plan

In contrast to the legal validity, which only comprises the state territory of Austria, the Management Plan should take into consideration the entire habitat of the Dinaric-Alpine population.⁵ This especially concerns the neighbouring alpine regions of Italy and Slovenia. Therefore, contacts and coordination has to be established beyond the borders of Austria.

⁴Rauer, G. (2005): 1354 *Ursus arctos* Linnaeus, 1758. In: Ellmayer, T. (Hrsg). Entwicklung von Kriterien, Indikatoren und Schwellenwerten zur Beurteilung des Erhaltungszustandes der NATURA 2000 Schutzgüter. Band 2: Arten des Anhang II der Fauna-Flora-Habitat-Richtlinie. Im Auftrag der neun österreichischen Bundesländer, des Bundesministeriums für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft und der Umweltbundesamt GmbH, S. 140–154. In German.

⁵The definition of the dinaric-alpine population following Swenson et al. (2000) includes bears in Austria, Italy, Slovenia, Croatia, Yugoslavia, Macedonia, Albania and Greece. Swenson, J.; Gerstl, N.; Dahle, B.; & A. Zedrosser (2000): Action plan for the conservation of the brown bear (*Ursus arctos*) in Europe. Council of Europe T-PVS (2000) 24, 68pp. <http://www.lcie.org/public.htm#cdp>.

Principles of the bear management in Austria

The guidelines form the guiding principles of all measures in bear management.

1. The safety of humans always has priority above the protection of the bears.
2. Damage to domestic animals and agricultural goods should be kept low through prevention. Damage should be compensated according to regulations made in agreement with all involved interest groups.
3. Bear management is implemented across provinces. The responsible authorities and interest groups use the management plan as a guideline for decisions concerning bears in Austria.
4. The integration of interest groups in the bear management is of major importance.
5. All decisions concerning bears in Austria should be based on research and monitoring, including research on the attitude towards bears.
6. The public is informed about the situation of the bears in Austria and measures taken in the bear management. The acceptance of the public shall be kept on a high level.
7. International cooperation, with special emphasis on the Alpine region, should be established and maintained. An internationally coordinated bear management is fundamental in ensuring long term immigration from core bear areas in Slovenia to the Alps.
8. The maintenance and connectivity of appropriate habitats is a key factor in the protection of brown bears.



Comments regarding the principles of the bear management in Austria

1. The safety of humans always has priority above the protection of the bears.

The possibility of accidents involving bears can not be eliminated though they are very rare.⁶ All necessary measures must be taken to prevent imminent danger to humans through the presence of bears. However, if a bear happens to change its behaviour and approaches humans without timidity and thus becomes an imminent threat to people, it might be removed from the population.

2. Damage to domestic animals and agricultural goods are kept low through prevention. Damage should be compensated according to regulations made in agreement with all involved interest groups.

Damage to domestic animals and agricultural goods shall possibly be avoided through preventive measures such as protection of bee hives through electric fences. Measures regarding prevention of damages are adapted to the needs of the affected persons, spatial conditions and their technical and financial feasibility.

If damage to domestic animals and agricultural goods cannot be avoided, they should be compensated, preferably, in a fast and unbureaucratic manner. The compensation of damage is regulated in different ways among the Austrian provinces. Generally the compensation system is based on a scheme established in cooperation with the affected interest groups.

The damage evaluation on site is made by bear advocates or trained damage evaluators.

3. Bear management is implemented across provinces. The responsible authorities and interest groups orient themselves at the Management Plan for brown bears in Austria.

Since bear habitat in Austria is often situated in boundary regions between provinces and bears tend to have large action ranges, the management of bears in Austria has to be enacted across provinces. The Management Plan is valid throughout the entire Republic of Austria and shall serve both, authorities and interest groups of all provinces as a basis for their decisions. The coordination of management measures is implemented by the Coordination Board for Bear Management which consists of representatives of competent authorities from all provinces where bears occur as well as involved interest groups.

4. The integration of interest groups in the bear management is of major importance.

Successful bear management has to take the need of the local people into consideration. The Coordination Board for Bear Management provides the continuous integration of involved interest groups in the bear management.

5. All decisions concerning bears in Austria should be based on research and monitoring, including research on the attitude towards bears.

Scientific research and data concerning the status of bears in Austria as well as in neighbouring countries are fundamental in all management decisions. The

⁶ See Swenson et al. 1996 NINA Forschungsbericht, 404: 1–26 „Er den skandinaviske björnen farlig?“ I n Norwegian.

monitoring program should provide data regarding numbers, distribution, reproduction, mortality, expansion and behaviour of bears. Additionally a close cooperation with neighbouring countries should allow an evaluation of the status of the whole Alpine-Dinaric population.

Given that the acceptance of bears is a fundamental parameter for the conservation of the species, it should be surveyed on a regular basis.

6. The public is informed about the situation of the bears in Austria and measures taken in the bear management. The acceptance of the public shall be kept on a high level.

In cultural landscapes, the acceptance of protective measures by the local people is a key factor in the conservation of large carnivores. Broad ranging information about bear biology, status and management measures are essential.

7. International cooperation, with special emphasis on the Alpine region, should be established and maintained. An internationally coordinated bear management is fundamental in ensuring long term immigration from bear core areas in Slovenia to the Alps.

The development of a viable population in Austria depends on immigrating individuals from the Slovenian core area of the Alpine-Dinaric population. A coordinated bear management (particularly with Slovenia) requires cooperation on a scientific, administrative and political level.

8. The maintenance and connectivity of appropriate habitats is a key factor in the protection of brown bears.



Bear habitat in the Northern Limestone Alps and in the Karawanken along the border of Carinthia and Slovenia.

It is only by maintaining appropriate habitats that a long-term viable bear population can exist in Austria. Due to the continuous fragmentation of habitats it is highly important to connect such habitats by corridors in order to preserve the brown bears in Austria.⁷ The connectivity among appropriate habitats must be ensured across borders and provinces.

⁷ Bundesministerium für Verkehr, Innovation und Technologie, 2005: Richtlinie Verkehrssicherheit – RVS 3.01 Umweltschutz Wildschutz, Wien, 35 pp and Annex



1.4. Biology of the European Brown Bear *(Ursus arctos, Linnaeus 1758)*

Characteristics

Massive body, broad head, rather small eyes, long snout, very flexible lips, black nose, round ears, thick neck and shoulders, plantigrade, five toes with strong claws, short tail that is rarely visible.

The colour of brown bears is highly variable, ranging from dark brown to light creamy. The colour usually is quite uniform, young animals regularly feature a white collar.

Head to tail length: 120 to 250 cm, shoulder height: 70-120 cm, weight: 80 to more than 300 kg; male are distinctively larger than females.

Food-ecology

Brown bears are omnivorous and very flexible in their food selection. The digestive tract of brown bears corresponds to that of

carnivores, but the teeth already show adaptations to their mostly herbivorous diet. Green vegetation (grasses, herbs and leaves) are mostly eaten while tender, when the proportion of crude fibre is still low. As soon as the first fruits are ripe, they form the major part of the diet: berries (blackberries, raspberries), fruits (apples, pears, plums, rowan berries) and seeds (beech-nuts, hazel-nuts, acorns, chest-nuts). Feeding stations for roe- and red-deer providing maize, apples or pellets can be used intensively by bears.

Bears are not distinct hunters. Animals still are a major source of proteins and energy. Bears feed on carcasses of ungulates (which they systematically search in spring) and insects (ants, wasps, bees). In Scandinavia bear predation on moose calves is not unusual.

Hibernation

Bears spend the winter in a dormancy state that lasts a couple of months. In that state body temperature is lowered a few degrees, whereas heart and breathing rate is

lowered considerably. During the hibernation bears do not feed or drink. They spend the winter in natural caves, which they dig themselves beneath trees or in wind throws. Especially adult male bears can spend warm winters also actively roaming.

Activity

Bears are active during dusk and dawn and during the night; in areas undisturbed by humans they are active during the day.

Reproduction

Bears reach sexual maturity when three to four years old and can have a lifespan of up to 25 to 30 years. Females have young every two (to three) years. Mating takes place from early May to the middle of July but implantation does not occur until about October or November. The young are born end of January or beginning of February while the mother is still in hibernation. Litter size ranges from one to four cubs. Cubs usually remain with their mothers for one year. They enter hibernation with their mother and leave her with the next breeding period.

Population ecology

Usually brown bears live as solitary individuals, except for females accompanied by their cubs. Bears have large overlapping home-ranges. Home-ranges in areas of good habitat quality encompass 100 km² but can reach 1.000 km² and more in poor habitats. Male home ranges are larger than those occupied by females. Population density can range from 0,05 to 20 bears per 100 km², in the core area of the Slovenian population for example population density was estimated at around six to eight bears per 100 km². Young females usually settle close to their maternal home-range, young males disperse further.

The only natural predators on bears in Europe are wolves and eagles, which prey on cubs. The main competitor is mankind. Hunting, poaching and traffic collisions are the main causes of death in many populations.

1.5. Current distribution

Worldwide distribution

Brown bears of several subspecies inhabit all temperate zones of the northern hemisphere. Persecution by man during the last centuries has reduced the distribution greatly. Today brown bears are found in localized populations in Europe, the Near East, across northern Asia and in Japan as well as in North America.

Europe

Only one subspecies – *Ursus arctos arctos* – can be found in Europe. The European population is estimated at around 50.000 individuals. The major part of the population can be found in mostly forested area of north-eastern Europe (Russia, Estonia, and Finland). Populations of more than 1.000 individuals are located in the Carpathians, the Dinara Mountains and in Sweden. A couple hundred bears live in the Rhodope Mountains and in the Balkans. Only relict populations can be found in south-western Europe: in the Abruzzo Mountains, the Pyrenees, the Cantabrian Mountains and in the Alps (Trentino and Northern Limestone Alps in Austria).

Summing up populations about 4.000 brown bears live in the European Union. Viable population in neighbouring countries of Austria are hosted by Slovenia and Slovakia. The relict population in the Trentino is expanding since it was augmented by bears translocated from Slovenia.

Austria

The distribution of the brown bear in Austria currently features two main centres:

- » **Karawanken, Karnische Alpen and Gailtaler Alpen in Carinthia and Eastern Tyrol.**
- » **Northern limestone in Styria, Lower Austria and Upper Austria**

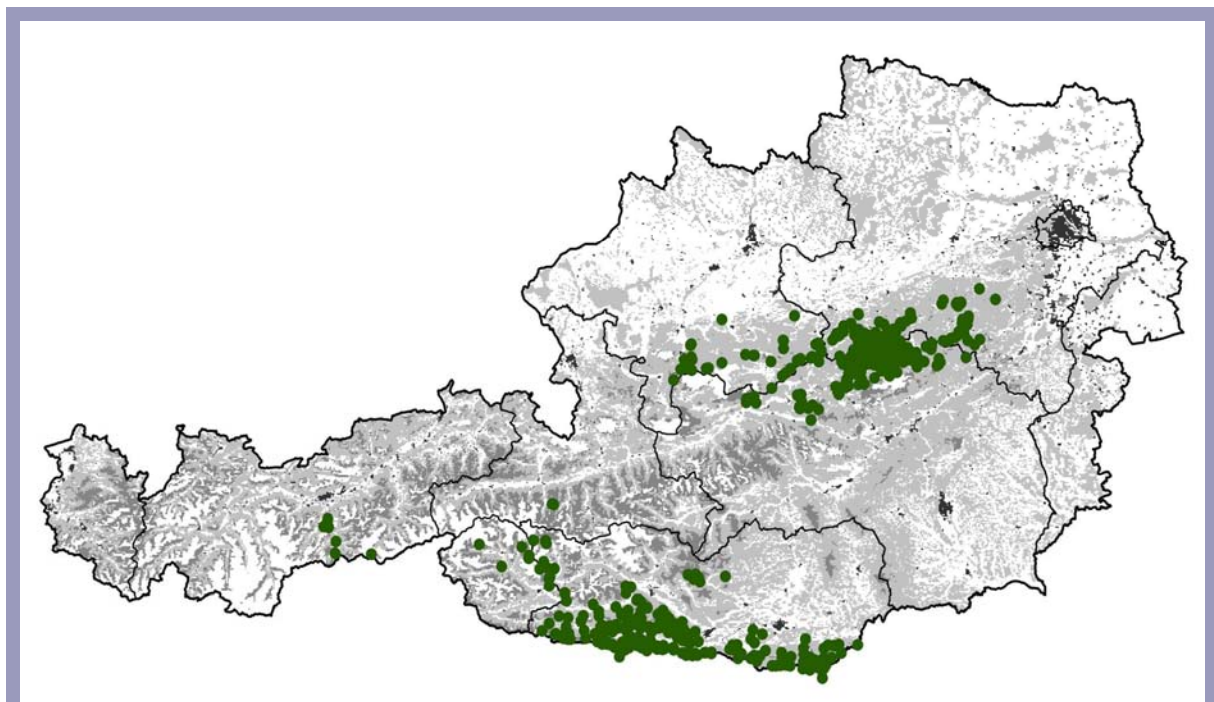
The southern Austrian centre of the bear distribution consists mainly of migrating individuals from the expanding Slovenian population.

