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N OBODY will ever know why Slavc abandoned his family. But in the winter of 2011, the young male wolf left his home territory and began an epic trek. He had spent the first years of his life meandering through the forests of southern Slovenia, occasionally straying into Croatia. Then, as Christmas approached, he struck out towards the north, alone.

Slavc was one of an estimated 4000 wolves living on the Balkan peninsula of southeastern Europe, a continent not usually known for its big, fierce predators. Twenty years ago that was quite right, but no longer. Europe – the most urbanised, industrialised and farmed continent on Earth – is now home to some 12,000 wolves, 17,000 brown bears and 9000 Eurasian lynx. To put that in perspective, there are as few as 32,000 lions left in Africa and fewer than 2000 tigers in India.

The return of Europe's big three is an uncelebrated conservation success story. But as these charismatic mammals recolonise places they disappeared from long ago, age-old tensions between man and beast are starting to return. Can humans and wild predators really live alongside each other in harmony in Europe?

Several months before Slavc left home, ecologists had fitted him with a GPS collar programmed to send its position seven times a day. By the middle of December, it was clear he had left home for good.

"We knew something was different because he had crossed two large motorways far outside his home territory," recalls Hubert Potočnik, a biologist at the University of Ljubljana in Slovenia. At one point the collar pinged a signal from the centre of a town called Vipava. Potočnik was worried that the wolf had been shot. But just as he was about to call the police, another signal showed that Slavc was on the move again.

A week later, having travelled some 200 kilometres north, Slavc crossed into Austria. On New Year's Eve he reached the river Drava. That night Potočnik received two signals, one from the south bank and one from the north. Slavc had swum across the river.

Bears, wolves and lynx were once widespread across Europe – including the British Isles – but centuries of hunting, persecution and habitat destruction took their toll. Reliable numbers are hard to come by, but by the mid-20th century, the big three had effectively been exterminated everywhere except for small, precarious populations on the continent's wildest fringes.

In the 1970s, however, there was a U-turn in attitudes. The environmental movement raised awareness of the predators' plight and laws protecting them came into force.

By happy coincidence, changes in land use after the second world war – particularly reforestation – led to a boom in the prey species on which carnivores depend. "The carnivores didn't hang around," says John Linnell of the Norwegian Institute for Nature Research in Trondheim and a member of the International Union for Conservation of Nature's Large Carnivore Initiative for Europe. "They just said 'thank you'."

As well as natural expansion there were also some deliberate reintroductions – lynx to several areas of central Europe in the 1970s and 1980s, for example, and bears to the Pyrenees and Italian Alps in the 90s. With a few exceptions, populations are now stable or growing (see maps, page 43).

Wolves in particular continue to recolonise former territories. In 2012, birdwatchers in Thy National Park in northern Denmark reported seeing the first wolf in the country for some 200 years. A few weeks later it was found dead, apparently from natural causes. DNA analysis showed that it had come from a pack inhabiting the borderlands between Germany and Poland, almost 1000 kilometres away.

But it hadn't come alone. It is thought that there are now at least three wolves in the country. And if wolves can re-establish themselves in the fragmented habitat of Denmark, they can probably do it anywhere.

# **Hiding in the dark**

One of the challenges of counting large carnivores is their secretive and mainly nocturnal nature. "These animals are masters at being there but not being seen," says Linnell. "Lynx, especially, are invisible." In a 20-year career he has only ever seen lynx while capturing them to fit radio collars.

As a result, there are arguments over how many animals are actually out there. Head counts are impossible so researchers have to make use of indirect methods, which usually means working with faeces. "You pick up a piece in the woods and you go home and work out which species, which sex, which individual it is," says Linnell.

Slovenia, for example, has a network of some 2500 foresters, hunters and



A wolf in Slovenia

wolves approach a

with a GPS collar (left);

bear in Finland (below)

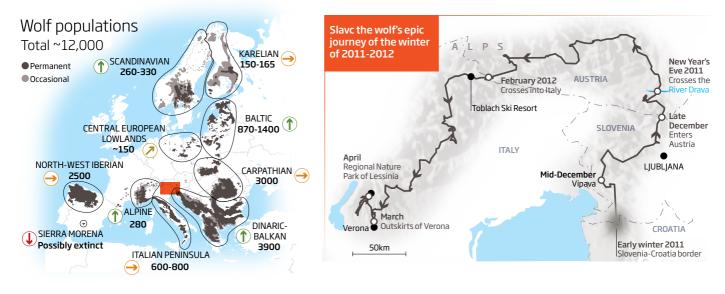
9 August 2014 | NewScientist | 41

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# Numbers of the beasts

Europe is now home to approximately 40,000 large predatory mammals

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volunteers who collect scats, urine and other samples such as hair and saliva swabbed off dead livestock and send them to Potočnik's colleague Tomaz Skrbinsek. By analysing the DNA, it's possible to estimate population size. The latest data suggests that the country's wolf population has remained stable over the past three years, at around 40 to 50 individuals in nine or 10 packs.

