



**LIFE
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BEAR**

Population level management and
conservation of brown bears in northern
Dinaric Mountains and the Alps



LIFE13 NAT/SI/000550

Guidelines for bear intervention groups

*Action A.1: Analysis of the damage cases
and bear intervention group interventions,
preparation of guidelines for intervention
group protocols*

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Aim of the document

This document presents general guidelines for the bear intervention groups (BIG) in Central Europe. The purpose of the guidelines is to be later implemented into the (more detailed) national protocols, which will be used by the national BIGs. Guidelines in this document are therefore not strictly tightened and differ between Dinaric and Alpine region, because the value of an individual bear for the conservation of the population depends on the status of the local subpopulation. It is not the same to remove a habituated bear in Slovenia or Croatia, where it is one among hundreds and local people are used to the culling of bears or at the expanding front of the population (e.g. Italy or Austria), where the bear must be considered under the aspect of preparing the ground for the recolonization and the public awareness. We must however bear in mind that human attitude in newly settled areas is ambivalent: on one hand, a large majority welcomes the bear, on the other hand, unforeseeable events or accidents may cause a swift change in public opinion.

Implementation of recommendations for acting in different situations when an intervention is needed is expected to improve effectiveness and transparency of work of BIGs, as well as increase group's credibility in the public. These guidelines therefore in several aspects indirectly aim to decrease the actual number as well as to improve the perception of bear caused conflicts, which is the key of successful long-term conservation of brown bears in the region. A common protocol for gathering the human-bear conflict data will also improve data comparison and monitoring of temporal dynamics of human-bear conflicts, which importantly affects bear management decisions.

List of acronyms used

ARSO – Slovenian Environment Agency

BIG – Bear Intervention Group

CFS – National Forest Service (Italian)

CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora

FIWI – Research Institute of Wildlife Ecology, University of Veterinary Medicine, Vienna

PACOBACE – Piano d'Azione per la Conservazione dell'Orso Bruno sulle Alpi Centro-Orientali (Italian action plan for bears in the Alps)

SFS – Slovenia Forest Service

Q&A – Question & Answer

Current organisation of bear intervention groups (BIG) in different countries

Profile of the BIG members

- Usually BIGs are specialized for different tasks (highway BIG, car-accident BIG, aversive conditioning group, capture group).
- Austria – FIWI is responsible.
- Croatia – 22 members: 4 from the Ministry of Agriculture, 3 from the Veterinary Faculty in Zagreb, 11 from the “Croatian Forests” enterprise, 2 from Nature parks and 2 from Rijeka-Zagreb Motorway enterprise. They are veterinarians, foresters, game keepers employed at different institutions. The Motorway enterprise has its own Intervention group and its own operating protocol.
- Italy:
 - Trento – BIG is composed from 17 employees of Forest and fauna Department only; occasionally, according to the circumstances, they include veterinarians (captures, car-accidents). The group works with two persons in the field (this means 7 group available) and a coordinator (18 coordinators have been trained) usually working by phone, giving all instructions to the group. The two agents and the coordinator are 24h available, in weekly shifts. The capture group is comprised of 5 - 6 people. 2 of them are part of the wildlife office.
 - Friuli Venezia Giulia – agents of CFS (National Forest Service), regional forest service and provincial game wardens. Supported by experts and a veterinarian.
 - Veneto – agents of CFS and provincial police and veterinary team from the public service.
- Slovenia – BIG is composed from 16 employees of SFS only, occasionally, according to the circumstances, they include a veterinarians and a local hunters. Costs of non-SFS employees are paid too.

Training of the BIG members

- Austria – currently no training, since there are few, if any bears.
- Croatia – yearly trainings to further development of the protocol, lectures and practical training (how to measure dead animal, take samples, shooting with rubber bullets).
- Italy:
 - Trento – regular yearly trainings, parts of the groups meet on a regular basis (every 2-3 months) to brainstorm.
 - Friuli – yearly practical training, initial basic training within LIFE Arctos, twice a year meetings to discuss updates and to brainstorm.
 - Veneto – initial training on aversive conditioning within LIFE Arctos and refreshments on a yearly basis.
- Slovenia – no formal trainings so far was done, only exchange of expert info or renovation of crucial legal documents via theoretical meetings or e-mails.