The bears in the Northern Limestone Alps are primarily offspring of the three bears released in the WWF Release Programme from 1989-1993 and the bear that independently immigrated in 1972 – the so called “Ötscherbär”.

Sporadically, bears have appeared in other regions over the last 10 years, e.g. in the Niedere Tauern, Koralm, Gleinalm, the

Dachstein and the Totes Gebirge. In 1994, a bear moved as far as the Schöpfl (25km from Vienna), in 2002 a female bear released in Trentino (Italy) spent some time in the Wipptal (10km south of Innsbruck, Tyrol) and then moved on to Eastern Tyrol. After years of concentration on the core region between Ötscher and Hochschwab, the population of the Northern Limestone Alps now shows tendencies to expand in the western direction, although population size does not seem to have increased.

The population consists of approximately 5-8 bears in Carinthia and Eastern Tyrol and 10-15 bears in the Northern Limestone Alps. The results of the genetic monitoring in the last years (2000-2004) confirm the lower numbers of the above estimate for the Northern Limestone Alps.



Distribution of bears in Austria 2000-2004
(data source: monitoring of the bear advocates, background: Corinne data, EEA)

1.6. Legal situation

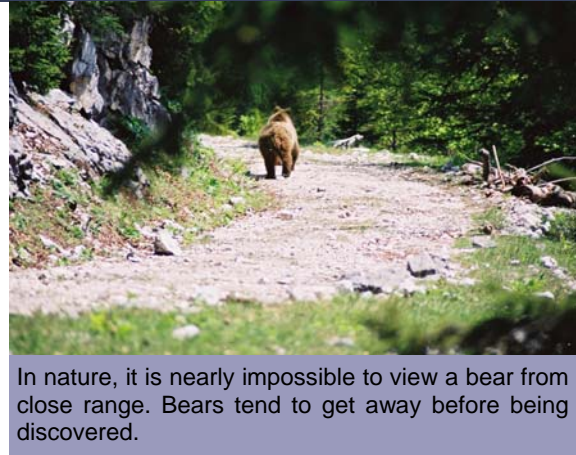
Austria is a federal republic – where some agendas are regulated by the federal government, some by the provincial government and some by both. Hunting as well as nature conservation is regulated by the nine Austrian provinces exclusively. Therefore the bears in Austria are potentially subject to nine different hunting and nature conservation laws. Depending on the province the provincial government or the local district authorities are responsible for the implementation of the respective laws.

The legal situation of wild animals in Austria depends on whether they are defined as game – whether the species is listed in the hunting law or not. If not listed in the hunting law, species are subject to the conservation laws. Brown bears are listed in all provinces with the exception of Vienna, as a game species in the provincial laws (for details see table on the next page). In some provinces parallel regulations in both hunting and conservation law (Burgenland, Styria, Tyrol, Vorarlberg) exist. Only Vienna is an exception, since in this province the bear is not defined as game and is therefore merely subject to the conservation law.

In all provinces, bears are protected through not having a hunting season or through being listed as not huntable. Not having a hunting season is equivalent to a prohibition to kill a bear, often combined with a general prohibition of any hunting and trapping activities concerning bears.

Article 12 of the habitat directive is specifically relevant for the protection of threatened species. It requires the introduction of a strict protection system for the three large carnivores, amongst others. According to this, there are explicit prohibitions:

- a. all forms of deliberate capture or killing of specimens of these species in the wild;



In nature, it is nearly impossible to view a bear from close range. Bears tend to get away before being discovered.

- b. deliberate disturbances of these species, particularly during the period of breeding, rearing, hibernating and migration
- c. [...]
- d. deterioration or destruction of breeding sites or resting places.

This strict protection system required by the EU habitat directive was implemented in most provinces either through the conservation law or the hunting law. At the time this plan was written, the province of Burgenland has not yet fully implemented the strict protection system. As a more specific regulation the strict protection system has priority over the more general regulation of hunting seasons for the game species in the hunting laws.

The EU-habitat directive (art. 16) defines situations where the disturbance, the capture or the culling of a protected species can be authorized, for example to prevent serious damage to crops and livestock, in the interest of public health and safety, for the purpose of research or re-introductions. Such an exceptional permission can only be granted, provided that there is no satisfactory alternative and that it is not detrimental to the maintenance of the population at a favourable conservation status at its natural range.

Legal status of the brown bears in the nine Austrian provinces.

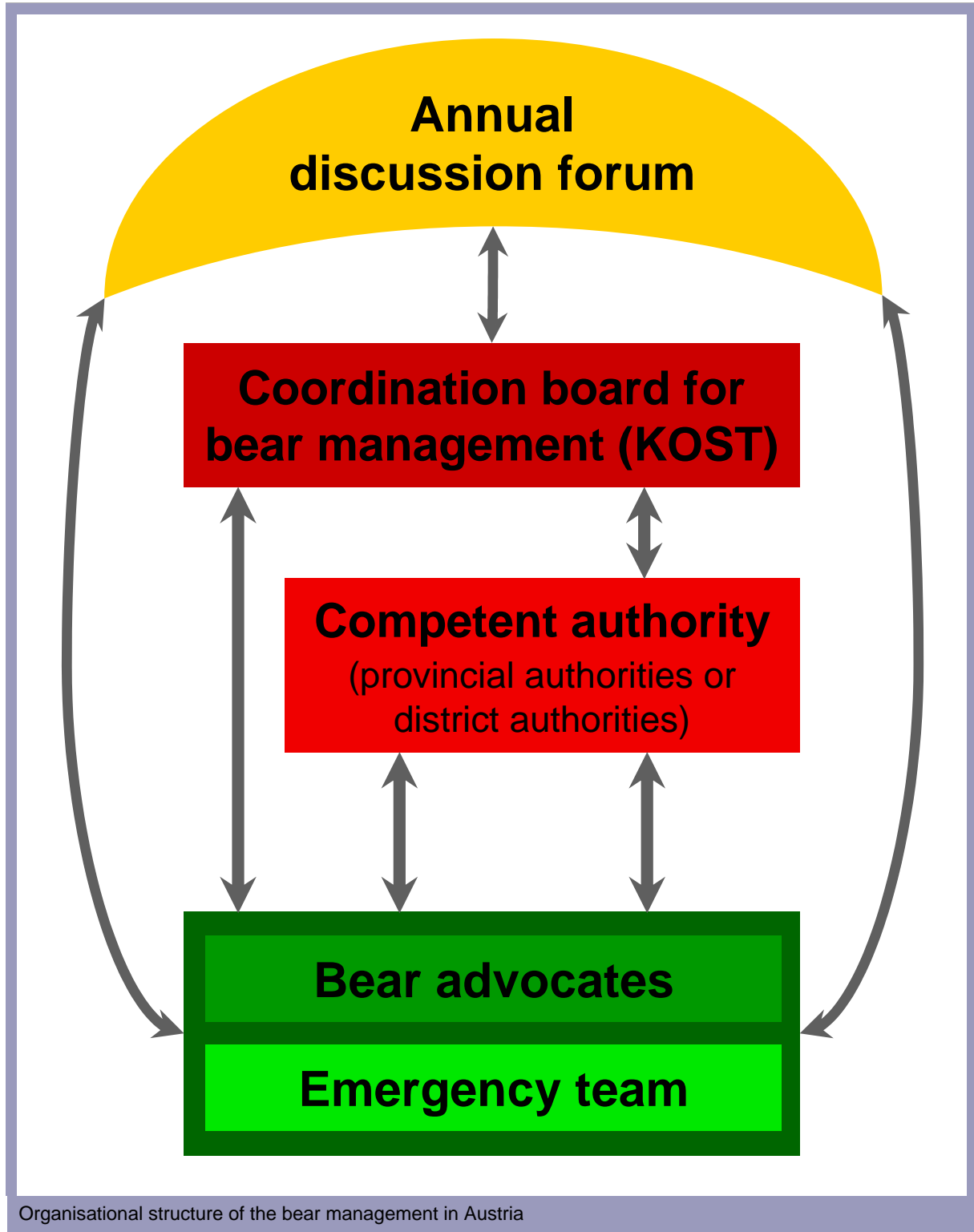
Paragraphs stated without the specification of the respective law, always refer to the hunting law of the respective province. Cited from Strasser, V., Proschek, M. (2004): Die rechtliche Situation von Bär, Luchs und Wolf in Österreich; Rechtliche Bestimmungen der Bundesländer, des Bundes, der Europäischen Union sowie internationale Abkommen. WWF Österreich, Wien, 138 S (in German) with updates.

Province	Position in the hunting law	Regulations on closed seasons	System of strict protection (following art.12 FFH-Directive)
Burgenland	game § 3 para 1 lit a	No open season: § 77 para 1 lit a Z 3, 4, 5 Bgld JVO in connection with § 82 para 3 Bgld JG	-
Carinthia	game § 4 para 1 lit a	No open season: § 51 para 1 as well as § 9 para 1 DVO Ktn JG	-
Lower Austria	game – not huntable: § 3 para 1 Z 1 and para 2	No open season, as it is not huntable: § 3 para 2 restrictions following § 3 para 4	§ 3 para 4 NÖ JG
Upper Austria	game: § 3 para 1 as well as Appendix lit a	No open season: § 1 para 1 Oö SchonzVO	-
Salzburg	Game: § 4 Z 1 lit b	No open season: § 54 para 3;	§ 103 Sbg JG
Styria	Game: § 2 para 1 lit d	No open season: § 2 Stmk JagdzeitenVO	Listed in Stmk NschG; in connection with a decree (which has not yet been passed, Oct. 2005)
Tyrol	Game: § 1 para 2 as well as Appendix 1	No open season: § 1 para 3 2.DVO Tir JG	§ 24 Tir NschG
Vorarlberg	Game: § 4 para 1 Vbg JG as well as § 1 lit a Vbg JVO	No open season, § 26 lit b Vbg JVO	§ 6 Vbg NschVO
Wien	-	-	§ 10 para 3 Wr NschG in connection with § 4 para 1 Wr NSchVO

Managing the coexistence of humans and bears



2. Organisational structure



2.1. Coordination Board for Bear Management

The Coordination Board for Bear Management is a board that coordinates all measures in bear management among the authorities of the Austrian provinces and ensures the implementation of professional and uniform management in Austria. The Coordination Board is assisted in its work by external bear experts.

The Coordination Board for Bear Management shall act as a mediator between interest groups, authorities and bear advocates.

