



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



2015 ANNUAL POPULATION STATUS REPORT FOR BROWN BEARS IN NORTHERN DINARIC MOUNTAINS AND EASTERN ALPS

Action C.5: Population surveillance

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Introduction

Understanding the status of populations of conservation concern is essential for effective conservation and management, which is also true for brown bears in the area covered by LIFE DINALP BEAR. Such population-level understanding is the foremost condition that must be met if we are to transcend the national or regional-level conservation and management practices that are the current norm in wildlife management and conservation.

This is the first of annual Population Status Reports planned within LIFE DINALP BEAR. It provides an overview of both how population is being managed and its current status over the entire area in question. We hope that this is the start, the first of many documents that will be routinely produced each year, to give the basic tool to wildlife managers dealing with bear management in each respective country/region, to include the situation in neighboring areas in their conservation and management planning.

As each beginning, this one also didn't happen without problems. The key informational infrastructure, the Internet-based Geo Database of bear monitoring data that will be the backbone of brown bear monitoring in the area and the foremost data source for production of these annual reports, is still under development. This meant that the report had to be compiled in the old-fashioned way – by sending questions to experts from different areas and summarizing their replies in a comprehensive document. We used the advantage that a country-level survey has been recently done and published¹, and for our study area all these texts have been authored or co-authored by people who are also project staff members and authors of this report. Each of the experts updated the text for his or her geographic area with the most recent available data on all recorded aspects of bear monitoring to produce an up to date picture of the status of the bears in our area. The same goes for the distribution maps – we used distribution maps prepared at the end of 2014, also on basis of the information provided by project staff members for our project area, which were included in a recent publication in the high-ranking scientific journal “Science”², and updated these maps with new data. Many of our project staff members are listed as co-authors of this paper.

While we expect the annual reports in the following years to be more comprehensive and detailed since they'll also include the important results obtained through the project, we still believe that this one will be a useful compendium of available knowledge about our bears – sort of a reference baseline document for future comparisons, and will serve its purpose for management and conservation.

¹ Petra Kaczensky, Guillaume Chapron, Arx M Von et al. (2012) Status , management and distribution of large carnivores – bear , lynx , wolf & wolverine – in Europe 2. European Commission.

² Chapron G, Kaczensky P, Linnell JDC et al. (2014) Recovery of large carnivores in Europe's modern human-dominated landscapes. Science, 1517.

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Bear population status – project area overview

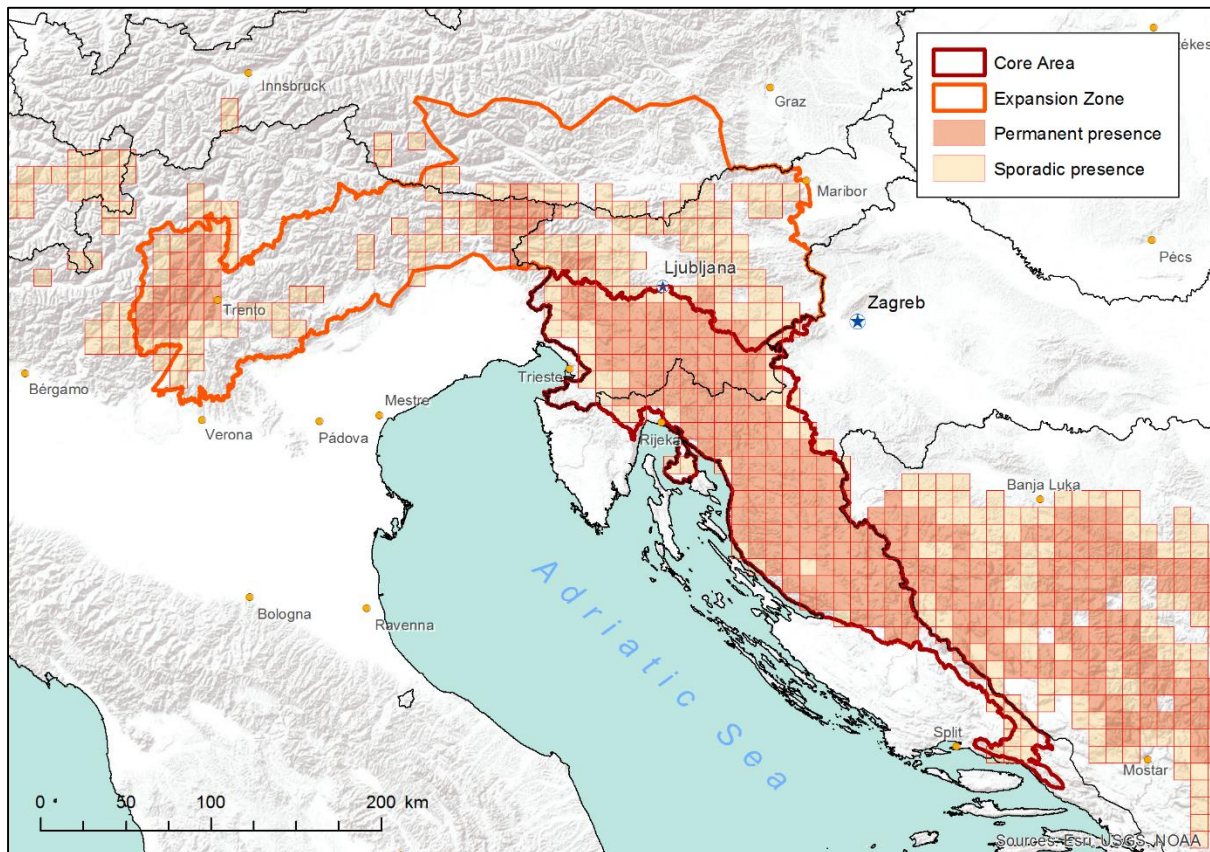


Figure 1: Bear distribution in LIFE DINALP BEAR project area.

Distribution

The project area of LIFE DINALP BEAR spans over four countries: Croatia, Slovenia, Austria and Italy. It is roughly divided into two areas: the Core Area and the Expansion Zone.