What are the communication procedures in an emergency event?

- Austria – bear advocate is leading the procedure and advising the authorities.
- Croatia – police, emergency centre or directly to the BIG member; there is a national coordinator and local members. If the local member gets the first info, he has to inform the coordinator (except in emergency cases). Motorways have their own info centre that is informing their coordinator.
- Italy – organized at regional level with regional competences; common base is PACOBACE
 - Trento – rotating coordinators (18 persons) weekly during the season March-November. They can be called with a specific “bear number” or calling the 115.
 - Friuli – one coordinator and phone number (civil protection number), when he is not available, there is substitute.
 - Veneto – emergency number at the CFS, regional coordinator is contacted and he contacts local coordinators.
- Slovenia – the line with emergency number 112 or police 113 is officially established. Emergency centre calls BIG – the regional coordinator or his assistant at first or national coordinator in case of conflict situation with bears. BIG can be also called via direct contact with people knowing the phone numbers of BIG members.

Communication with public during and after the event

- Austria – no specific protocol, ad hoc communication by the officials.
- Croatia – BIG members are not allowed to speak to the media, communication is done by the Ministry through their PR office. For the motorways centre for traffic control is sending a short note to the Croatian Autoclub and it is broadcasted on radios; notes on traffic signs.
- Italy:
 - Trento – one person of the central office, different from IT, is in charge of talking to media and all persons involved need to forward media questions to this person. For the emergency situations Press Office is involved however. Until now the procedure was relatively informal. This protocol is currently being updated.
 - Friuli Venezia Giulia – communication is done directly by the regional administration or CFS.
 - Veneto – communication is done only by the coordinator of the group and by the region, however this does not function well and needs to be revised.
- Slovenia – SFS has the authority to directly notify public / media. Some situations are very challenging (i.e. when media is present at the scene) and partly distract the operational work of BIG involved in solving the problem. In special cases press releases are prepared by the SFS (coordinator of BIG and public relations department) after the work done, sometimes press office of the ministry responsible for nature conservation is involved.

How are the events/interventions documented?

- Austria – no formal procedure but cases are documented and reports prepared – shared with the interested public and to the authorities.
- Croatia – report for each intervention on the field is prepared and it includes recommendations on what to do. The report is sent to the Ministry and bear management committee is deciding on what to do. Reporting is not always done if it is just a phone call.

- Italy:
 - Trento – weekly reports to the forest service at the provincial level about bears in general, including all the interventions of all the members of the IT. Every 3-6 months a report to the Ministry. Specific reports for: car-accidents, false attacks, attacks, captures.
 - Veneto – obliged to report to the ministry every intervention.
 - Friuli Venezia Giulia – reported case by case; no protocol.
- Slovenia – basic protocol of keeping records is made and added to the decision of establishment of BIG by the ministry, calls are recorded (time, date, coordinates of the place, other basic info), summarized reports are sent monthly and also yearly to the ministry. For concrete actions (tranquilisation and removal of the animal, interventional cull) written correspondence with the ARSO (Slovenian Environment Agency) is kept.

Administrative issues

International Legislation:

- **The Berne Convention** (Convention on the Conservation of European Wildlife and Natural Habitats): The brown bear is included in Appendix II of the Berne Convention as an endangered and strictly protected animal species. Convention demands that »each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the special protection« of the wild fauna species specified in Appendix II. Some countries that have signed the Convention (e.g. Slovenia) have made reservations excluding bears from this protection.
- **The CITES Convention** (The Convention on International Trade in Endangered Species of Wild Fauna and Flora): Brown bear is included in Appendix II of the CITES Convention. Convention prescribes strict regulation of trade in specimens of species Included in Appendix II.
- **The Habitats Directive** (Council Directive 92/43/EEC, last amended with the Council Directive 2013/17/EU): The brown bear is listed in Annex II of the Habitats Directive (species of community interest whose conservation requires the designation of special areas) and Annex IV (species of community interest in need of strict protection). Although the Habitats Directive prohibits any kind of killing of bears, derogations are allowed (Article 16) if there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range. Member States may derogate:
 - a) in the interest of protecting wild fauna and flora and conserving natural habitats;
 - b) to prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property;
 - c) in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;
 - d) for the purpose of research and education, of repopulating and re-introducing these species and for the breedings operations necessary for these purposes, including the artificial propagation of plants;

- e) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species listed in Annex IV in limited numbers specified by the competent national authorities.

National Legislation:

- Slovenia: Nature Conservation Act, Wild Game and Hunting Act and their regulatory provisions, Decree on protected wild animal species (bringing into force the Habitats Directive 92/43/EEC).
 - Italy: National law n. 157/92 on wildlife and hunting, National decree n. 357/97 (bringing into force the Habitats Directive 92/43/EEC), Provincial law n. 24/91.
 - Croatia: Nature protection law, Hunting law. For motorway cases also the Transportation law.
 - Austria: Different provincial hunting laws.
- **Permits to handle alive bears:**
- Austria: Provincial government; in some provinces in accordance with district governments.
 - Croatia: National committee led by the Ministry for the agriculture and the Ministry for the nature protection.
 - Italy: Environmental ministry gives the authorization on the basis of National wildlife institute (ISPRA) advice. In case of threat to human safety regional governor can take decisions.
 - Slovenia: Ministry for the environment and spatial planning.

The tasks of the bear intervention groups – events or situations in which a BIG should act

In the tables we are giving the descriptions what should be done when facing particular problems or situations. Under removal we understand that the bear has to be removed from nature. It can be culled or captured and taken into permanent captivity. The recommended management actions were separated for the Dinaric (Slovenia and Croatia) and Alpine (Italy and Austria) regions - different population density; therefore different value/meaning of a single animal for the population is recognised.

Injured bear or bear “in trouble”

An injured bear is usually a bear that has been injured in a traffic accident, due to hunting /poaching, injured by another bear etc. A bear in trouble is a bear that needs help because it has, for example, fallen in a well, a cave, has been caught in a poacher’s snare, etc. When a BIG member receives information about the event, he/she should urgently go to the field. If consultation is needed he should make the contact with the BIG leader.

Whenever handling an immobilised bear take measurements and samples and mark the bear.

<i>Injured bear or bear in trouble</i>	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
Injured bear (traffic accident).	<p>1. bear is dead: Measure, take samples (see Bear mortality) and remove the carcass.</p> <p>2. bear is injured and present on the site: Immediate response of BIG members, euthanize the bear.</p> <p>3. bear has left the site: Search with a bloodhound; once the bear is located, the bloodhound owner makes an ad hoc assessment and a decision whether to shoot the bear or leave it (no visible injuries).</p>	<p>1. bear is dead: Remove the carcass and take measure, samples (see Bear mortality)</p> <p>2. bear is injured and present on the site: Immediate response of BIG members, BIG members (veterinarian) decide whether to wait and monitor the bear, treat the bear or euthanize the bear.</p> <p>3. bear has left the site: Search with a bloodhound; once the bear is located, a decision has to be made by a veterinarian on whether to shoot the bear (serious injury), treat the bear or leave it (no visible injuries). If left on site monitoring at the location should be provided.</p>	Provide information about the event.