Tasks

- » Forming competence centre in professional matters of bear management
- » Implementing the Management Plan as basis for all decisions by authorities concerning the bears
- » Being a contact point for federal, provincial and district authorities
- » Active distribution of current information on the status of the bears to provincial and district authorities
- » Securing the continuous flow of information (in particular to interest groups)
- » Coordination of management measures among provinces
- » Coordination with neighbouring countries and their managing agencies
- » Providing political decision makers with information as well as success and constraints of the current bear management (e.g. consideration of Management Plan's recommendations in future law amendments)
- » Making public statements concerning issues in the bear management

Structure

The present structure of the Coordination Board for Bear Management consists mainly of representatives of the provinces with regular bear occurrences, and where the Federal ministry has proven its worth and should be retained. Each province with regular occurrence of bears - at present Lower Austria, Upper Austria, Styria, Salzburg and Carinthia - is represented by one delegate from the department working on the hunting law and the department of nature conservation. Further members of the Coordination Board are representatives of the Federal ministry of Agriculture, Forestry, Environment and Water management and the bear advocates.

To ensure the involvement of interest groups in bear management, representatives of the Austrian central hunting organisation, the association of land owners and nature conservation (WWF) have been invited as permanent members of the coordination board.

Method of work

Regular meetings are being held in alternating provinces. The respective province can invite important regional stakeholders to the meeting.

The Coordination Board works in close cooperation with the bear advocates. The bear advocates inform the Coordination Board regularly on the current situation of the bears and eventual problems arising.

2.2. Annual discussion forum – involvement of stakeholders

An annual discussion forum provides stakeholders and interested people with an opportunity for personal contact with the decision makers of the bear management. This is an instrument to enable further involvement of interest groups.

The annual discussion forum provides an opportunity for relaxed discussion as oppose to rapid dissemination of information which is usually required in crises situations. In order to involve locals all over the Austrian bear range the discussion forum should be held in alternating provinces involved. It targets local stakeholders like hunters, farmers, beekeepers, veterinarians, and tourism organisations and informs about the status of the bear population, damages, troubles and new insights in bear conservation.

The needs of the interest groups shall be targeted in the discussions.

2.3. Bear advocates

Bear advocates are independent mediators between humans and bears. They are the first contact on site for people affected by the bears and inform about the bears and their current situation. Bear advocates are also responsible for the monitoring of the population and the collection and evaluation of signs of bear existence.

The tasks of bear advocates are manifold. On one hand, the bear advocates have to have a lot of knowledge of the bears, including experience in the field such as the evaluation of bear behaviour, or the handling of captured bears. On the other hand, contact with people is a major part of their work. People have to get to know their competent contact person and trust the person. Therefore personnel continuity is also very important to the successful work of the bear advocates.

Tasks

» Monitoring

The bear advocates collect evidence on the distribution of the bears as well as obtaining and checking any reports on the presence of bears on site. Furthermore, they collect data on the behaviour of the bears. They analyse incidents concerning bears. Based on this information they make proposals of appropriate measures to the responsible authorities of how to solve critical situations.



The work of a bear advocate is multifaceted field of activity, ranging from counselling, collection of field data on the bears to public relations work.

» **Flow of information**

The bear advocates inform the relevant local authorities, the Coordination Board, the hunting association and other stakeholders on a regular basis about the status of the bears. Interested persons and institutions will be informed through a newsletter about current developments.

» **Damage evaluation**

Bear advocates evaluate damage; help with the processing of the damage compensation and give advice on the prevention of further damage. In addition, they ensure the professional training of damage evaluators.

» **Public relations**

The bear advocates are responsible for the communication and information on site – doing public relations work for the people possibly affected by the presence of the bears. They are the most important contact to the bear management for the local people. Additionally they give lectures and seminars, write articles and attend to public relations.

» **Emergency team**

The bear advocates are in charge of the emergency team (see also chapter 2.5.) and are the contact for both Coordination Board and responsible authorities. In addition, they are responsible for the initial and advanced training of the emergency team's members as well as the needed equipment.

Training

The work of a bear advocate also requires adaptable knowledge and experience in biology and ecology, familiarity and experience in hunting-systems and local hunting practices as well as high flexibility and mobility.

Continuing education through an international exchange of experiences and advanced training in the fields of conflict management and public relations work are essential for the work of a bear advocate.

Bear advocates in Austria (2005)

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2.4. Damage evaluators

Damage evaluators try to verify whether reported damages have been caused by bears and render an expert opinion to the insurance company, hunting association or provincial government in charge of the damage compensation. They help the affected people through the process of claiming for compensation and give advice on measures to prevent further damages.

Professional competence

The damage evaluation must be done by bear advocates or other professionally trained persons that previously attended a course held by the bear advocates on the identification of signs of bear presence.

Advanced training

Regular advanced training courses and flow of information about the status of the bears in Austria are indispensable to maintain a high standard of expertise.

Unclear cases

Cases that can not be verified nor disproved by a damage evaluator should be investigated by a bear advocate. The same goes for the case of repeated damage in a small area or reported damage where the amount involved is greater than 500,- Euro.

Flow of information

Bear advocates can only give an up-to-date overview of the current situation if they are continuously informed of reported damages and compensation payments by the respective insurance companies/hunters associations or local authorities.

Rapid processing

In cases of damage, to prevent negative press about the bears occurring, it is essential to carry out a rapid evaluation on site and to contact the claimants in person.

(see also chapter 4. - Management of damages)

Verification of damages reportedly caused by bears - regulations per province (status 2005)

Province	Damage evaluation
Carinthia	Bear advocate Mag. Bernhard Gutleb
Lower Austria	Bear advocate Dr. Georg Rauer
Upper Austria	Bear advocates Walter Wagner und Dr. Georg Rauer
Styria	Hunters (with education in the identification of signs of bear presence), Bear advocate Dr. Georg Rauer
Salzburg	An expert group for the handling of potential damages by bears, lynx or wolves has been founded. The group includes experts from the provincial government, representatives of farmers, foresters and the local hunting association as well as the bear advocate in charge Walter Wagner.

2.5. Bear emergency team - ET

The bear emergency team consists of experts that support the bear advocates in trapping, aversive conditioning of nuisance bears and if all other possibilities fail, the removal of a bear that causes imminent danger to humans.

The emergency team is deployed on assignment by the competent authority whenever critical situations or developments require the aversive conditioning, capture or removal of a bear. All actions of the emergency team are directed by a bear advocate.

Tasks

The bear emergency team assists the bear advocates in the following activities:

- » Aversive conditioning
- » Capture
- » Anaesthesia
- » Radio marking
- » radio tracking
- » Assistance in the removal of a bear

For details on the implementation and further description of the above mentioned measures see Chapter 3.2 – Measures

Aversive conditioning means that possible habituation towards humans or food conditioning is being revoked. (see also Chapter 3 - dealing with nuisance bears)

Method of work

The emergency team's members support the bear advocates and act on their instructions. The assignment of the emergency team follows:

- » Information and agreement with the competent authority
- » Agreement and authorisation by the person entitled to the hunting rights and information of the landowner
- » Assignment by the competent authority
- » Selection of the members and coordination of the emergency team by the bear advocate. Secure insurance coverage for all members

Because of different legal situations, procedures in the legal assignment of the emergency team differ among the provinces. The details of the procedure have to be clarified with the respective authority. Insurance coverage has to be obtained for all members previous to any operations.

Since bears range over large territories, the emergency team must realise its tasks across administrative borders. Therefore identical assignments to the emergency team should be obtained from neighbouring district authorities even if they belong to different provinces.

Personnel

The emergency team comprises of a pool of experts who have gained knowledge and experience in the handling of bears or other large carnivores through past activities and trainings. Trapping and scaring of actions can be dangerous for both humans and bears. To protect all involved parties, such actions require expertise and experience of a physical and psychological capacity and a well-tuned cooperation of all people involved. Members must have a high professional competence in the direct handling of bears and experience with critical situations.

Experts for the capture, anaesthesia (veterinary), safeguarding, aversive conditioning and radio-telemetry are needed for the various tasks of the emergency team.

Aus- und Weiterbildungsseminar der Eingreiftruppe Braunbär

2.-3. Juni 2005
Nationalpark Zentrum OÖ Kalkalpen, Molln

Programm

2. Juni 2005

Begrüßung

Biologie, Verhalten, Verbreitung
Struktur des Bären-Managements
Aufgaben der Eingreiftruppe
rechtliche Rahmenbedingung
Schäden, Risserkennung, Schadensprävention
Fangmethoden, Narkose

Praktische Übungen - Fang

3. Juni 2005

Genetikprojekt
Bestandsentwicklung Nördliche Kalkalpen & Kärnten
Vergrämungsmethoden
Luchs in Österreich

Praktische Übungen – Vergrämung



Members of the emergency team are repeatedly trained in the identification of signs of bear presence as well as the capture and application of narcotics when capturing a bear.

Recruited members are wildlife biologists, veterinarians and hunters according to professional experience and availability for emergency deployment. It is important that members can be released from their professional duties in a quick and uncomplicated way. In case of emergency, there must be sufficient members to cover all individual functions. This requires a certain number of trained members.

Due to legal conditions hunters and hunting associations play an important role in the recruitment, training and deployment of the emergency team.

Safeguarding actions by the emergency team with a firearm can only be done by members who possess valid hunting or weapon documents.

Advanced training

Continuous training and intensive collaboration with experts in other countries is necessary to preserve the professional competence and knowledge on current methods and material in handling nuisance bears.

Common practical training sessions, held on a regular basis, ensure a well-functioning cooperation among the team. At least one training session, where the entire team is gathered, should be held every year.

3. Handling of nuisance bears

Where humans coexist with bears, conflicts can arise. Bears are large carnivores and can cause damage to husbandry and forestry due to their strength and food preferences. Only in exceptional cases they become dangerous towards humans.

It is essential to continuously monitor the bear population and the behaviour of individual bears to prevent undesired developments as soon as possible and to take appropriate actions for the protection of both humans and bears.

The sooner nuisance behaviour is detected and actions are implemented, the less likely it is that drastic measures are required, thus the chance of success is increased.

The Management Plan at hand gives recommendations on action for the handling of nuisance bears. In order to assess the particular situation and decide on the appropriate reaction, it is essential to possess broad background information concerning exact details of the incident, life history of the individual bear as well as bear biology in general. All evidence regarding the behaviour of the individual bear can be helpful in the evaluation of the situation. Detailed monitoring is therefore indispensable. Decisions on the appropriate measures to be taken can only be made by involving the responsible bear advocate, who is familiar with both the local situation and its development.

A contingency plan (*chapter 3.5. - contingency plan*) details the course of actions to ensure fast and coordinated proceeding in the case of a crisis situation.



Humans and bears like to use forestry roads in mountainous regions - this can result in encounters.

3.1. Definitions

In the following we differentiate between bears that cause exceptional economical damage (bears that cause damage to property etc.) and those that present an imminent threat to humans (through aggressive behaviour).

Dangerous bear – dangerous situation?

In general, brown bears rarely show a behaviour that is dangerous for humans. However delicate situations may arise, when the bear considers its food (e.g. a carcass) or its cubs are threatened and tries to defend them, as many other animals would do as well. Bears can also react aggressively if surprised by a human at a short distance. Such reactions that undoubtedly are dangerous for the humans, belong to the “natural behaviour repertoire” of the bear and should not be regarded as nuisance behaviour. Such incidents still require a detailed evaluation through by the bear advocates.

However, if individual animals get used to the presence of humans (habituation), it can eventually lead to dangerous situations. For example, a bear does not retreat after becoming aware of a human and does not show any fear for humans – behaviour like that must be regarded as nuisance behaviour. Situations like these require measures to prevent any potential danger to humans.