The **Core Area** is the main brown bear range in Croatia and Slovenia. The area stretches from Bosnian border in Croatia, along the Dinaric Mountain Range up to the foothills of Alps. This is where most of the bears are. The area is rugged, covered by dense forests and has relatively low density of people, mostly limited to valleys. It has one of the highest brown bear population densities ever recorded. It is the main source for natural expansion of bears into the Alps, and has been the source for all reintroductions of this species in Western Europe.

The **Expansion Zone** includes Eastern Alps in Slovenia, Austria and Italy. Bears are expanding into this zone from the Core Area in Slovenia. There is permanent bear presence in the southern part of this zone, in the pre-alpine areas in Slovenia and in the alpine and pre-alpine range in the Region of Friuli V.G., but the last genetic survey in 2007 has shown that the bears there were few (21, 19-23 95%CI) and that the sex structure was heavily male-biased (70%M vs. 30%F). There is also a reintroduced population in Trentino, Italy, a conservation success story and an important stepping stone for recolonization of Alps by this species.

Population estimates & monitoring

Monitoring of brown bear conservation status is still country-specific at the time of writing of this report. However, this situation is about to improve considerably through the monitoring activities planned within LIFE DINALP BEAR. There are estimated to be around 1500 bears in the entire project area in 2014, but the quality of these estimates varies between countries (see country-specific chapters below). The vast majority of these bears are in the Core Area, with only about 70 animals present in the expansion zone, out of which 41 are in the Trentino area where bears were reintroduced.

Table 1: Population estimates for bears in the project area for 2014.

Item	Slovenia	Croatia	Italy, FVG	Italy, Veneto	Italy, Trentino	Austria
Number of bears (best estimate)	478 (437 - 512 95%CI)	1000	5	4 (temporary presence)	41	3 (temporary presence)
Sex Structure	Males 40.5%, Females 59.5%	Likely more females than males	Males 100%	4M	22 M, 17 F, 2 I	3M
Method of Estimation	Mark-recapture estimate using noninvasive genetic samples, entire range sampled (2007)	Mark-recapture estimate using noninvasive genetic samples and extrapolated for whole bear range (2007)	Minimal number based on genetic data	Minimal number based on genetic data	Minimal number based on monitoring (opportunistic on damage and other systematic on rub trees), camera traps	Minimum number based on genetic data

Population goal and population level cooperation

There are currently no clear guidelines or common visions for development of a common bear management strategy, and collaboration at the management level remains poor. The initiative is starting within LIFE DINALP BEAR to change this through the project. The first step is this report.

Conflicts and conflict management

Over the entire area there are conflicts with humans and compensations are being paid, however the differences between countries are vast. In 2014 there were 414,850€ paid for compensations in 850 damage cases. A large proportion of this comes from Slovenia, 258,845€ (70.2%) paid for 597 (62.4%) damage cases. This is not unexpected since there are many bears sharing space with considerable population of humans. Damages in Croatia are remarkably low, with 14,858€ (3.6%) paid for 39 (4.6%) cases. While the money paid per damage case is close to that in Slovenia or the Friuli Venezia Giulia part of Italy, the number of the cases reported is very low. Damages done by bears in Croatia are compensated by responsible hunting right owners directly to the owners of the damaged properties. Investigation of damage cases is done by representatives of the hunting organizations and owners of the property and they agree on the value of compensation. If they cannot agree the court process is initiating. Because state does not cover damage compensations, reporting of damage cases to the responsible Croatian Ministry of Agriculture may be incomplete. As a contrast, the damage compensations paid in Regione Veneto is several times higher than in any other area. The bear damage data is summarized in the table below. The year 2014 was a bit specific, since 24 damage cases in Veneto (24 killed cattle, 10 injured cattle, 2 donkeys and 1 goat) were caused by the bear M4.

Table 2: Damages done by bears in the project area in 2014. The data for Austria are incomplete and the amount of compensations paid is not known (the figure is not public).

Item	Slovenia	Croatia	Italy, FVG	Italy, Veneto	Italy, Trentino	Austria	Totals
No. of cases	597	39	11	36	167	20	850
No. of cases %	70.24%	4.59%	1.29%	4.24%	19.65%	2.35%	100.00%
Paid (€)	258,845€	14,858€	4,123€	47,124€	89,900€	?	414,850€
Paid (%)	62.39%	3.58%	0.99%	11.36%	21.67%	0.00%	100.00%
Paid per case	434€	381€	375€	1,309€	538€	?	
Paid per bear	542€	15€	825€	11,781€	2,193 €	?	
Cases per bear	1.25	0.04	2.20	9.00	4.07	?	
Damages by subject							
Sheep	144	1	9	7	17	7	178
Cattle	26	0		24	6	2	56
Other domestic animals	27	3 (1 pig, 1 dog, 1 ostrich)	1	3 (2 goat, 1 donkey)	27	-	71
Beehives	88	10	15	1	62	21	176
Crops	178	6			2	-	186
Orchards	103	9			38	-	150
Vegetables		1				-	1
Objects	29	8 (wildlife feeders)			15	-	52
Other	2	1 (farming deer)				incomplete data	3

All areas have implemented (or are in the phase of implementing) some sort of quick-response system (bear response team) that is used when a situation with a problem animal has to be dealt with. These activities are summarized in Table 3. For Austria and FVG region of Italy, no such activities were reported for 2014.

Table 3: Interventions in case of “bear problems” – by reasons and outcomes. The organization of bear response teams, collection of data and actions taken are different in different countries and regions, so the data may not be directly comparable.