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Injured bear (poaching, other bears injuries, fallen from cliff, etc.).	<p>1. If the bear was seen in the populated area, BIG member should urgently go there.</p> <p>2. If injury could have lasting consequences or when injured bear can be dangerous for people euthanize or otherwise remove the bear as soon as possible.</p> <p>3. In cases of smaller unserious injuries on site veterinarian help can be provided if possible.</p>	<p>1. BIG member should urgently go there.</p> <p>2. Decisions case by case; Veterinary help must be provided. If longer hospitalization would be required, euthanasia or other type of removal as soon as possible. If decision is made to treat such bear, the bear has to be kept in captivity for the rest of its life.</p>	Provide information about the event. If the reason was poaching provide the information about negative consequences of this act for the poacher and for the bear population
Injured bear (hunting).	Search with a bloodhound dog and euthanasia.		If public is involved provide proper information about the event. If public is not involved no PR action needed.
Not injured bear in trouble (poacher's snare, fallen in a well, cave, etc.).	Helping bear in trouble, if it is safe, otherwise removal of the bear; decision case by case.	Helping bear in trouble, if it is safe, otherwise removal of the bear; decision case by case.	Provide objective and proper information about the event to the public.

Bears on motorways

<i>Bear on a motorway</i>	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
Healthy bear inside the highway fence.	<p>1. Stop or slow down the traffic and free the bear (cooperation with highway manager).</p> <p>2. If needed and possible, use chemical immobilization.</p> <p>3. Culling of bear is a possible option.</p>	<p>1. Stop or slow down the traffic and free the bear (cooperation with highway manager).</p> <p>2. If needed and possible, use chemical immobilization.</p> <p>3. Culling of bear is a possible option.</p>	Provide objective and proper information about the event to the public.
Injured bear inside the highway fence.	Immobilize and move the bear into the forest. If the injury will	Immobilize and move the bear into the forest. If the injury will	Provide objective and proper information about the event to the

	likely result with lasting consequences or if the situation is very dangerous for involved people, euthanasia is recommended.	likely result with lasting consequences or if the situation is very dangerous for involved people, euthanasia is recommended.	public.
Dead bear.	Official person (BIG member or other official) checks the carcass in the field and proceed with regular procedure (measurements, samples...).	Official person (BIG member or other official) checks the carcass in the field and proceed with regular procedure (measurements, samples...).	Provide objective and proper information about the event to the public.

Orphaned cubs

Orphaned bear cubs are not self-sufficient for survival without their mothers until they are at least six months old. Bear cubs which have been raised by humans have a high chance of developing problematic behaviour due to their habituation to humans. Because of high chance of developing problematic behaviour due to their habituation to humans release to nature is not recommended.

Orphaned cubs	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
Orphaned cub found in nature.	<ol style="list-style-type: none"> 1. BIG expert makes sure it is an orphaned cub. 2. Cub is left/taken to the bigger forest block at the nearest feeding place If exists, for possible meeting with the missing female/mother. 3. Monitoring (e.g. photo traps, genetic monitoring). 4. Avoid any direct contact with humans. 5. No direct feeding (bottles with milk etc.), except in specific situations and for short periods. 6. Prepare and implement specific communication for local 	<ol style="list-style-type: none"> 1. BIG expert makes sure it is an orphaned cub. 2. Cub is left/taken to the bigger forest block at the nearest feeding place If exists, for possible meeting with the missing female/mother. 3. Monitoring (e.g. photo traps, genetic monitoring). 4. Avoid any direct contact with humans. 5. No direct feeding (bottles with milk etc.), except in specific situations and for short periods. 6. Prepare and implement specific communication for local residents. 7. If cub is staying in the forest – go on with the monitoring if possible. 	<p>Provide targeted information to increase understanding of habituation and food conditioning processes and its consequences for the bears if fed.</p> <p>Specific communication for local residents must be provided.</p>

	<p>residents.</p> <p>7. If cub is staying in the forest – go on with the monitoring if possible.</p> <p>8. If cub becomes confident to encounter with people while roaming around or comes back several times (2-3x) to the original spot where found – remove the bear.</p>	<p>8. If cub becomes confident to encounter with people while roaming around or comes back several times to the original spot where found, remove causes, try aversive conditioning, and if unsuccessful remove the cub from population (see Problem bears).</p> <p>9. If cub is in starvation – one attempt to save the cub with artificial feeding, otherwise removal from population.</p>	
Bear cubs which have been raised by humans.	Because of high chance of developing problematic behaviour due to their habituation to humans, release to nature is not allowed.	Because of high chance of developing problematic behaviour due to their habituation to humans, release to nature is not recommended, but possible option if the bear is in captivity just for a short period.	Provide targeted information to increase understanding of habituation and food conditioning processes and its consequences for the cubs if fed.