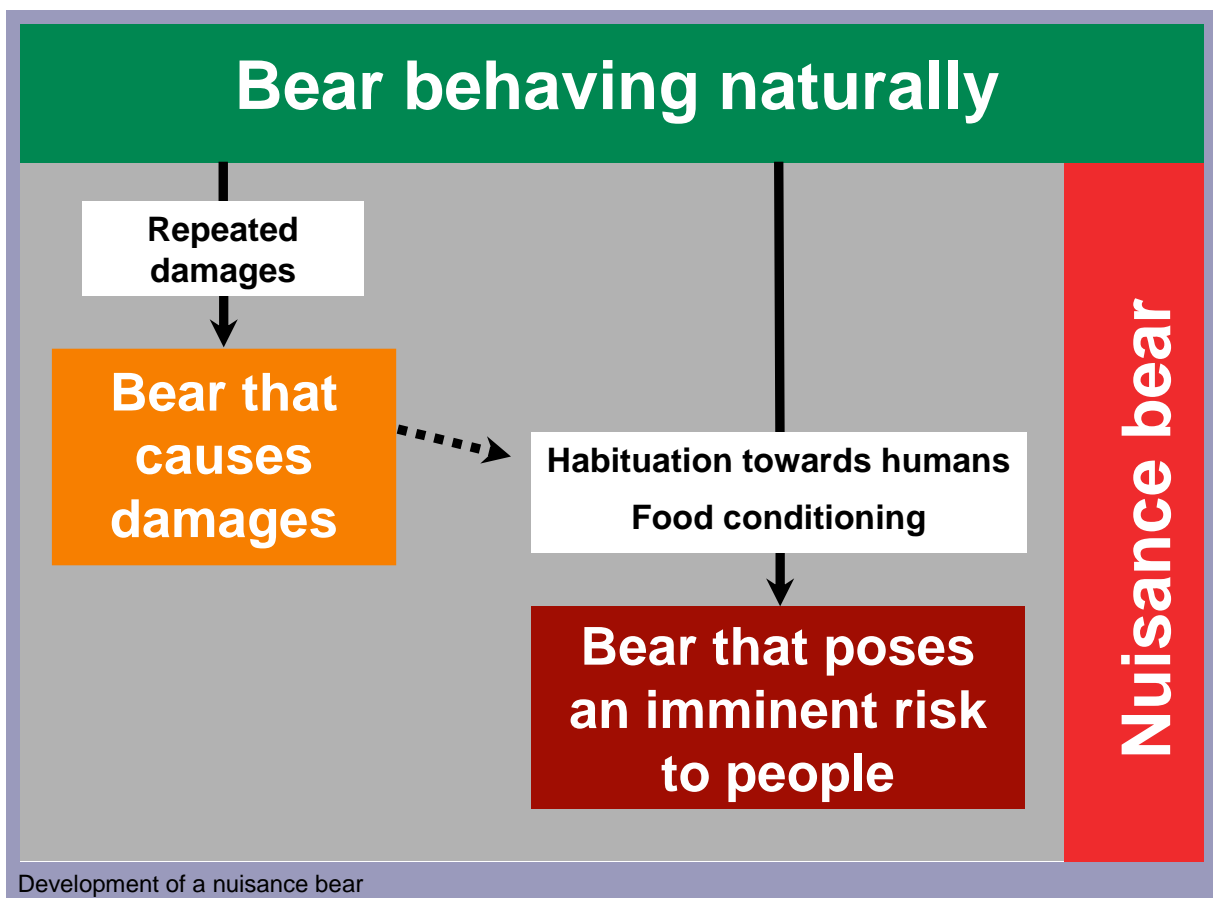
Habituation and food conditioning

The behaviour of a bear is essentially defined by learning processes. By becoming habituated to humans (habituation) the bears can learn that humans are not dangerous. Through artificial feeding, they learn that overcoming their fear for humans they are awarded with food usually available in the vicinity of humans or their settlements.

Habituation is a simple form of learning. Through repeated contacts with humans and no negative consequences to the bear, it learns that humans represent no immediate danger; consequently it tolerates human presence at a continuously diminishing distance.

Food conditioning is a more complex and active form of learning. By overcoming its fear for humans, a bear is awarded with high quality food. In the future, it consistently seeks the vicinity of humans or human settlements with the intention of finding food. This can easily lead to dangerous situations. After only a few successful incidents through deliberate or intended feeding such behaviour can establish in the repertoire of a bear.

Both processes, habituation and food conditioning, can develop simultaneously in an individual bear.



Definition – bears that causes damages

Repeatedly causing damages is considered a characteristic of nuisance behaviour that can not be tolerated on the long term.

A bear that causes massive economic damages has negative impact on the general acceptance of the species. Therefore measures to possibly prevent further damages are required. For classification as a bear that causes damage, not only the amount of damage caused - e.g. number of livestock killed – but also how frequently the incidents occur is relevant.

Three examples:

During six weeks, a bear regularly kills one sheep every three days, in total around a dozen sheep. This individual will be classified as a “bear that causes damage”.

A different bear kills once in his lifetime a dozen sheep in one incident. It also causes large amount of damage, but will not be classified as a “bear that causes damage”.

A young bear is frequently observed from a short distance. Even if the bear still shows “natural” behaviour, where nobody is hurt or nothing damaged, it will eventually learn that humans are not dangerous and continuously reduce its flight distance. Nevertheless, the closer the bear gets to humans; it might interpret sudden movements or actions of the observer as threatening and thus initiate an attack. The bear should learn beforehand, that humans can in fact be dangerous, and that it is safer to stay away from them.



A bear that poses an imminent risk to people, a bear that causes damages or a bear behaving normally ?

Definition – bears that poses an imminent risk to people

A bear that poses an imminent risk to people has lost its fear of humans searching for food in the vicinity of humans. There is an increased risk that such an individual behaves aggressively towards humans.

By repeatedly coming into contact with humans and receiving any negative reactions, the willingness to run away tends to get smaller. The bear learns that it does not have to fear humans. Waste and food leftovers close to human settlements make the bear associate humans with an easily achievable food source. This associative learning process and the respective overcoming of “natural shyness” are rewarded with food. Considered as an intelligent mammal, the bear learns these associations very quickly.

The sooner this learning process is counteracted, the higher the possibility of success. Through accurate monitoring it is possible to identify habituation and food conditioning of an individual bear at an early stage. Measures can be taken before any human is exposed to imminent danger.

The table below must not be seen as an all-embracing formula to evaluate observed behaviour, but as a help in assessing particular situations.

It is not possible to define a clear limit, beyond which a bear becomes a *bear posing an imminent risk to people*. While assessing the status of a bear, not only the observed behaviour but also the specific situation, in which the behaviour is shown must be considered. Another important part is the previous development of the bear.

If situations that alone are not considered dangerous keep arising, the bear has to be classified as a *bear posing an imminent risk to people*.

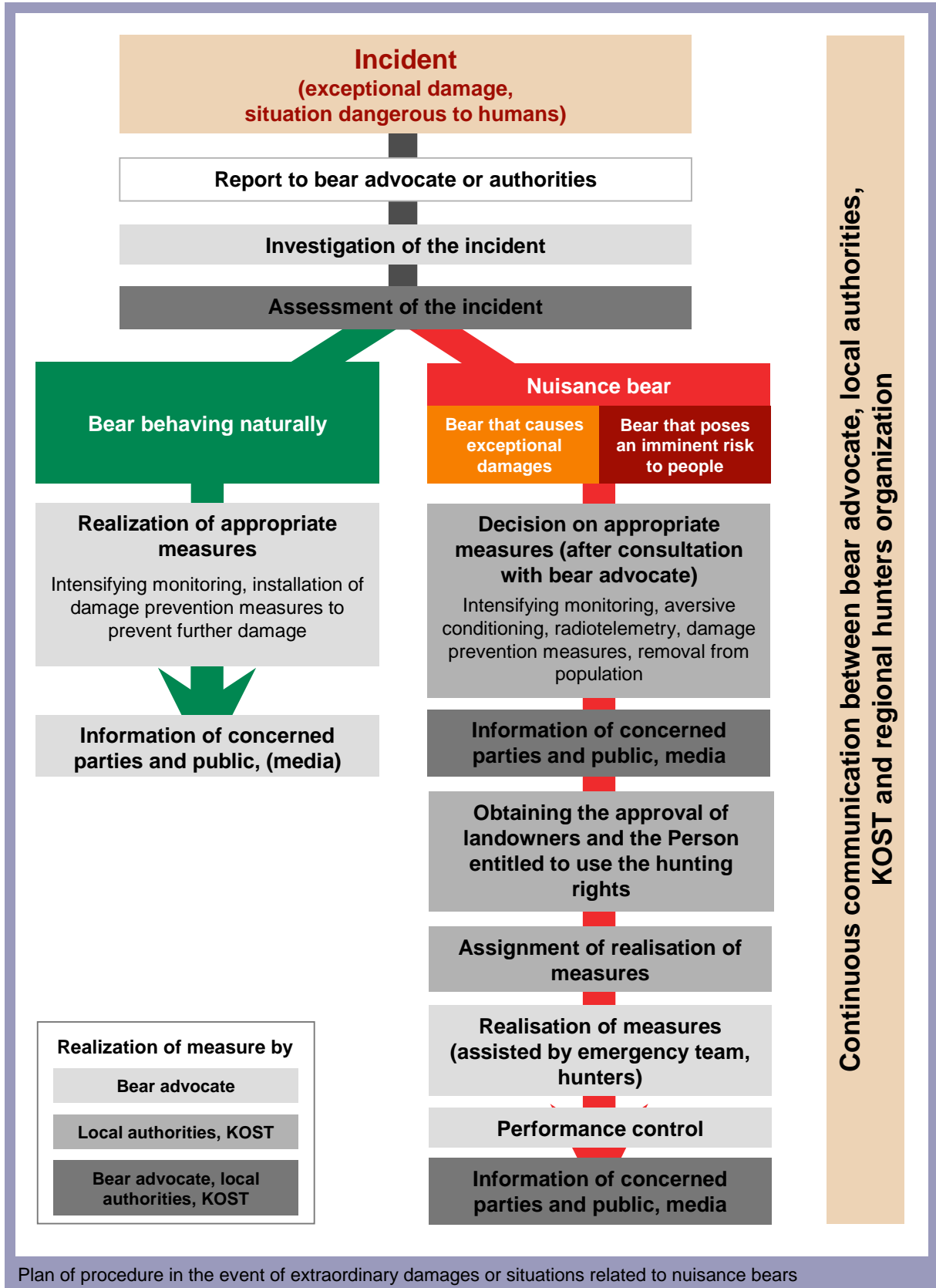
3.2. Measures

Undesirable trends in the behaviour of single bears can be influenced much easier in the early phase of development. This is why the bear emergency team must act straight away if the individual is developing problem behaviour.

Wherever problems arise with bears, measures relevant to the specific situation on site must be taken as soon as possible. The bear advocate, being the specialist familiar with the local situation, must carefully assess the problem. He has to inform and consult involved parties and especially the competent authorities about the future procedure.

District and province authorities, which are legally responsible, bear advocates, being professionally qualified and experienced specialists, as well as hunters and land owners must cooperate in order to proceed in a fast and efficient way. The Coordination Board shall thereby act as a mediator and support the local authorities with any decision making and public relations work necessary. In particularly critical cases it is

Examples for bear-human interactions and the necessity of measures to mitigate a potential danger to humans.	
Measures	Situation
Bear behaving naturally no measures necessary	Upon an accidental close encounter bear is retreating immediately
	Upon a close encounter bear is rising on its hind legs
	Bear is causing damages in uninhabited areas (e.g. destroying a beehive on a remote meadow)
	Bear is repeatedly coming close to remote buildings
	Surprised bear feels threatened and starts a feint attack
	Bear tolerates observation from a short distance without retreating
	Provoked bear starts a feint attack
	Female bear defends its young by attacking
	Bear is searching for food or is causing damages close to inhabited buildings
	Bear is defending its food by attacking
Nuisance bear immediate measures required	Bear is repeatedly intruding residential areas
	Bear tries to enter inhabited buildings or stables
	Bear is following humans within the range of vision
	Bear acts aggressively without being provoked



desirable to involve additional national and international bear experts.