Item	Slovenia	Croatia	Italy, Veneto	Italy, Trentino
Total Number of Interventions	331	8	9 (not effective)	55
Causes				
Bear damage	54	2	9	12
Bear in/near settlement	234	2		3
Traffic accident	39	15 (2 interventions, 15 accidents with killed bears (6 roads, 9 railroads))		2
Attack on human	0	0		33
Orphaned cub(s)		2		
Other	4	1 (illegal killing of the bear)		Cub dead 1, monitoring Daniza's cubs 4
Outcomes				
Talking with people	240	Not recorded	Not recorded	40
Averse conditioning (chasing bear away)	48	3		2
Translocation of bear	6	0		
Removal of bear, number	11	2		
Removal of attractant (garbage...)	0	0		
Other	26	0	Attempt to capture M4 bear at predation sites	
Investigation of the scene		4		
Monitoring the area		2		
Monitoring Daniza's cubs				1
Search for a bear after collision with a car.				2
Presidium of the area frequented by problematic bear.				33

Threats

There are several threats listed in different areas, however conflicts with humans are listed as foremost in most areas. Garbage conditioning / poor waste management and poor protection of property have been frequently listed. Additional threats in expansion zone are genetic isolation (in case of the Trentino reintroduction) and lack of females (reproduction) in FVG. While a case of a bear immigrating (probably from the Dinaric Mountains) in 2009 and emigrating back in 2010 has been reported, no natural geneflow from the larger population (which would require successful reproduction of the immigrant animal) has not been recorded yet.

Table 4: Threats to bear conservation and main causes of conflict with humans.

Item	Slovenia	Croatia	Italy, FVJ	Italy, Veneto	Italy, Trentino	Austria
Main Threats to Bear Conservation	Low tolerance of local residents, increasing conflicts.	Garbage conditioning (individual bears), male biased trophy hunting.	Lack of females; Habitat fragmentation, traffic accidents, disturbance through tourism.	High level of conflicts at local level caused by damages to livestock and misinformation by local media about the danger.	Low tolerance of local residents, genetic isolation.	No females; low tolerance to damages.
Main Causes of Conflict With Humans	Poor protection of property, poor handling of garbage.	Accessible garbage	Low conflict level. Few damages on sheep and beehives.	Locally, problematic and "high damaging" bears, not effectively managed.	Management of problem bears.	Unprotected beehives and sheep on Alpine pastures.

Croatia

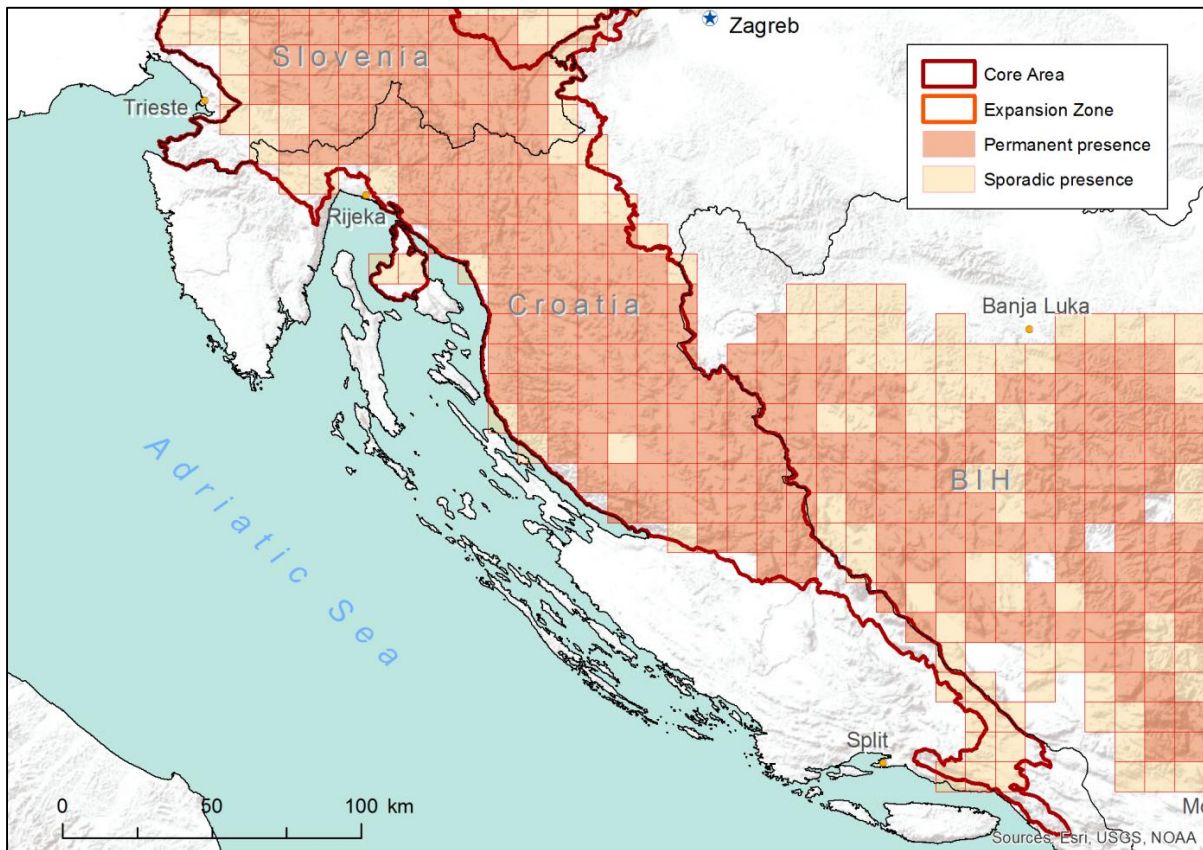


Figure 2: Brown bear distribution range in Croatia.

General Information

Distribution

The total bear distribution area in Croatia extends over 11.824 km². The permanent bear presence habitat extends over 9.253 km², while sporadic bear presence extends over 2.570 km². Bears are distributed over the entire Gorski Kotar and Lika regions, the western and southern part of the Karlovac county, the Učka and Čićarija mountains in Istria, the central and northern part of the island of Krk, the Žumberak mountains, the coastal part from Bakar to Maslenica and the area surrounded by the Kamešnica, Mosor and Biokovo massifs.

The best habitats in Gorski Kotar, Velika Kapela, Mala Kapela and Velebit, have an average density of 10 or more bears per 100 km². High population density drives frequent migration of younger males to neighboring peripheral areas of the bear range (Učka, Čićarija, Pokuplje, Priobalje, etc.). 94.2% of the permanent bear presence areas are hunting units, and 5.8% are located in national parks. In the national parks, bears are permanently protected.