Bear mortality

Bear mortality	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
Dead bear found (natural or unknown cause of death).	<p>1. Official person (BIG member or other official) checks the carcass in the field and checks the surroundings of the site.</p> <p>2. If there is no suspicion of illegal killing, proceed with regular procedure (measurements, samples).</p> <p>3. At non clear evidence on the site, bear should be taken to the veterinary institution or or even the veterinary expert should be called on the scene.</p>	Inspection by the BIG, possibly with a veterinary. Do not disturb potential crime scene. Call the police investigation if needed.	Provide objective and proper information about the event to the public.



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Illegally culled bear or other illegal mortality.	Police and inspection have to be called immediately. Do not disturb crime scene before the police investigation but secure it. Police should contact a veterinary institution (autopsy, RTG, etc.) and/or a forensic laboratory.	Police and inspection have to be called immediately. Do not disturb crime scene before the police investigation. Police should contact a veterinary institution (autopsy, RTG, etc.) and/or a forensic laboratory.	Provide objective and proper information about the event to the public. If the reason was poaching provide the information about negative consequences of this act for the poacher and for the bear population.
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Bears which (potentially) threat human safety

Report “[Defining, preventing, and reacting to problem bear behaviour in Europe](#)” was used as a base for developing a protocol for problem bears.

The protocol indicates the degree of problem and urgency of the action in three categories indicated with green (least problematic, not urgent), yellow and red (most problematic, urgent reaction needed) colours. For each of the listed bear behaviours recommended management action(s) is/are listed.

Degree of problem and urgency of action	Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
	A bear unaware of human presence is continuing its natural behaviour.	No action towards the bear.	No action towards the bear.	Provide information on bear biology. Provide information on human-bear encounters (how to behave) to the inhabitants and visitors of the bear areas.
	Upon an accidental close encounter bear is retreating immediately.	No action towards the bear (surveillance of the surroundings if necessary).	No action towards the bear (surveillance of the surroundings if necessary).	
	Upon an accidental close encounter bear is rising on his hind legs.	No action towards the bear (surveillance of the surroundings if necessary).	No action towards the bear (surveillance of the surroundings if necessary).	



Degree of problem and urgency of action	Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
	The bear is aware of your presence but is not running away and ignoring your presence in the natural bear habitat.	Monitoring (and deterrence if necessary).	Monitoring (and deterrence if necessary).	Provide targeted information on human-bear encounters to the inhabitants and visitors.
	Bear is repeatedly coming close to permanently inhabited houses.	1. Intensive monitoring, removal of attractants and dense vegetation – cover for the bear. 2. If appropriate (damage prevention), removal of bear.	1. Intensive monitoring, removal of attractants and dense vegetation – cover for the bear. 2. If appropriate (damage prevention), aversive conditioning.	Provide targeted information to increase understanding of habituation and food conditioning processes and its consequences; information on avoidance of human-bear conflicts.
	Female with cubs makes a false attack.	Monitoring.	Monitoring.	Provide targeted information on avoidance of human-bear conflicts to the inhabitants and visitors and explain causes and possible consequences of the bear behaviour both for the bear and for people. Provide information on human-bear encounters (how to behave when you meet a bear).
	Bear makes a false attack when surprised or provoked.	Investigation, monitoring.	Investigation, monitoring.	Provide targeted information to increase understanding of habituation and food conditioning processes and its consequences; information on avoidance of human-bear conflicts.