The decision, whether measures are to be taken as well as the selection of the appropriate measures, depends on the following factors:

- » Dimension and kind of conflict/damage
- » Life history of the individual bear
- » Extension of danger to humans
- » Available methods

A procedure was developed describing responsibilities and tasks in the event of extraordinary damage or incidents concerning nuisance bears (see figure on previous page). The plan ensures the involvement of all parties in the actual conflict management and makes procedures consistent. It emphasises importance of a thorough investigation and analysis of the occurred conflict through the responsible bear advocate. The advocate presents the known facts and his conclusions to the local authorities and the Coordination Board with the intention of achieving a common decision regarding further procedure.

It is of highest importance to maintain a permanent and open communication between local authorities, the local hunting association, the Coordination Board and bear advocate during the entire conflict process.

This must go hand in hand with media briefing to avoid possible misinformation of the public, especially when a bear has to be classified as a nuisance bear. In this way harm to the bear population and bear management can be reduced.

3.2.1 Prevention of conflict and damages

Bears are intelligent and particularly inventive when it comes to finding new food sources. In a man-made landscape this can evoke conflicts. Therefore, it is essential to give bears as few chances as possible to evolve this undesirable behaviour.

Damage prevention measures

a. prevention measures for bees hives

Bee hives can be effectively protected by electric fences installed around the bee hive. Appropriately installed and carefully maintained this kind of protection is very reliable. Bear advocates and damage evaluators consult affected beekeepers in the appropriate installation.

b. prevention measures for sheep

Electric fences have also proven quite effective in the protection of sheep from attacks by bears. If a number of sheep have been killed by bears, the bear advocate informs the sheep owners in the region about necessary measures to prevent damage (e.g. use electric fences at night, put sheep in stables, guard sheep). Generally, sheep should not be left outside at night in densely covered areas where bears are known to occur.

c. prevention measures for in the vicinity of human settlements

Bears are attracted by openly stored food. Consequently, it is important to lock food away so that it is no longer accessible and safe from bears. The same applies to the storage of fish food at fish ponds. If a bear gets used to a food source in the vicinity of humans, it will eventually lose its natural shyness and become a nuisance bear.

d. prevention measures in forestry

Bears have a particular fondness for rape oil that is used by forest workers in chain saws. The most effective method to save rape oil canisters and motor saws from being investigated by bears during the night is to take them back home. An alternative would be to store them in a “bear safe” manner on site, e.g. in a steel container or hanging between two trees or a crane (minimum 3 metres from the ground).

e. prevention measures in hunting management

The presence of bears has to be considered within hunting practice. This concerns food scraps laid out to attract game animals like foxes, wild boar or red deer. Omnivores, such as bears, are especially fond of meat used to attract foxes, and maize or pellets to feed or attract ungulates. To minimize the possibility of encounters between bears and humans these locations to attract game, and also feeding stations, should be constructed in locations far from human activities. In bear country, unattractive food for bears should be used when feeding roe deer (e.g. no pellets and in particular no maize).

Special caution is required when setting up attractions for wild boar, as they are especially attractive to bears. Bears can easily be mistaken for wild boar in bad light conditions.

The intentional feeding of bears has to be avoided under all circumstances.

f. “bear safe” storage of waste (in particular close to remote cottages)

- » Make garbage containers inaccessible to bears (e.g. placement in house or adjoining building)
- » Empty garbage cans on hiking trails regularly



A well maintained electric fence can efficiently protect a bee hive from bear visits.

- » No garbage dumps in areas where bears occur regularly
- » Use “bear safe” garbage containers

g. inform the public

The best measure to prevent the development of habituated or food conditioned bears is to inform the general public about dangers of feeding a bear. People should be familiarized about general rules of conduct towards bears. But they should also know to report any signs of a nuisance bear to the bear advocates.

In general, the mentioned preventive measures must be considered and applied in all bear areas. After the occurrence of damage, all measures mentioned above are to be intensified.

Things that do not or only briefly ward off bears:

- » Barbed wire
- » Spraying objects with pepper spray
- » Use of rubber bullets, fire crackers and signal horns
- » Used clothes soaked with sweat, urine
- » Malodorous chemicals

3.2.2. Intensive Monitoring

Intensive monitoring of situations and incidents by the bear advocate includes among others the following:

- » Immediate examination of all reported evidences on site
- » Active search for further evidences from local population
- » An intensive search for evidence linked to the presence of a bear (tracks, scat, other traces), special search for hair used for genetic identification.

Advantages

- » Provides a fast overview and assessment of the situation
- » Relatively small input and low cost

Disadvantage

- » Problem is analysed but not solved

Genetic monitoring

Differently to other monitoring methods, individuals can be individually identified through collection and a DNA-analysis of hair or scat samples. This is particularly important in cases of severe incident to ensure that the measures taken are directed at the right bear.

In emergency cases, the DNA-analysis can be carried out within three to four days.

3.2.3. Methods for aversive conditioning

Through educational measures that evoke aversive conditioning, the bear is supposed to lose its human habituation and/or food conditioning and re-gain its “natural” shyness towards humans.

Aversive conditioning means that the bear is exposed to correctional impulses whenever it shows undesired behaviour. Measures might have to be applied more than once to obtain the desired effect. The possible correctional impulses are:

- » Noise (fire crackers)
- » Light (signal patrons)
- » Pain (rubber bullets, electric shock through electric fences or the like)
- » Noxious chemicals (e.g. pepper spray)

A focused and successful aversive conditioning is possible only if the bear can be individually addressed. An unmarked bear (without radio collar or ear tag) can only be targeted when appearing at a predictable place where the emergency team is waiting.

A possibility for short-term marking of a bear is to colour-mark it with paint balls. The marked bear becomes recognisable for a certain period of time and the success of the aversive conditioning can be evaluated.

All measures require an assignment of the competent authority, an agreement by the person entitled to the hunting right, and the information of the landowner. Furthermore the person entitled to the hunting right of the neighbouring hunting territories, the local hunting association and the local police has to be informed.

Advantage

- » Fast action possible

Disadvantage

- » Large effort of time and personnel due to possible waiting periods

3.2.4. Capture and radio-marking

Bears cannot be individually identified by their appearance. Therefore it is practically impossible to allocate different sightings to a specific bear. Just as the actual position of a specific bear can only be determined in rare occasions. Radio-telemetry transmitters (VHF or GPS/GSM) allow determination of the position of the marked bear at will. Bears are usually fitted with radio-collars or ear-tags. Surveillance of land use patterns as well as individual allocation of behavioural observations or damage can be achieved through this system.

In order to equip a bear with a radio-transmitter, it must be anaesthetised. This can be done after capturing it in an Aldrich or box trap or, in case of subadult bears, directly by using a dart gun (free range narcosis). The selection of the method used depends on various factors like the weight of the bear, topographical situation of the area, legal situation of the province etc.

Bears usually do not consider capture and narcosis a very pleasant experience, so capture can also have a certain aversive effect. Having the possibility to locate a specific bear allows aversive conditioning to be aimed at an individual if necessary.

All measures for the capture and the fitting of a radio-transmitter require an assignment of the relevant authority, an agreement by the person entitled to the hunting right, and the information of the landowner. Furthermore the person entitled to the hunting right of the neighbouring hunting territories, the local hunting association and the local police have to be informed.



Aversive conditioning of the bear Cilka through exposure to fire crackers and signal rockets.

Advantages

- » Surveillance of behaviour and land use patterns
- » Individual identification of the bear on sight
- » The capture on its own can have aversive effects
- » Long-term surveillance can yield further important biological data

Disadvantages

- » Large effort of time and personnel
- » Risk of injury to the bear

3.2.5. Capture, radio-marking and aversive conditioning

The combination of the two measures capture/radio collaring, and aversive conditioning has proven to be particularly effective. Aversive conditioning seems to be especially effective when applied just as the bear awakens from anaesthesia. The possibility to exactly locate a bear through the transmitter enables further individual-specific aversive measure targeting. Using radio-telemetry, the reactions of the bear can be surveyed and the effect of the aversive conditioning can be evaluated.

All measures for the capture and the aversive conditioning of a bear require an assignment of the relevant authority, an



The moment a captured nuisance bear leaves the trap, it is shot at with rubber bullets and fire crackers. Such measures enhance the aversive effects of the capture. (Picture: <http://www.paws.org>)

agreement by the person entitled to the hunting right, and the information of the landowner. Furthermore the person entitled to the hunting right of the neighbouring hunting territories, the local hunting association and the local police have to be informed.

Advantage

- » Effective aversive conditioning
- » Individual identification of the bear
- » Surveillance of behaviour and land use patterns

Disadvantage

- » Large effort of time and personnel
- » Risk to injure the bear

3.2.6. Removal

The removal of a bear from the population is the last possible measure to be considered.

As a matter of principle, article 12 of the EU habitat directive prohibits all deliberate forms of trapping or killing of a species listed in appendix IV letter a, such as the brown bear. Provided the case that the population is in a favourable conservation status, article 16 of the EU habitat directive determines exceptional rules for the killing or trapping of a bear.

Although the current Austrian bear population may not be considered in a favourable conservation status, situations may occur (such as serious threat to human life) in which the removal of a single individual seems necessary. The removal of a bear that poses imminent risk to people from the population can lead to an increasing acceptance of bear management and hence ensure a long term survival of the whole population.

A bear should not be removed from the population without previous attempts to change its behaviour through aversive conditioning.

Possible ways to remove a bear from the population

» **Capture and translocation into captivity**

A Pre-requirement to this measure is an availability of an appropriate enclosure.

The bear is captured and drugged. Body size, weight or special characteristics are examined during the anaesthesia to find out whether the specific nuisance bear was caught. Another possibility is to take genetic samples to compare

them with other previously samples found at damage sites. If it proves to be the specific bear, it will be transported to a zoo or wildlife park.

However, the ethical question of sentencing a bear born in the wild to spending the rest of its life in captivity has to be raised.

Advantages

- » Possibility to identify the bear
- » Higher acceptance in the public than lethal measures

Disadvantage

- » Large effort of time and personnel

» **Capture and euthanasia**

If translocation into captivity can not be arranged or is not desired and the bear is proven to be the sought bear posing imminent risk to people, it will be euthanized by a veterinary.

Advantage

- » Possibility to identify the bear

Disadvantages

- » Large effort of time and personnel
- » Low acceptance by the public

» **Culling**

The sought bear posing an imminent risk to people is shot. It is unlikely that the sought bear will be clearly identified in field conditions – chances are that a bear behaving naturally gets shot.

Advantage

- » Can be realised in a fast and effective way

Disadvantage

- » Danger of shooting wrong animal
- » Unpopular measure



A clear identification of an individual bear is usually only possible when handling the bear after capture.

In order to avoid the killing of an uninvolved bear, the permission to shoot the bear has to be detailed in accordance with the bear advocate. It must include a detailed limitation regarding time, area, and situation as well as a detailed description of the individual sought bear.

Handling of the carcass

The carcass should be examined at the University of veterinary medicine in Vienna to ensure a thorough autopsy and a sampling for genetic studies. Such a sampling is critical for the identification of the individual. The death of an Austrian bear is a rare occasion, which attracts public attention, therefore the cadaver should be offered to the respective provincial museum after analysis.