Permanent bear presence habitats are areas in which bears satisfy all their food, water, space, non-disturbance, cover, breeding and denning needs and are present year-round. In those areas all prescribed protective measures are implemented in order to ensure the stability of the population. Local inhabitants accept bears as a part of their natural environment.

Sporadic bear presence habitats are areas with a sporadic presence of bears or areas in which the number of bears does not guarantee the continued existence of the species, or where bears do not den regularly. These are habitats to which bears are returning and which are usually connected to permanent bear presence areas in Croatia, Slovenia, or Bosnia and Herzegovina.

Bears occasionally cause damage in these areas. Within the sporadic bear presence habitats are areas where bear presence is desirable and areas in which bear presence is undesirable, which is reflected in the management regime.

Population estimates & monitoring

The current estimate of the number of bears in the Croatian segment of the Dinara-Pindos population is about 1000 individuals. (Kocijan and Huber, 2008). This is still the best available estimate for 2014. The number has been obtained by genotyping 547 bear scat samples collected in 3 study areas: 9378 km² Gorski Kotar North, 1000 km² Gorski Kotar South, 998 km² Velebit (about 30% of bear range in Croatia), where a minimum of 210 different individuals were genetically determined. Those data were analyzed through mark – recapture modelling and “Rarefaction” curve calculations, and then extrapolated across the entire bear range in Croatia. Resulting estimates had a relatively large margin of error but also indicated that at least 1000 bears were present.

In addition to the genetic approach, coordinated bear counts from high stands at feeding sites are done during pre-specified days in spring and autumn. These counts are envisioned in the Bear Action Plan and are used to determine population trends. Monitoring also includes a full record and samples of each dead bear (from hunting, traffic mortality and other causes of death), and data from satellite telemetry research.

A large noninvasive genetic study of population size is being organized in 2015 within LIFE DINALP BEAR together with Slovenia. The study should provide a precise abundance estimate and a reference point for future brown bear monitoring.

Legal status & relevant management agencies

Brown bear in Croatia is a game species. With accession to EU in 2013 it also became a “strictly protected” species. The main management agency for bears in Croatia is the Hunting unit within the Ministry of Agriculture. Since the bear became a protected species, the management is shared with the Directorate for Nature Protection within the Ministry for Protection of Environment and Nature.

The operational management follows the Brown bear management plan for the Republic of Croatia. The Brown bear management committee prepares the yearly Action plan and supervises the implementation. The Bear Response Team helps with the actions in the field including the management of bears showing problem behavior.

In the last four years quota for bear hunting has been set to 100 to 120 bears plus up to 30 or 40 individuals expected to be lost due to other reasons including the intervention removal of problem ones. In 2014 the quota was 120 for hunting plus up to 30 for other losses. The outcome was 117 hunted and 24 lost by other means: 9 on railroads, 6 on roads, 1 poached, 1 killed by other bear, 1 of unknown reason, 2 intervention removal and 4 shot outside the bear zone. On multi-year average only 83% of hunting quota has been fulfilled and other losses were also lower than anticipated (77%).

Population goal and population level cooperation

According to the management plan the total habitat capacity is around 1100 bears and the social capacity (acceptance) may be around 900. Currently both have been reached and active management has to keep the population within the given limits.

Bears in Croatia are part of the Dinaric-Pindos population and are directly shared with neighboring Slovenia, Bosnia and Herzegovina. With Slovenia there is full cooperation on the level of scientists, while the political agreement and collaboration in management is still lacking. Intensive activities are planned within LIFE DINALP BEAR to overcome these difficulties. With Bosnia and Herzegovina the main difficulty is in the lack of capacity and in political situation in that country.

Conflicts and conflict management

Current conflict levels are surprisingly low. The acceptance of bears is on average very good. The extensive surveys in 2002 and 2008 showed that 86% and 72%, respectively, respondents living in the bear range would agree with increasing bear numbers in Croatia (Majić et al 2011). That is mainly related to the status of bears where maintenance of large population secures income through hunting. Continued tradition of living with bears makes coexistence easier as local inhabitants know how to minimize the livestock depredation and destruction of beehives. The damages that occur are compensated by hunting organizations that are in most cases comprised by local inhabitants as well. Hence the total amounts paid per year are very low, on average about 6000 €, or only 6 €/bear/year. Comparably low bear damages can only be found in Sweden (3.6 €/bear/years), while on the other extreme is Norway where one single bear causes twice as much damage as 1000 bears in Croatia (12,666 €/year/bear).

The Brown Bear Management Committee and the Bear Emergency Team are the bodies that care for the implementation of the Brown Bear Management plan (Huber et al 2008) and the implementation of the yearly Bear Action Plans. That work includes decisions on the size and distribution of hunting quotas and on emergency removals of problem bears after other measures have failed.

Threats

The current situation with bear population segment that lives in Croatia is very favorable and the potential threat may only be the events that would change something in the ever fragile balance between any large carnivore and humans. The immediate problem was the forced change of bear status from “game” to “strictly protected” by EC decision. Efforts were taken to mitigate the negative effect on the public acceptance and to prevent the explosion of damage compensation requests. The quota hunting continued smoothly through “derogations”, and the bear-caused damages are continued to be paid by hunters.

Another issue is to prevent habituation of bears to human food sources through timely actions such as negative conditioning and removal of habituated individuals.

There was extensive construction of major new infrastructure (highways) in the bear habitat over the previous decade but these seem to have been satisfactory mitigated by numerous crossing structures including big green bridges (Kusak et al 2009). A future threat may be the planned construction of “wind power parks” in the core bear habitat, especially in the critical denning zones (Huber and Roth 1997).

Situation and events in 2014

Population size and trends

The estimate of the population size has not changed – it is still estimated at approximately 1000 bears.

Management decisions

Following the standard decision-making procedure, hunting quota has been set as 120 plus up to 30 for other causes of mortality.

Special events

There were no exceptional special events in 2014.