Degree of problem and urgency of action	Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
	Bear is defending its food by threatening and making false attack.	Investigation, monitoring. Removal is a possible option	Investigation, monitoring.	Provide targeted information on avoidance of human-bear conflicts (especially damage prevention) to the inhabitants and visitors and explain causes and possible consequences of the bear behaviour both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).
	Bear is searching for food or is causing damages close to inhabited houses.	1. Monitoring, damage prevention (removal of attractants), removal of the dense vegetation (cover for the bear), removal of bear.	Monitoring, damage prevention (removal of attractants), removal of the dense vegetation (cover for the bear), aversive conditioning.	Provide targeted information on avoidance of human-bear conflicts (especially damage prevention) to the inhabitants and visitors and explain causes and possible consequences of the bear behaviour both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).
	Bear is entering uninhabited buildings such as barns, stables and sheds close to inhabited houses several times.	1. Depending on the social context removal may be considered as the first option. 2. Removal of attractants, intensive monitoring, removal of dense vegetation (cover for the bear).	1. Removal of attractants, intensive monitoring, aversive conditioning, removal of dense vegetation (cover for the bear). 2. Depending on the social context removal may be considered as the first option.	Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).

Degree of problem and urgency of action	Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
	Bear attacks (physical contact) a human after being intentionally or unintentionally provoked (e.g. disturbance of the den, coming between female and cubs, bear being provoked by dogs, etc.).	<ol style="list-style-type: none"> 1. Depending on the social context removal may be considered as the first option. 2. Intensive monitoring if the bear is not removed. 	<ol style="list-style-type: none"> 1. Intensive monitoring and aversive conditioning is preferred. 2. Depending on the social context removal may be considered as the first option. 	Provide targeted information on avoidance of human-bear conflicts to the inhabitants and visitors and explain causes and possible consequences of the bear behavior both for bear and for people.
	Bear is repeatedly intruding compact residential areas.	<ol style="list-style-type: none"> 1. Removal or protection of attractants. 2. Depending on the social context removal may be considered as the first option. 	<ol style="list-style-type: none"> 1. Removal or protection of attractants. 2. Intensive monitoring and aversive conditioning. 3. Depending on the social context removal may be considered as the first option. 	Provide targeted information and instructions on avoidance of human-bear conflicts to the inhabitants and visitors and explain causes and possible consequences of the bear behavior both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).
	Bear is defending its food by attacking (physical contact).	Removal of the bear.	<ol style="list-style-type: none"> 1. Intensive monitoring, (deterrence). 2. Possibly removal of the bear. 	Provide targeted information and instructions on avoidance of human-bear conflicts and rationalize management decision by explaining the causes and consequences of the bear behavior both for the bear and for people.



Degree of problem and urgency of action	Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
	Bear is following humans in close distance.	Removal of the bear.	1. Intensive monitoring. 2. Deterrence and removal of the bear if deterrence is not successful.	Provide targeted information and instructions on avoidance of human-bear conflicts and rationalize management decision by explaining the causes and consequences of the bear behaviour both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).
	Injured bear attacks a human.	Removal of the bear.	Removal of the bear.	Rationalize management decision by explaining the causes and consequences of the bear behaviour both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).
	Bear cannot be deterred successfully by an expert team from compact residential areas or from repeatedly entering uninhabited buildings next to an inhabited house.	Removal of the bear.	Removal of bear.	Rationalize management decision by explaining the causes and consequences of the bear behaviour both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).



Degree of problem and urgency of action	Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
	Bear enters inhabited buildings.	Removal of the bear.	Removal of the bear.	Provide targeted information and instructions on avoidance of human-bear conflicts and rationalize management decision by explaining the causes and consequences of the bear behaviour both for the bear and for people. Provide channels for two-way communication with the public (bear management hotline, online Q&A section,...).
	Bear attacks a human without being intentionally or unintentionally provoked.	Removal of the bear.	Removal of the bear.	Rationalize management decision by explaining the causes and consequences of the bear behaviour both for the bear and for people.