Procedure

- » In-depth examination of all reported incidents by the competent authorities, the bear advocate and the hunters association
- » Appliance of aversive conditioning by the bear advocate and the emergency team
- » If problems persist: assignment by the competent authority to remove the individual bear. The assignment must include the involvement of the responsible bear advocate in the culling of the bear and a clear limitation in space and time as well as a description of the bear.
- » Culling of the animal
- » Examination of the dead bear at the University of veterinary medicine
- » Analysis of the situation and evaluation of the crisis management

All measures in the removal of a bear from the population require an assignment of the competent authority, an agreement by the person entitled to the hunting right the person entitled to the hunting right, and the information of the landowner. Furthermore the person entitled to the hunting right of the neighbouring hunting territories, the local hunting association and the local police have to be informed.

3.3. Handling of bears that cause damages

Recommendations for the handling of a bear that cause damage					
Behaviour of the bear	Measures				
	P	M	A	C	R
In the course of a summer a bear repeatedly visits bee hives, areas of forestry works or pastures.	X	X			
Bear sporadically causes damages	X	X			
Bear repeatedly causes damages	X	X	X	X	
Bear causes “unbearable” economic damages ⁸	X	X	X	X	(X)

P... intensify damage prevention measures, **M...** intensify monitoring activities, **A...** aversive conditioning, **C...** Capture / radio-telemetry, **R...** removal from the population

⁸ Confer – Strasser, V., Proschek, M. (2004): Die rechtliche Situation von Bär, Luchs und Wolf in Österreich; Rechtliche Bestimmungen der Bundesländer, des Bundes, der Europäischen Union sowie internationale Abkommen. WWF Österreich, Wien, 138 S. In German.

3.4. Handling of bears that pose an imminent risk to people

Recommendations for the handling of a bear that cause imminent danger to humans					
Behaviour of the bear	Measures				
	P	M	A	C	R
Upon an accidental close encounter bear is retreating immediately					
Upon a close encounter bear is rising on its hind legs					
Bear is causing damages in uninhabited areas (e.g. destroying a bee hive on a remote meadow)	X				
Bear is repeatedly coming close to remote buildings		X			
Surprised bear feels threatened and starts a feint attack		X			
Provoked bear starts a feint attack		X	X	(X)	
Bear tolerates observation from a short distance without retreating		X	X	X	
Female bear defends its young by attacking		X		(X)	
Bear is searching for food or is causing damages close to inhabited buildings	X	X	X	X	
Bear is defending its food by attacking		X		X	(X)
Bear is repeatedly intruding residential areas		X	X	X	(X)
Bear tries to enter inhabited buildings or stables		X	X	X	X
Bear is following humans within the range of vision		X	(X)	(X)	X
Bear acts aggressively without being provoked		X			X

P... intensify damage prevention measures, **M...** intensify monitoring activities, **A...** aversive conditioning, **C...** Capture / radio-telemetry, **R...** removal from the population

3.5. Contingency plan

Example of a crisis situation in bear management:

A bear is hit by a car while crossing a street and injured to an unknown degree. It falls into a river near the street, is carried away some meters, reaches the shore close to a camping ground, pulls down a tent while crossing it and finally disappears into the adjoining woods. Nobody is harmed, but an injured bear close to inhabited areas means increased danger to the public. As a consequence, it is absolutely necessary to secure the area, warn the populace and find out about the bear's location. If possible, the bear should be captured, cured (avoiding human contact as much as possible) and released in a remote area.

A crisis means an unforeseen situation that is or might become dangerous for humans. In a crisis, there is high pressure for immediate action and extreme lack of time. The public is alarmed and easily loses trust in the competence of the bear management.

A crisis requires fast action and does not allow time-consuming analysis or agreements. The public feels insecure and mere professional measures such as aversive conditioning are not enough. The public must be informed immediately about the measures, which have to be communicated in an understandable way.

Experiences in other areas of fast acting expertise (such as emergency aid, fire service) show that crises are easier to handle if planning has taken place beforehand. Consequently, contingency plans are also needed in bear crises in order to react properly despite lack of time. Possible conflicts due to disagreements within the cooperation can hereby be avoided.

Structure of contingency plan

A contingency plan regulates the responsibilities and procedure of measures. However, it does not determine the measures in detail (e.g. observance, trapping or aversive conditioning). The coordination board for bear management in Austria has developed basic structures of a contingency plan for all provinces involved. These structures will be adapted and filled with information for the respective provinces and distributed among the competent provincial and district authorities.

Contents of contingency plan

- » Task distribution (e.g. who makes decisions, who is the spokesperson?)
- » Action procedure (what has to be done first?)
- » Necessary information flow (who needs what kind of information, who must be notified?)
- » List of persons with contact details that must be notified in case of crisis

Find further details on public relations and its significance and organisation in chapter 7.3.

4. Damage regulations

The bear habitat in Austria is a cultural landscape used and formed by humans.

Under these circumstances damage to agricultural goods is inevitable. Nevertheless, damages can be kept to an acceptable level through appropriate measures. The local people need to be informed in time about the most important ways of precaution measures. Both bear advocates and damage evaluators shall inform, and in the case of actual bear damage, help with the compensation procedure.

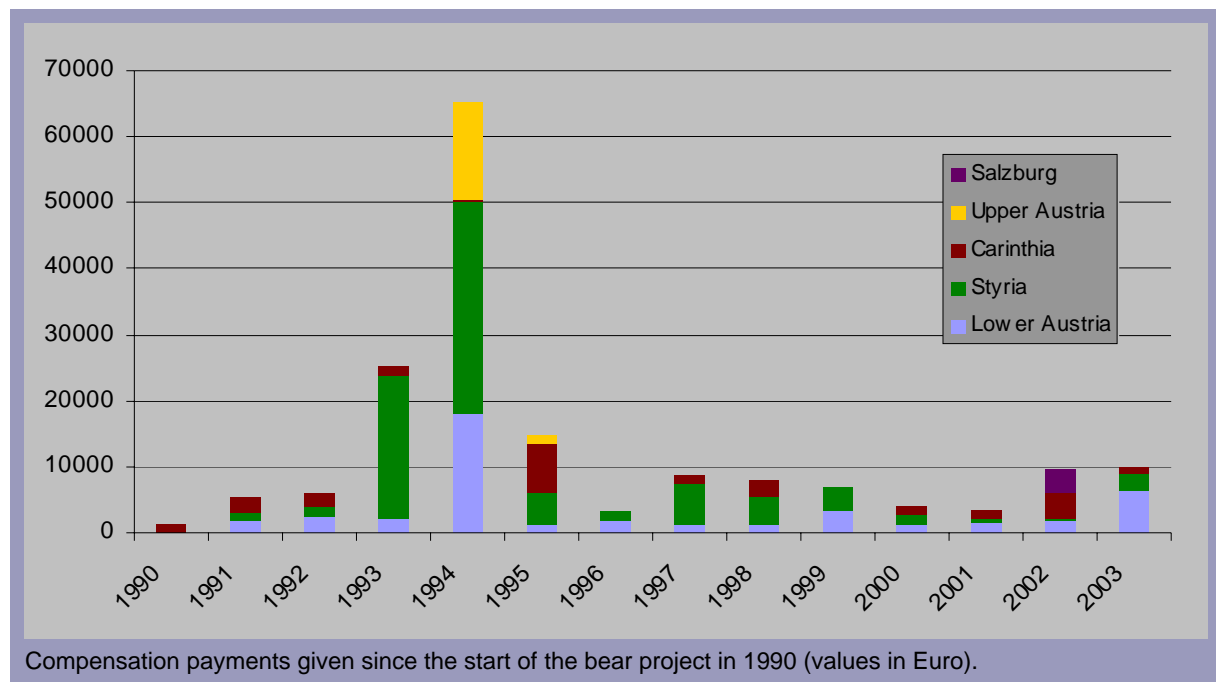
Damage compensation is indispensable to ensure the goodwill of the society, in particular the local community. The costs for damage should not be imposed on the affected parties but should be covered by the community.

Currently, damage caused by bears in provinces with regular bear occurrence (Carinthia, Lower Austria, Styria, Upper Austria) are being compensated through the respective local hunting organisations. In the province of Salzburg, damages are

compensated by the provincial government. The other provinces have no regulations concerning the compensation of damages caused by bears.

A consistent regulation regarding damage compensation and processing has to be determined in accordance with the insurance companies involved. The compensation follows a scheme developed in accordance with the interest groups, and represent minimum compensation. In most provinces the annual funding available for compensation payment is limited to a certain amount. Details of damage compensation are determined by the respective insurance company, local hunter's organisations or provincial government.

Securing a comparable compensation system on a long term basis in all provinces with regular bear occurrence is of major importance to ensure the acceptance of bears in Austria.



Status quo (2004) of damage compensation in the provinces with bear population

There is no compensation in any province for wildlife killed by bears or damages to hunting facilities.

Carinthia

Proven bear damage is covered by the casualty insurance of the Carinthian hunting organisation. Only in exceptional cases that damage cannot be clearly proven as bear damage may compensation be paid by the provincial government.

Lower Austria, Upper Austria, Styria

In these provinces bear damage is also covered by the insurance of the respective hunting organisation.

Tyrol

The casualty insurance of the Tyrolean hunting association covers damage only caused by game with open seasons, which is not true for the bear. A compensation regulation, e.g. within the frame of “eagle funds” will therefore be needed, if bears occur more regularly.

Salzburg

Damages on domestic animals can be compensated through a voluntary arrangement made by the provincial government.

Damage prevention

Prevention measures provide an efficient protection against bear damages. People in bear areas should actively inform themselves about possible prevention measures and take measures to protect themselves. This includes:

- » Establish contact with responsible entities (chamber for agriculture, bear advocate...) to get information and advice
- » Organise, install and maintain protective equipment such as electric fences.

In case of frequent damages in a specific area, the bear advocates must rapidly inform the concerned interest groups about necessary precautions.

In order to keep damage on a low level, damage compensation should be linked on the long-term with the implementation of damage prevention measures. No province

currently financially supports damage prevention. Supporting especially farmers and foresters in the implementation of such measures is an aim of the bear management.

Refer to chapter 3.2.1. for specific prevention measures.



A night corral preferably near occupied buildings is the most efficient method to protect sheep or goats.



Damages caused by bears can be very variable ranging from destroyed bee hives to torn up seats of construction machinery.

The respective legal situation for persons entitled to the hunting rights, concerning liability and compensation caused by large carnivores.⁹ Sources without specification of the law always refer to the hunting law of the respective province.

Province	Liability for damages to property	Liability for damages to livestock	Compensation for damages in areas without hunting
Burgenland (§ 111)	no (no open season)	no	no
Carinthia (§ 74)	yes	yes	no
Lower Austria (§ 101)	yes	no	no
Upper Austria (§ 65)	yes	no	yes (no explicit exception)
Salzburg (§ 91)	no	no (compensation payment by provincial government possible, because there is no open season for the bear)	no
Styria (§ 64)	no (no open season)	no (no open season)	no
Tyrol (§ 54)	no (no open season)	no (no open season)	no
Vorarlberg (§59)	no	no	no
Vienna (§ 95 ff)	-	-	-

⁹ Strasser, V., Proschek, M. (2004): Die rechtliche Situation von Bär, Luchs und Wolf in Österreich; Rechtliche Bestimmungen der Bundesländer, des Bundes, der Europäischen Union sowie internationale Abkommen. WWF Österreich, Wien, 138 S. In German.

5. Monitoring the bear population

The main purpose of monitoring consists in delivering up-to-date and reliable data about the situation and problems of the Austrian bear population. Sound management decisions can only be made if sufficient monitoring data is available.

Monitoring shall give an answer to the following questions:

- » Where are the bears in Austria?
- » How many bears are there?
- » Are there female bears with cubs?
- » Is there a natural immigration from neighbouring countries?
- » Do humans often encounter bears?
- » What happens at these encounters?
- » Where do bears cause damages?
- » What kind of damages are there?
- » How effective is damage prevention?
- » Which bears are responsible for the damage or problems?

Only continuous monitoring can reveal critical developments of the population or the behaviour of a certain individual early enough to implement the necessary measures in time.