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Slovenia

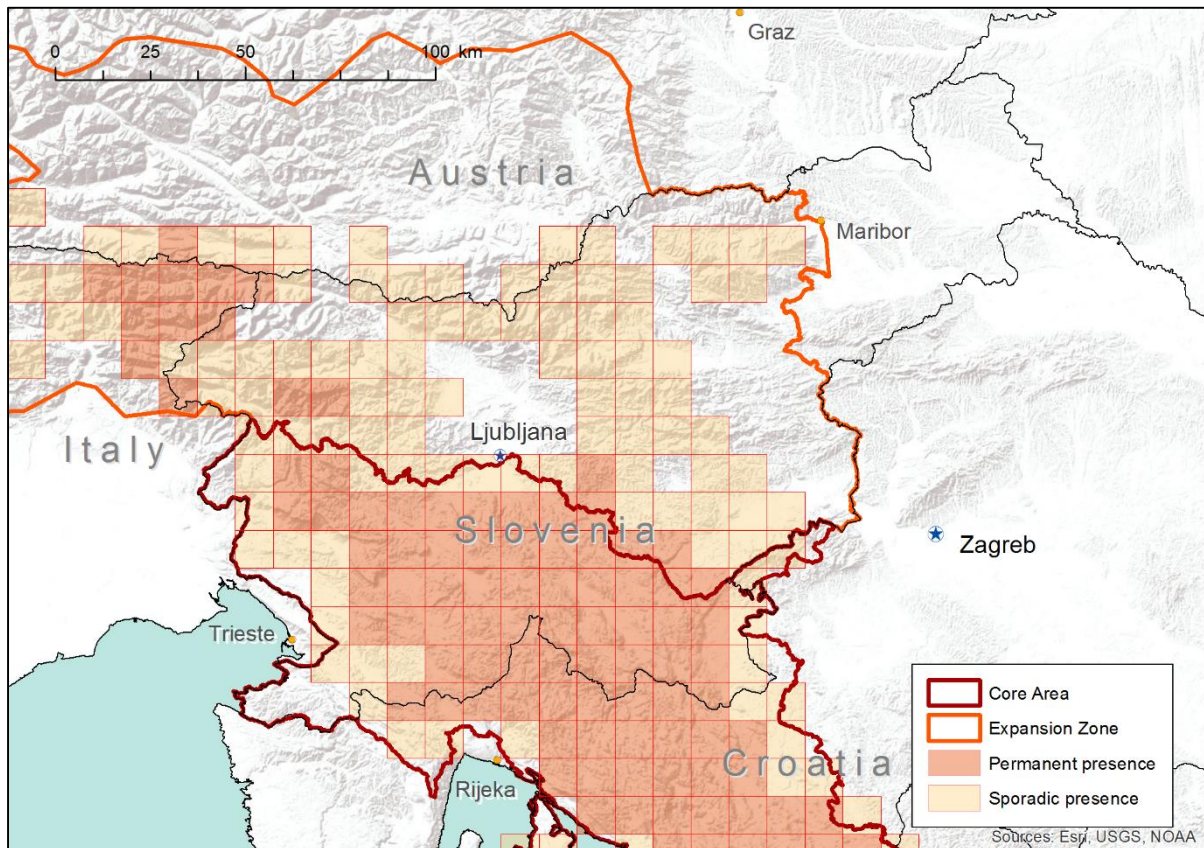


Figure 3: Bear distribution in Slovenia.

General Information

Distribution

Bears in Slovenia are the northern edge of the large Dinaric-Pindos population. The majority of bears in Slovenia are found in the south of the country, next to Croatian border, south of Ljubljana – Trieste motorway and Sava River. The population density of bears NW of this highway is considerably lower, but some bears are permanently present, and there are frequent occurrences of bears in the Julian Alps and the pre-alpine regions. North of Ljubljana and Sava river bears appear rarely, and are typically dispersing juvenile males.

Populations estimates & monitoring

The population size was last estimated in a high-intensity noninvasive genetics CMR study in 2007 which covered the entire area of permanent bear presence in Slovenia. The population size in winter, after the yearly cull and before the new generation of bears was born in the spring (the lowest yearly number), was estimated at 440 (396-480 95% CI).

Bears are also routinely monitored through yearly systematic observations at feeding places (352 feeding places monitored simultaneously) and through population reconstruction using age data of culled bears. The population is considered stable.



Legal status & relevant management agencies

Bear is considered a strictly protected species in Slovenia, and its management and conservation is the responsibility of the Ministry of Environment and Spatial Planning. There is a yearly cull quota which is based on expert opinion by Slovenia Forest Service, which is discussed and modified by the Large Carnivore Management Advisory Board, which consists of representatives of various stakeholders. On basis of this the “exceptional cull” is allowed through a decision by the competent minister.

Population goal and population level cooperation

The management goal is to keep the population size stable and minimize conflicts with humans. The population is conserved mainly in the bear core area, except potentially in some “corridors” towards Austria and Italy, if decided so (not precisely defined what this means). However, bears are not supposed to be permanently present in these “corridors” according to official management strategy, although at present there is no regular hunting there (only so called management removals of problem individuals).

Considerable efforts have been made to improve transboundary cooperation in bear management. These goals are planned to be realized within LIFE DINALP BEAR.

Conflicts and conflict management

There are regular conflicts with agriculture and occasional bears wandering into villages or even cities which create considerable fear among local residents. There have been infrequently injuries of humans, however no fatalities have happened in the last couple of decades. Damages to property are being systematically compensated, but the compensation system has been criticized as it does not stimulate people to invest in protection (compensations usually exceed commercial value of the destroyed property). A “Bear Response Team” has also been organized which deals with problem bears and immediately reacts to concerns expressed by people in the bear area. However, any other actions preventing conflicts (e.g. bear-friendly garbage management, removal of “bear attractants” from the environment etc.) are sorely lacking.

Threats

The main threats are habitat fragmentation/loss through urban sprawl and development of traffic infrastructure. A considerable threat is also traffic (automobile or train collisions) which causes significant bear mortality on a yearly basis. An indirect, but very serious threat are conflicts with humans and destruction of their property, as this lowers the support for bear conservation and increases demands for high cull quotas.