Bears causing damages to human property that required intervention other than compensation

Individual bear behaviour	BIG action in Slovenia and Croatia	BIG action in Italy and Austria	Recommended public communication actions
Bear is once or repeatedly causing damages on unprotected or insufficiently protected small livestock, beehives, silage bales or other human property which it is possible to protect with available protection devices (eg. proper electric fences or dogs).	Improved damage prevention and basic monitoring to assess the effectiveness of damage prevention if prevention measures installed.	Improved damage prevention and basic monitoring to assess the effectiveness of damage prevention if prevention measures installed.	Provide targeted information on why damages happen and how to prevent them.



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<p>Bear is repeatedly causing damages on human property although properly protected - confirmed by bear expert. (e.g. entering barns, crossing 160cm high, properly maintained electric fence with regular (365 days per year 24h) electricity min 5kV)...</p> <p>These can be just exceptional cases.</p>	<p>After improved prevention measures, deterrence or removal (depending on social circumstances).</p>	<p>Deterrence, if the damage is repeated.</p>	<p>Provide targeted information on why damages occur and how to improve damage prevention.</p> <p>Provide information why the bear has been removed.</p>
<p>Bear is once or twice causing damages on large livestock (cattle, horses).</p>	<p>Monitoring, re-evaluation and adjustment of damage prevention measures if possible. The effort of the protection measures should be in relation to the value of protected goods.</p>	<p>Monitoring, re-evaluation and adjustment of damage prevention measures if possible. The effort of the protection measures should be in relation to the value of protected goods.</p>	<p>Provide targeted information on why damages occur and how to improve damage prevention.</p>
<p>Bear is repeatedly causing damages on large livestock (cattle, horses).</p>	<p>1. Evaluation and adjustment of damage prevention measures if determined reasonable by a bear expert.</p> <p>2. If a single individual is continuing with causing the damages, removal of the bear.</p>	<p>1. Monitoring, re-evaluation and adjustment of potential damage prevention measures if determined reasonable by a bear expert, deterrence.</p> <p>2. If a single individual is continuing with making the damages, removal of the bear.</p> <p>More tolerance to adult females than other categories.</p>	<p>Provide targeted information on why damages occur and how to improve damage prevention.</p>



<p>Bear is causing damages on human property that for different reasons cannot be protected (orchards around villages...). Livestock cannot be part of this definition.</p>	<p>1. Re-evaluation and adjustment of potential damage prevention measures. 2. Depending on the circumstances, aversive conditioning. 3. Removal can be considered as possible option.</p>	<p>1. Monitoring, re-evaluation and adjustment of potential damage prevention measures. 2. Depending on the circumstances, aversive conditioning.</p>	<p>Provide targeted information on why damages occur and how to improve damage prevention. Provide information why certain decision has been taken.</p>
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BIG equipment

- Capture and translocation equipment:

Necessary equipment	Recommended equipment
<ul style="list-style-type: none"> - anaesthetics - dart rifle - scope for rifle - jabstick, jabstick syringe and needles - injection darts - CO₂ cartridges or powder filling - syringes, container for syringes, needles, sleeves, stabilizers, safety caps for darts - forceps or stick to remove syringes from rifle barrel - filler syringe, syringe connector, DVP venting pin - traps (Aldrich snares, Culvert traps) - tarp for transport, transport cage - tools for weighing/measuring (calliper, scale, net for weighting, tripod to scale, folding rule, metre, thermometer); - chemicals (EDTA, ethyl alcohol...) 	<ul style="list-style-type: none"> - blow-gun - blow-gun darts - transmitter darts - transmitter for darts - training needles - genetic sampling equipment - capture nets/tarp (for the bears immobilized on the trees) - climbing gear (if immobilized bear remains on a tree) - night vision scope for rifle

- Tracking and telemetry equipment:

Necessary equipment	Recommended equipment
<ul style="list-style-type: none"> - ear tags - tools for marking (pliers) - genetic sampling equipment - Microchip syringe 	<ul style="list-style-type: none"> - GPS radio collar - telemetry Yagi Antenna - Whip Antenna - telemetry receiver