Status quo

At present, monitoring is part of the activities of the bear advocates, who are currently financed by the Ministry of Environment, four provinces (Carinthia, Styria, Lower Austria and Upper Austria) and WWF. The current monitoring methods used are, track data, analysis of damages, collecting observations and genetic analyses of DNA samples.

In order to assess the long-term prospective and expansion scenarios of the Aus-

trian bear population, the situation in the neighbouring countries has to be taken into consideration as well. A yearly data exchange between Slovenia, Austria and Italy should be considered.

Data management

Currently a bear advocate (Dr. Georg Rauer) is charged with the management of the accumulated monitoring data. Data is collected in a central database, updated on a yearly basis and provided to the Coordination Board and interest groups. Common data management for the whole Austrian state territory is especially important regarding the sought connection of the bear occurrences in the Northern Limestone Alps (Kalkalpen) and Southern Austria. A central data analysis in cooperation with scientific institutions (such as the University of Agricultural Sciences and Natural Resources) is important for an assessment of the status of the bear population and consequently for the evaluation of the favourable conservation status. The data is available for further scientific analyses.

Monitoring methods and related data qualities

- » **Collection of signs of bear presence (sight observations, damages, tracks, scats, claw marks, hair)** by bear advocates provides information about distribution and – taking into consideration evidences of female bears with cubs – trends in population size.
- » **Genetic analysis of hair and scat samples** provides information about population structure, male/female ratio, minimum population size (size of bigger populations can be estimated through capture/recapture methods)

- » **Active and systematic searches (line transects) with a bigger group of people.** Can provide information about data regarding trends and distribution, but requires high resources of people and time (highly dependent on weather)

An active involvement of both local hunters and forest workers in the monitoring should be intensively sought. All monitoring activities have to be approved by the respective landowner preliminarily.

Requirements of the EU Habitat Directive regarding monitoring

As brown bears are listed as priority species in Annex 2 of the Habitat Directive, special emphasis is given to its conservation. The importance of continuous monitoring is stated in the Habitats Directives: “A system should be set up for surveillance of the conservation status of natural habitats and species covered by this Directive (Habitat Directive).” (guideline 92/43/EEC preamble)

According to article 11 of the Habitat Directive, all member states must monitor the conservation status of all species mentioned in Annex 2 and 4 assessing the increase or decrease of the species’ natural expansion area. With special emphasis on all priority species.

Article 16 requires a reporting to the EU commission about the most important monitoring results. The first reporting is due in 2007, and consequently every six years.



Genetic analysis of hair and scat samples is quite cost- and time intensive, but yields valuable information on the status of the population.

6. Public relations

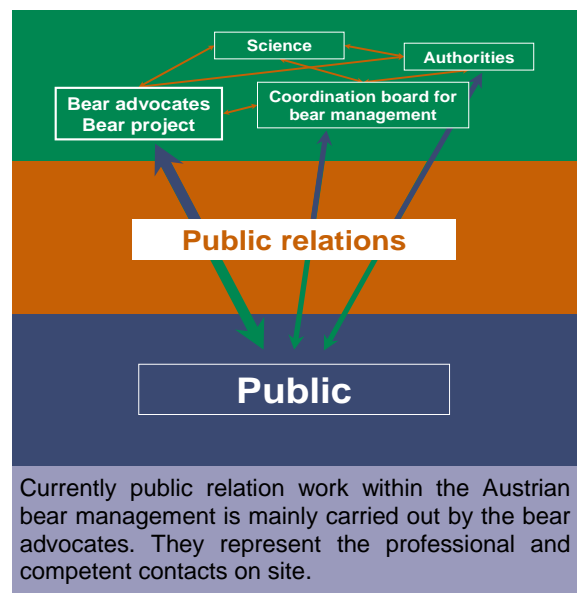
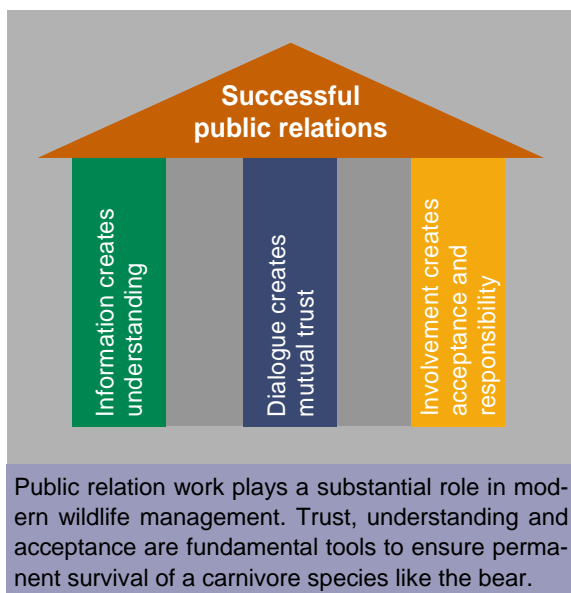
6.1. Importance of public relations

The conservation of bears in Austria is a socio-political task that can only be accomplished in a joint effort by all involved interest groups. Public relations work has to ensure that information regarding bears and their management is available to the general public and specific target groups in due time. At the same time public relations must guarantee the exchange of information. It should ensure and enhance information flow between local stakeholders and decision makers in the bear management. In order to solve problems and make decisions the responsible authorities depend completely on the information about the situation on site.

Public relation work is thus not limited to the distribution of information material, but encourages discussion. What is needed is a consistent contact between actors and

other stakeholders that can build up trust and converts all parties to active participants. Only by doing so, will the parties accept the bear management and assume their responsibilities. Without the acceptance and common responsibility, the support of the public will eventually break away in times of crisis and the use of prevention measures will be more and more neglected. A permanently successful bear management requires a responsibility of all parties.

Public relations must prove itself in a steadily changing environment. Apart from changing needs and altering attitudes of the stakeholders, bears keep expanding in new areas. The individual behaviour of bears is variable and full of surprises, which challenge the bear management on a daily basis even after several decades of experience. Following this, public relations must plan ahead in a way that it remains flexible to react accurately and fast to the respective situation.



6.2. Goals of public relations

Public relations ensure that people in Austria develop an understanding for the bear, have confidence in the bear management and are conscious about their responsibility to protect the bears.

Information creates understanding

- » The public is always informed about the current situation of the bear management
- » The population knows how to deal with bears appropriately
- » They know the contact persons of bear management

Communication creates mutual trust

- » People trust in the competence of the bear management
- » The interest groups know that they always find an open ear for their concerns
- » The necessary information is provided on time to the persons in charge as a basis for their decisions

Involvement creates acceptance and a sense of responsibility

- » Bears are widely accepted in Austria. There is no discussion whether we need bears but how we can deal with them in a responsible way
- » All parties contribute actively to the bear management
- » The bear management can build on sufficient financial and political support

6.3. Measures within public relations

Long term success of public relations requires accurate planning. Long-term survival of bears can be considerably supported by accurate planning. Even a well planned public relations work can not avoid crises completely but may be able to deal with it faster.

Stakeholder analysis

Goal-orientated public relations aimed at the specific and current information demand of all parties. This requires first a stakeholder analysis pointing out the most important target groups and their respective information need. Since the situation in bear management and the needs of the involved interest groups are constantly changing, such an analysis must be reviewed on a regular basis.

Yearly planning

Based on the results of the stakeholder analysis, public relations must set goals and plan adequate measures. Both short and long term developments must be considered. Some incident can seriously harm the acceptance of bear conservation and requires quick action or reconsideration of long term measures. Other developments take longer and do not attract the same attention at first. This includes e.g. information in new expansion areas where bears appear rather rarely at the beginning.

Evaluation

The success of public relations should be revised on a regular basis. Opinion polls or surveys, before and right after a certain measure, are especially valuable to control their efficiency. According to the evaluation all measures should be reviewed and im-

proved if necessary. This evaluation, together with the stakeholder analysis, represents a solid planning basis.

6.4. Exceptional case – public relations in crisis

Media relations work in crisis situation must be **up-to-date, clear** and **reliable**.

A crisis is characterised by high pressure for action and extreme lack of time. The public is alarmed and easily loses its trust in the competence of the bear management if the state of insecurity lasts for a longer time.

In cases of crisis the success depends mainly on well established contacts to the media, as the media can make or break a crises situation with regard to the general public. Consequently it is essential to establish good contacts to the media already before a potential crisis. During the crisis itself active information policy is needed. If the media are not actively informed, they will search for all available information themselves and may use less competent or trustworthy sources. Rumours, assumptions and interpretations coming from false “experts” give a wrong impression of the situation, which can limit the possibilities for manoeuvring of the bear management.

In crisis situations the following rules must be applied to contacts with media:

- » Inform rapidly and actively, initiate contact with media
- » Ensure a continuous information flow, follow media coverage

- » Reply to questions in a clear and explicit way, describe the situation correctly and assess it objectively
- » Only an informed spokesperson should communicate to the media. This spokesperson is the only contact person on site for the press. He keeps tight contact with the responsible head of crisis management
- » The head of crisis management must inform the spokesman permanently about all events
- » Experts can be involved in the assessment of the situation to increase credibility. To avoid discrepancies, all statements must be coordinated before release
- » Once the crisis is over, it is important to explain to the public how the crisis started and how it was managed

6.5. General instruments of public relations

Public relations must focus on the current needs of the involved interest groups. If restrained to leaflets and press conferences, public relations lose precious opportunities for open discussion with critics or for further involvement of supporters.

Some of the instruments that could be of use in the future public relations of Austrian bear management are presented here as examples.

Printed products

- » **Brochure-leaflets:** gives standardised information that can be easily and quickly distributed, especially in crises. A brochure is more expensive compared to leaflets or media reports, but contains much more information.

- » **Newsletters:** Quickly provide an existing mailing list with information regarding current subjects and is either available in a written or digital version. The address database must be permanently updated; the organisational input is thus high.
- » **Books:** detailed and attractive presentation of subjects possible. Creates understanding and enhance sympathy. Can be used as gifts or as an advertising medium for sponsors.
- » **Calendars, posters, stickers:** Attractive pictures enhance sympathy. A limited amount of information can be presented on backsides. Can be used as gifts or as an advertising medium for sponsors.

Media

- » **Press work (press articles, press conferences, and press reports in print and television media):** Good contacts to the media must be maintained. They are fundamental for fast and constructive reporting to the entire media. Large environmental NGOs such as WWF have already invested a lot in such networks and can use them for bear management. Once the network exists, it only needs lesser effort to maintain. In most of the

press the content of information is rather small, without any possibility to further description of details or correlations. Press work is suitable to communicate current developments but also for accurate crises management, that require a fast reaction and simple messages. In any case continuous press work is the basis of all public relations.

- » **Film productions (for scientific programs):** Offer the possibility to transmit professional information and gain sympathy. Plus, they can communicate complex subjects much more in detail. However, an own production requires considerably high resources. On the other hand, a high reputation will eventually enhance public confidence in the scientific topic.

Website

Offers easily accessible and extensive information and belongs to the standard tools of modern public relations. This is currently provided on the website of WWF under www.wwf.at/bearlife



Brochures present a good opportunity to start conversations with people. Digital newsletters are impersonal but can provide a big audience with up-to-date information.



Chapter 6 – Public relations



Internet provides a big audience with up-to-date information. www.wwf.at/bealife

General information tasks

- » **Informal discussions with bear advocates:** Intensive personal contact that builds up trust and facilitates communication with important stakeholders. The bear advocate becomes the first contact person for all questions regarding bears. Demands high personal resources, therefore reaches only a small audience.
- » **Presentations:** Offer a good chance to spread information and initiate subsequent interest. Evokes trust above all on a local level. Mostly organised by bear advocates. Time-consuming. Reaches mainly local or regional target groups.
- » **Exhibitions:** Can be carried out as a travelling or stationary exhibition. Small poster exhibitions are easily organised, bigger travelling exhibitions require more effort for logistics and conception. Travelling exhibitions can e.g. spread information about the right handling of bears in new areas, even before first problems arise. Another option is to install information booths and electronic info

screens at exhibitions, public places or fairs (hunting, tourism ...).