The culling quota in the last 10 years varies between 60 and 90 animals (with the exception of the season 08/09). The quota in the last years is similar to what it has been over the past decade. In 14/15 the number of killed bears was the highest recorded in Slovenia

Situation and events in 2014

Population size and trends

The population size estimate from 2007 is not reliable anymore since too much time has passed. Jerina & Krofel (2012) estimated on basis of population reconstruction using dentin-layer aging of killed bears that up to 2012 the population size should have remained approximately the same.

Management decisions

A culling decision was made for the period 1 October 2014 until 30 September 2015. Culling took place until 30 April 2015.

Bear cull was precisely specified by weight categories spatially precisely distributed. The planned cull was 89 bears, 57 below 100 kg, 21 weighting between 100 and 150 kg, and 11 above 150 kg. Other mortality (traffic, natural death etc.) is not part of the quota.

Special events

A speleologist was injured by a brown bear when entering a cave on 7 April 2015. The person received light injuries and was positive about the accident.

Italy

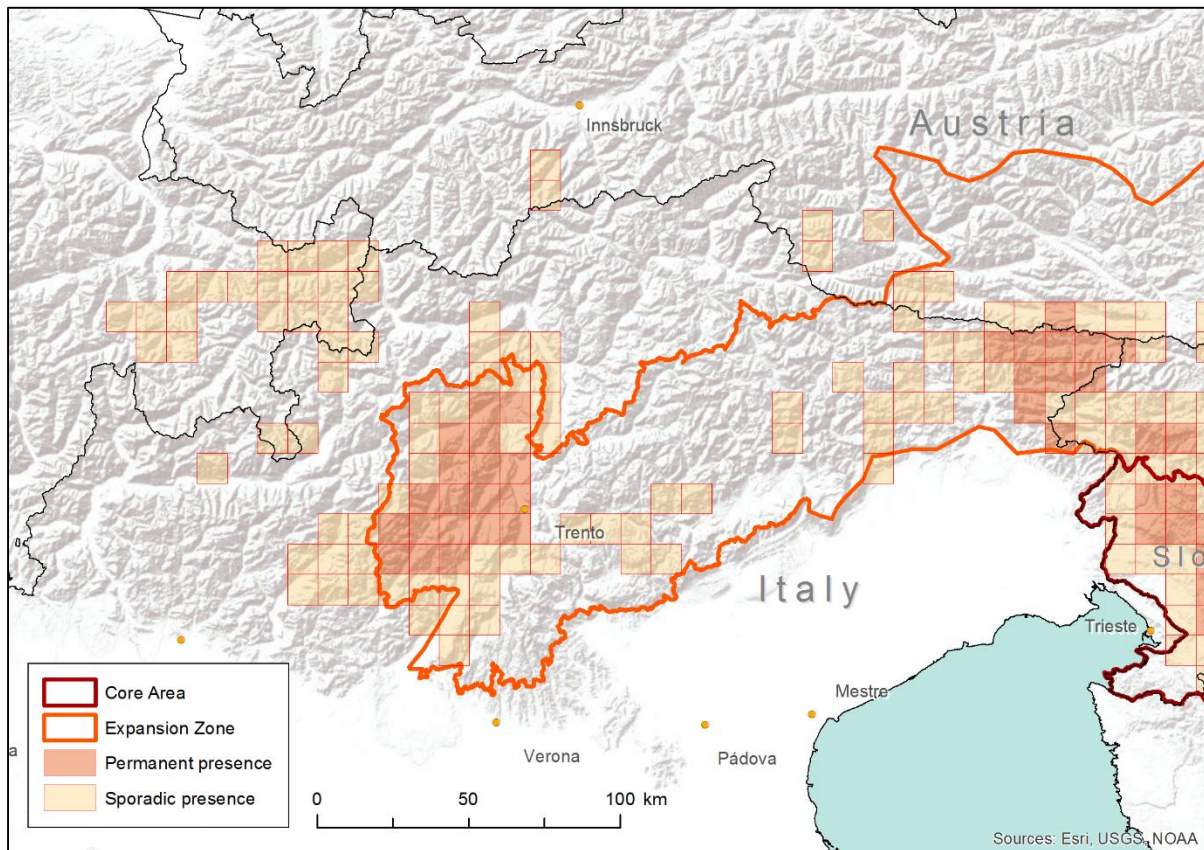


Figure 4: Brown bear distribution in Northern Italy.

General information

Distribution

Bears in Italy are found in 2 populations, the autochthonous Central Apennine and the re-introduced Alpine population in Trentino. The autochthonous population in the Apennines is outside of the project area, completely isolated and will not be treated in this report.

In Trentino the female area covers 958 km² in and around Adamello-Brenta Natural Park. The resident range is more or less stable, the range of the dispersers increasing. Additionally, there is a third nucleus in the eastern Italian Alps which is part of the expanding Slovenian population and partially from expanding individuals from Trentino. This occurrence is distributed in the region of Veneto and Friuli VG, where bears are permanently present.

Populations estimates & monitoring

The minimum estimate for the Trentino bear population is 41 individuals, and the population trend is clearly positive, but apparently stable in the last two years. Monitoring is done by Forestry service personnel, park staff and Museum of Science staff. In Friuli VG in 2014 five different bears (all males) have been detected through genetic sampling. The monitoring is done by the regional and national forest service staff, Progetto Lince Italia and the University of Udine.



Legal status & relevant management agencies

Bear management in Italy is fully decentralized at regional and local (i.e. provincial and regional) level. The bear is fully protected in Italy. A management plan was drafted by a team of experts (neither the public, nor stakeholders have been involved) for the Ministry on Environment, the Regional governments and the authorities of the protected areas, but has no legal or jurisdictional value.

The Trentino population falls under the jurisdiction of the Forestry and Wildlife Department of the Provincia Autonoma di Trento. Management involves the public and all stakeholders on the highest level possible. The management of bears in Trentino is not depending on single projects; it is carried out since the 1970' as part of ordinary wildlife management.

Population goal and population level cooperation

The goal for the Trentino population is a MVP of ~60 individuals and to connect the small and isolated Alpine population with the large Dinaric-Pindos population. So far, one bear is known to have moved from Trentino to Slovenia. International cooperation occurs through the Alpine Convention and other international networks.