- screws, wrenches, screwdrivers for collars/tags	
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- Aversive conditioning equipment:

Necessary equipment	Recommended equipment
<ul style="list-style-type: none"> - chemical deterrents - guns and ammunition for aversive conditioning (rubber bullets) - bear-trained laika/karelian or other suitable breeds of dogs 	<ul style="list-style-type: none"> - Bear Scare Darts - fireworks

- Equipment for following an injured bear:

Necessary equipment	Recommended equipment
<ul style="list-style-type: none"> - trained bloodhound dogs - firearms (calibre strong enough) - ammunition (metal bullets, strong enough) 	

- Self-defence and protection equipment:

Necessary equipment	Recommended equipment
<ul style="list-style-type: none"> - firearms (calibre strong enough) - ammunition (metal bullets, strong enough) - first aid kit 	<ul style="list-style-type: none"> - pepper spray

- Other tools:

Necessary equipment	Recommended equipment
<ul style="list-style-type: none"> - ropes - latex gloves, ply face masks - scalpel - headlamps, halogen - saw for iron and wood - axe - hammer - pliers - video/photo camera - batteries 	<ul style="list-style-type: none"> - uniform - signboard - electric fence, tester for electric fence - cooler bag - infrared pointers - telemeter - night-vision optics - car battery charger - silicone

Protocol for gathering BIG activities data

Countries in the Central Europe (Austria, Croatia, Italy and Slovenia) have different systems to record the data gathered on the BIG interventions. It is reasonable to unify the data gathering and recording, so joined reports can be written and bear management unified. In this chapter it is prescribed which common data should be gathered by the BIGs and then recorded by national information centres.

National information centres should record all received calls when the calling person felt endangered by large carnivores, even if BIG didn't intervene on the field. This database should not include damage cases, caused by large carnivores. It is necessary to record the date and the exact place of the event which triggered the intervention, the cause of the intervention and the measures taken during the intervention. In case of attack on human the circumstances of the attack should be described in detail (activity of the attacked person during the attack, presence of dog, size of bear, presence of cubs, type of physical contact, severity of injuries, etc.) in the column "Other information". The following table shows the obligatory data, which BIG should gather. Possible data entries are shown below the table.

Date	L.C. species	X coord.	Y coord.	Reason for intervention	Description of situation / animal behaviour	Action / measures	Other information

Date: day, month and year, when an intervention happened.

L.C. species: which large carnivore species is BIG dealing with?
options (bear, wolf, lynx).

X and Y coordinate: exact location of the event should be recorded (GPS coordinates).

Reason for intervention: the reason why BIG was called. Entries should follow the tables in the chapter "The tasks of the bear intervention groups – events or situations in which a BIG should act" of this document.

- options - injured bear or bear in trouble,
- bears on motorways,
 - orphaned cubs,
 - bear mortality,
 - bears which (potentially) threat human safety,
 - bears causing damages to human property that required intervention other than compensation,
 - other (specify which).

Description of situation / animal behaviour: the description of the situation, which caused the intervention, or behaviour of problem animal should be specified. Entries are linked to the first column of the tables in the chapter "The tasks of the bear intervention groups – events or situations in which a BIG should act" of this document.

Action / measures: how did BIG respond/intervene?

- options - nothing (for all situations that required no action),
- phone conversation with calling person,
 - going to the conflict point and talking to people in person,
 - going to the conflict point – no action undertaken,
 - tracking wounded animal,
 - perform the aversive conditioning (when, how, result),

- removal or securing the attractant of the bear (like garbage, food storage),
- immobilization and translocation of the animal to other area,
- removal of the conflict animal (lethal/nonlethal)
- saving bear from trouble (e.g. from the well, poacher's trap, etc.),
- other measures (specify which).

Other information: besides the obligatory gathered data (e.g. details of the attack on human) BIG can also gather some optional (e.g. how many times the problem animal was observed, was it observed during the day time, were there any signs of aggressive behaviour, how far from the houses was animal observed, etc.) and country-specific information.