- » **Hotline and Service telephone:** Offers fast help and creates trust in crises. Can be set up as permanent service telephone attended by bear advocates and as special hotline in acute crises.
- » **Excursions:** Can promote contact with people that are not familiar with the local situation. Normally carried out by bear advocates. Require a high organisational input and are therefore limited to a restricted audience.
- » **Lobbying:** discussion with political decision makers, administration or organisations: Intensive personal contact that soothes conflict, builds trust and gives the opportunity for open discussion with other parties. High input for a small but decisive target group needed.
- » **Coordination Board for Bear Management:** The Coordination Board ensures that information is distributed in a fast and effective way among bear advocates and competent authorities. It should act as a competent advising entity in crises. By advising the political decision makers, it can have substantial influence.

Educational material

- » **Education material for schools and nurseries:** Parents can ultimately be reached through their children. Has a long lasting informative effect and promotes sympathy. Currently, material for teachers is available under www.wwf.at/bearlife for free download. In bear areas each student should be offered one bear lesson during his/her school career.

Science

- » **Research reports and scientific studies:** Offer a high value analysis and as-

essment. Aim at a small target group due to their professional specialisation. Particular sociological studies (e.g. opinion surveys) offer an excellent possibility to communicate with the parties. Demands very high resources.

- » **Conferences and symposia:** Offer a good possibility to communicate to a broader audience. Require a very high organisational input and are limited to specific target groups.

Fund raising instruments

- » **Sponsoring:** One of the options to finance additional measures in bear management is through sponsoring. Sponsors can benefit from a positive image of the bear. Obviously this is only possible, if the bear management is accepted by both the public and the customers of the company.
- » **Regional marketing:** Can give an added value to the bear's presence. Bears can be used as marketing tools for local products (e.g. honey, handicraft). They can also be used in tourism marketing as symbols for unspoilt and intact nature. Eco-tourism which targets people looking for a special nature experience has so far not been used as a marketing source in Austria.
- » **“Adopt a bear”:** Establishes a personal financial commitment of supporters. Enhances their identification, especially if there is a personal contact with bear advocates or other representatives of the bear management.
- » **Advertising material and merchandising products:** Examples are pencils, stickers, cups, etc with bear pictures or cartoons. Use of bears within Austria as a “flagship species” creates sympathy and interest in uncritical target groups such as children. Can be judged negatively in critical situations.



Stickers and other advertising material are simple images that aim to promote interest and rapport for the brown bears in Austria.

- » **Fairs of related marketing sectors:** Promotes cooperation and marketing opportunities in interested industries such as tourism or hunting. Reaches a specific target group and calls the attention to positive aspects such as adding value to products through bears.

6.6. Minimum requirements of public relations

Due to the fact that the attitude of the public and their acceptance is crucial for bear management, public relations must not be neglected, although it demands substantial resources financially and time wise. Without a minimum of PR activities, the chance of negative consequences for both bear management and the bear population are high.

Public relation work should mainly target stakeholders that are important for the bear's future. A crucial determining factor for choosing the target group is whether



BROWN BEARS IN AUSTRIA

10 Years of Conservation and Actions for the Future

Research reports offer a good opportunity to review the work done and evaluate the success of the project.

this group suffers a critical information or acceptance deficit. Potential groups (beekeeper, shepherd, etc.) affected by the presence of bears, as well as critics or supporters with high political influence (e.g. local politicians) can thereby be important target groups. In some cases it has proved valuable to contact critical target groups through mediators. Such indirect measures are only successful if they are carried out on a long-term basis.

Public relations must at least address the following groups that are essential for the long-term survival of the bears in Austria:

- » Local communities in bear habitats
- » Hunting associations and hunters
- » Land owners, foresters, and forest workers
- » Livestock farmers, beekeepers
- » Responsible authorities (community, district, province)
- » Politicians in bear regions
- » Schools in bear regions

Basic funding of bear management must at least ensure the following measures:

- » Bear advocates maintain personal contact with affected people
- » Sufficient brochures / leaflets available
- » Maintaining media contacts
- » Local informative events
- » Regular press reports
- » Continue newsletter
- » Up to date website

Additional money must be acquired for the following measures:

- » Surveys regarding the acceptance of both bear and bear management, at least previous to the Management Plan's revision
- » Presentations in schools
- » Travelling exhibitions / information boards
- » Intensive active press work

7. Financial requirements

Long-term demand for the conservation of bear in Austria

Bear protection in the cultural landscape of the Austrian Eastern Alps requires continuous care in order to recognise potential conflicts at an early stage and, if neces-

sary, take appropriate measures. Moreover, to ensure a long-term survival of the bears, competent contact persons for all questions concerning the bears are needed. However, this requires long-term secured financing for the bear management.

Composition of costs

Constant costs

Bear advocates

Lower Austria/Styria border region & coordination	40 hours/week
Carinthian/Slovenian border region	20 hours/week
Western Austria	20 hours/week

Travel costs

Material

Variable additional costs

Public relations
Genetic monitoring
Additionally required monitoring activities
Activities of emergency team (mainly aversive conditioning or trapping radio-collaring)
Measures of damage prevention

Existing and potential financial sources

- » National government
- » Regional government (Lower Austria, Carinthia, Styria, Upper Austria, Tyrol, Salzburg)
- » Interest groups (hunting associations, nature conservation organisations, other NGO's)
- » European Union

8. Implementation of the management plan

To ensure the acceptance and implementation of the plan, bear experts, authorities and interest groups were involved in the development of the management plan at hand. Due to the fact that in Austria both hunting and nature conservation laws belong to the competence of the provinces, it is the provincial authorities who hold legal responsibility. The Coordination Board for Bear Management was created as an inter-provincial board to coordinate all activities in the Austrian bear management. It worked intensely in the creation of this plan and shall support its implementation.

The management plan in hand provides guidelines for future decisions concerning bears in Austria to the competent authorities.

The attainment of a reasonable bear management within the frame of the existing provincial laws is only possible to a limited degree. The existing Austrian hunting system based on small hunting units does not encompass animal species covering a big range such as the bear. Hardly any measure such as capture, aversive conditioning nor the monitoring which is required by the Habitats Directive, can be carried out without the agreement of the local legitimate hunter. This may result in an enormous input of time and coordination, since several neighbouring hunting units will have to give their affirmation. Especially, in case of crisis a fast implementation of the required measures is absolutely decisive.

A modern wildlife management especially for far-ranging species like bears, lynx or wolves should not be based on small hunting units, but rather on a regional or even

higher level. Such a management system would require some adaptations of the current hunting and nature conservation laws.

For the successful implementation of this Management Plan it is necessary to inform the public about the development and contents of the plan and to continue to actively involve stakeholders in all current decisions.



Bears are hard to spot in Austrian forests. To preserve this shyness but at the same time secure the potential to spot one by ensuring the long term survival of the species in Austria - are the main goals of the Austrian Bear Management.

9. Revision of the management plan

This plan is viewed by the authors as a living document that can and must be further developed based on exceptional incidents or fundamental changes (“adaptive management”). Human society and its impact on the environment is changing incredibly fast, as well as scientific knowledge on the bears and on wildlife management is increasing - the management of the bears in Austria has to be able to follow these developments.

Following the six-year reporting cycle of the Habitat Directive concerning the favourable conservation status, a regular revision of this Management Plan should be done every six years to ensure it is up-to-date.



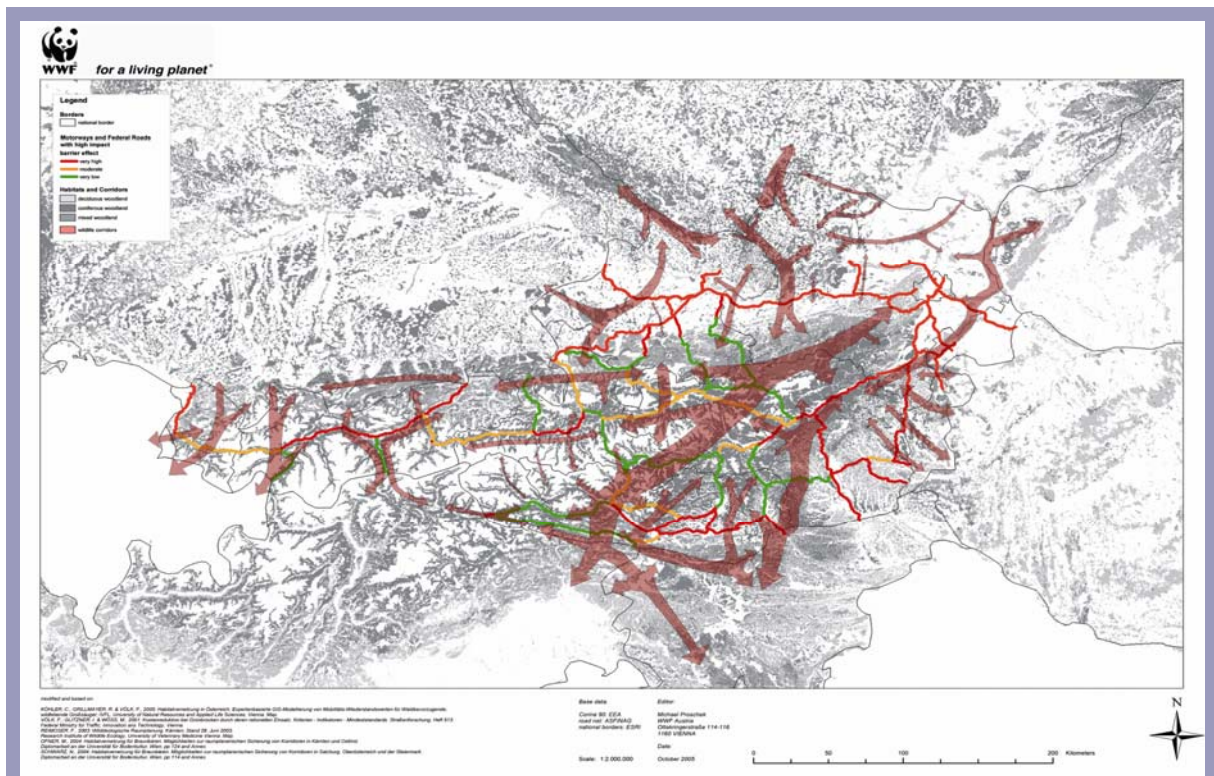
10. Population management

Besides the management structures need to mitigate the potential conflict between humans and bears, Austria also needs to develop an active population management. Currently the Austrian bear population is NOT in a favourable conservation status according to the EU Habitat Directive. Therefore Austria is obliged to take measures that will encourage the positive development of the population.

Experts of WWF Austria and the University of Agricultural Sciences and Natural Resources (Department of wildlife biology and game management and the Institute of Surveying, Remote Sensing and Land Information) as well as experts from Italy and Slovenia are currently working on an additional study to this management plan, which will consider possibilities and obstacles for the development of the Austrian bear popula-

tion. Objectives for the population and possible measures will be discussed. Threshold values necessary for measures, ranging from restocking to hunting, will be discussed. Another key issue is the bear habitat in Austria, its characteristics, area and distribution. A broad focus will be given to the connectivity of habitats and securing of migrating corridors which are both crucial for the establishment of a long-term viable population.

This “second” part of the management plan will be published in December 2005 in a separate publication.



Habitat connectivity is crucial for the long term survival of brown bears in Austria. Wildlife migration corridors of supra-regional importance, existing obstacles for the migration of forest bound mammals



BEAR MANAGEMENT PLAN FOR AUSTRIA