Conflicts and conflict management

Conflicts exist over livestock depredation and destruction of beehives. In Trentino, compensation is paid by the Forestry and Wildlife Department after inspection and confirmation by own, specifically trained personnel. 100% of the market value is paid. In Trentino, additional funds are available by the Forestry and Wildlife Department for prevention measures such as electric fences, livestock guarding dogs and shelters for shepherds in the mountains.

Threats

Trentino: Despite the positive trend, livestock depredation and the occurrence of problem bears (bears approaching human infrastructure & settlements in search of food) is still challenging local acceptance of bears. Thus the importance and necessity to improve: 1.) quantity and quality of information, and 2.) efficiency in removing problem bears is regarded a critical success factor.

Friuli VG: there is a low conflict level with only a few damages.

Situation and events in 2014

Population size and trends

The monitoring season 2014 (13th year of successive genetic monitoring) on brown bears in Trentino-Italy pointed out that the population has an essential stability in the last two years, with a minimum population presently estimated to be 41 (max 51) individuals with 5 litters genetically recorded in 2014 (11 cubs).

Trentino is still the only region in the Italian part of the project area where reproduction is reported.

Management decisions

In 2014 the process of updating the National Action Plan PACOBACE, begun in 2013, is still underway. Ratification of the new text by the Lombardia region is still awaited. This will be followed by approval from the Ministry of the Environment.

Special events

The case of female bear named “Daniza” received considerable media attention in 2014. On 15 August, above the village of Pinzolo in the Val Rendena, a mushroom picker inadvertently arrived just a few meters from Daniza (aged 19) resting together with two cubs of the year. The man immediately began to move away, but was followed and attacked by the bear. It was decided to capture the bear (already collared) for reasons of public safety, following an order of the President of the provincial government. The Ministry of the Environment and ISPRA confirmed the decision, as it had been made in accordance with the provisions of the National Action Plan PACOBACE. This was followed by around three weeks of attempts at capture using a tube trap. On 10 September Daniza was captured through “free ranging” application of tranquilizer, but died during the anesthesia.

During 2014 5 cases of false attacks have also been recorded (3 females with cubs and in two cases a male that was with a female during the breeding season).

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Austria

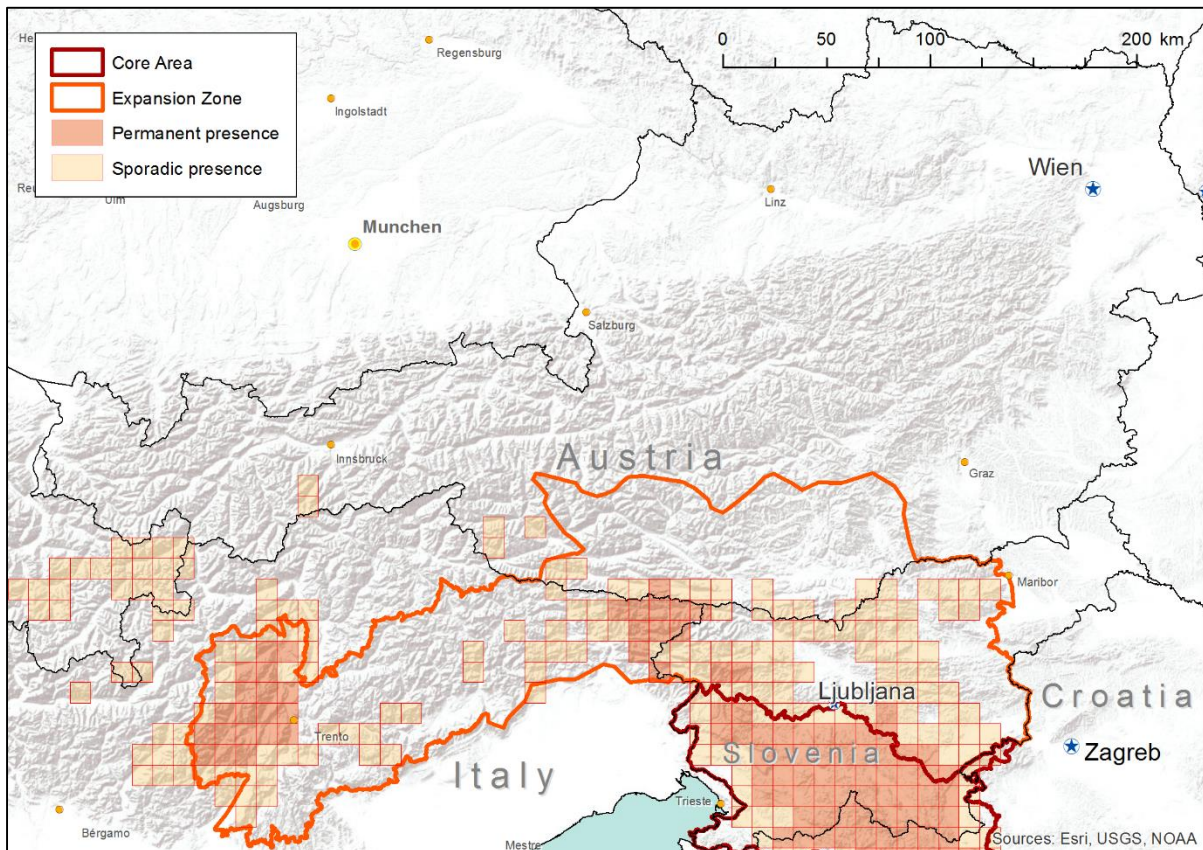


Figure 5: Bear distribution in Austria.

General information

Distribution

Bears in Austria are part of the Alpine bear population, but are presently only found in southern and western Austria along the border to Slovenia, Italy and Switzerland. No reproduction has been confirmed in this area and so far all animals that were individually identified have been males, either originating from the Slovenian or the re-introduced Trentino bear population.

Between 1989 and 1993 three bears (2 females and 1 male) were re-introduced to the Northern Limestone Alps in central Austria where a single migrant male bear had settled in 1972. Between 1991 until 2006 a minimum of 31 cubs was produced. However, genetic monitoring which was started in 2000 finally revealed that the population never reached more than 12 individuals (1999) and that most cubs disappeared already as a yearling or two-year-old bear (Kruckenhauser et al. 2008). By 2011 the last descendent of the released bears had finally disappeared and the population is now formally considered extinct. The most likely explanation for the disappearance of this small population is illegal killing in combination with the small population size.

Population estimates & monitoring

Population size of the bear occurrence in Austria is difficult to provide as long-distance dispersers from both the Slovenian and the Trentino bear population seem to move in and out of the border region. It is probably realistic to assume that ~5 different male bears may visit the southern Alps of Austria within the course of a year (in 2013 and 2014 four and three individuals, respectively, were detected by genetic monitoring). Presumably no bear is staying permanently in Austria; the official estimate for Carinthia has been 6-8 bears for the last couple of years, but this is a guestimate rather than based on hard facts.

Bear signs reported by third parties are inspected and documented by three wildlife professionals, the so called “bear advocates”. All bear signs, except from the province of Carinthia, are entered into a central database and rated according to the re-fined German SCALP criteria (Kaczensky et al. 2009). Bear monitoring is heavily based on genetic monitoring since 2000 (Kruckenhauser et al. 2008).

Legal status & relevant management agencies

In Austria the bear is mainly subject to the hunting law, but enjoys a year-round closed season. Responsibility for protecting species in accordance with the Habitats Directive lies with the hunting and nature conservation authorities of the provinces. A Coordination board for bear, wolf and lynx management in Austria (KOST) - composed of representatives of the hunting and nature conservation authorities of the provinces, the bear advocates and representatives of selected stakeholders - meets twice a year to review and discuss management issues regarding large carnivores in Austria.

The first bear management plan for Austria was published in 1997 and revised in 2005 (Coordination board for Bear Management in Austria 2005). The target of the Austrian bear management is “to protect brown bears in Austria and to establish and maintain a viable population in a favorable conservation status, with special emphasis on a peaceful coexistence of humans and bears and the creation of necessary conditions to connect existing populations to allow the bears to expand into suitable habitats” (Coordination board for Bear Management in Austria 2005).

Population goal and population level cooperation

There are no explicit population goals for bears in Austria. Habitat modelling shows a high habitat suitability of the Eastern Alps (Austria, NE Italy, Germany & N Slovenia) and suggests a habitat capacity for a minimum of 518-686 mature bears (1228-1625 individuals; G thlin et al. 2011).

Monitoring within Austria is coordinated by the bear advocates. Genetic monitoring is closely coordinated with the neighboring countries so that individual bears can be identified and backtracked to the respective source population (Karamanlidis et al. 2009). Furthermore, there is and always has been close cooperation on the technical level with colleagues from neighboring countries e.g. cross-border tracking of radio collared animals. On the political level cooperation is happening within the framework of the Alpine Convention. However, there is no formal population level management or even a commonly expressed goal.

Conflicts and conflict management

The main conflicts with bears are over 1) damages caused by bears to bee-hives and to free-ranging livestock on Alpine pastures (~130,000 sheep / goats and ~300,000 cattle graze with minimal supervision on Alpine meadows over the summer months) and 2) actual or perceived impacts on hunting (bears visiting ungulate feeding sites spooking game and raiding feed, bears killing red deer in winter enclosures or at feeding sites, hunters risking close encounters).

Damage compensation is paid for destroyed beehives and confirmed livestock kills. However, compensation payments are “voluntarily” (no legal right for compensation) and in most provinces they are covered by the hunting associations through the hunting insurance. Compensation payments do not cover additional labor costs. Because of the expansion of the wolf population in the Alps, a pilot project for damage prevention in sheep grazing on Alpine pastures has been launched in 2012. The program includes the testing of fencing, herding, and livestock guarding dogs in 5 pilot areas (in two areas the program has been started so far).

Game killed by bears or damages to hunting infrastructure (e.g. feeding sites) are not reimbursed.

Re-introduced bears seem to have been perceived by local people as “artificial” and “belonging to WWF”. The official policy by the Austrian hunters associations is that they oppose any re-introductions, but welcome bears that arrive naturally.

Threats

The re-introduced bear population in central Austria became extinct, the situation in Carinthia is stagnant, but dispersing male bears from Trentino are increasingly reaching Western Austria. Illegal killings seem to be a problem, although a proof is extremely difficult to obtain (Krukenhauser et al. 2008). The latest case was the radio collared male bear *Rožnik* who dispersed from Slovenia into the Austrian province of Carinthia in May 2009. Three days after having crossed the border into Austria for the first time the collar stopped. Twelve days later the carcass was found by locals on the Slovenian side of the border and an autopsy confirmed the bear had been shot (Kaczensky et al. 2011). Another case was detected in Central Austria in 2007, 13 years after the bear has been shot.

Situation and events in 2014

The general situation of bears in Carinthia and in the whole of Austria did not change in 2014. There is no trend visible in the number of bears present and the number of damages recorded. However, there was one event in the province of Salzburg, just adjacent to Carinthia, which needs further attention. A farmer and hunter claimed to have been attacked by a bear at a mountain pasture. He had a minor laceration at his left cheek and his dental prosthesis was broken. In his story, he met the bear at a distance of 20m. He started to retreat by going backwards and the bear was following keeping the same distance. He stumbled and fell on his back. When he tried to get up again the bear was suddenly close and slapped him into the face. After that the man played dead and the bear toddled off after sniffing shortly at his feet.

The wound did not look like an injury caused by a bear paw. There were no scratches by the claws and the whole injury was insignificant. The whole story was not conclusive. No reason was discernable for the bear to act aggressively and curiosity seemed to be a better explanation. There was no bear sign at the site and no bear hairs could be found at the barbed wire of the fence around the meadow. Furthermore no bear signs were found this year in the broader surroundings, including the whole province of Salzburg and the Northern part of Carinthia.

The investigation of the bear advocate and an additional bear expert came to the result that this story is unlikely to have happened. But there was also no way to prove it wrong. So the whole story remained uncertain. The public reaction on this potential attack was quite relaxed. Many people did not believe the story. The advice of a provincial politician to avoid this region for hiking was heavily opposed by touristic managers and not taken seriously by the public.

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