GPS readings like those from Slavc's collar yield other insights. "Everyone thinks these animals live in the forest and they don't move," says Linnell. "Yet every time you put on a collar and track them you find these animals cover huge areas." A single lynx, bear or wolf can cover 1000 square kilometres or more.

In heavily populated Europe, that inevitably means coming into contact with people. As the Large Carnivore Initiative for Europe's manifesto puts it: "wild areas without human land-use or activity... are virtually non-existent in Europe".

That seems to suit the animals just fine. "I don't think there's anywhere they couldn't live if they were allowed to," says Linnell. Even cities aren't off limits: in Brasov, Romania, bears make frequent, bold visits to gorge themselves on garbage. In 2008, a 20-year-old man was killed by a bear in the city centre.

As Slavc headed across Austria, through farmland, villages and around the edges of towns, Potočnik became increasingly anxious that he would have a run-in with farmers.

The concern is a real one, especially for wolves, which have the biggest impact on livestock. Bears and lynx will also take livestock, but because they are solitary and only tend to pick off one animal at a time they don't generate the same hostility.

The impact can be costly. Exact numbers

are impossible to obtain but unofficial estimates suggest that between 50,000 and 100,000 livestock, mostly sheep, are killed each year. Bears also cause costly damage to bee hives, orchards, vehicles and buildings. "The situation is getting worse," says Pekka Pesonen, secretary-general of Copa-Cogeca, the voice of farmers in the EU.

# Fences and guard dogs

Governments pay out millions of euros a year in compensation for these losses, which may explain why initiatives are being rolled out across Europe to encourage farmers to reintroduce old methods of protection, notably fences, guard dogs and shepherds.

There are, however, limitations to these measures. Putting up fences in mountainous or forested terrain is impractical, electric



## **KNOW YOUR WILD BEASTS**

### EURASIAN LYNX (see left)

(Lynx lynx)

A medium-sized cat distributed patchily across Eurasia from the western Alps to Siberia. Adult males are about the size of a golden retriever. Not to be confused with the critically endangered Iberian lynx, which is confined to southern Spain. Danger to humans? No. Best place to see: A zoo. In the wild the best you can realistically hope for is to see tracks in the snow.

### **EURASIAN BROWN BEAR**

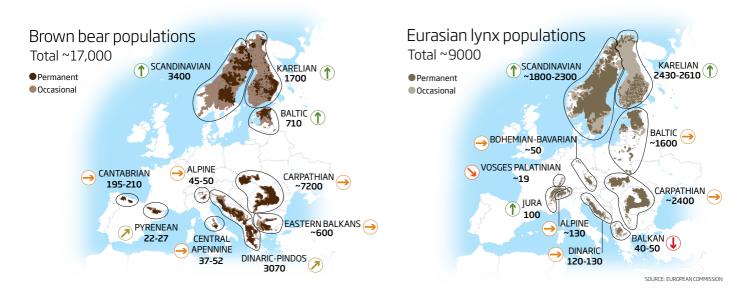
(Ursus arctos arctos) Europe's largest native carnivore, though it eats fruit, nuts, vegetables and honey as well as meat. An adult male can weigh up to 320 kilograms. Danger to humans? Yes. Attacks are rare but do happen, mostly in Romania. Best place to see: Eastern

Finland, close to the Russian border, where close-up views are possible in special bear hides.

### **EURASIAN WOLF**

(Canis lupus lupus) Europe's most widespread and successful large mammalian carnivore, and also its most controversial.

Danger to humans? Yes. Though Western Europe hasn't seen an attack by a wild wolf for decades. Best place to see: The plains and wetlands of central and north-west Spain, home to a population of about 2500 wolves.



fences require monitoring and there are labour costs associated with shepherds and guard dogs. In Italy, there is strong resistance from farmers to implementing such measures. "Some of them refuse out of principle," says Valeria Salvatori of the Institute of Applied Ecology in Rome, who is also a member of the Large Carnivore Initiative for Europe.

Pesonen puts it more bluntly. "By no means should farmers accept the costs resulting from the presence of large carnivores," he says.

Another group with strong views is hunters. Some have a sense of empathy with their fellow predators; a few want to hunt them. As a general rule, however, most express concern about competition for game species like deer.

Sometimes tensions boil over. Last year, a group of men in rural Finland organised an illegal wolf hunt in protest at what they saw as preferential treatment for the carnivores. They killed three wolves before they were stopped; the ringleader later shot himself. His suicide note blamed his death on the green movement and the EU.

Such illegal hunting is quite widespread, says Linnell. Again there are no numbers, but there is some evidence that poaching in the Alps may be causing lynx, bears and wolves to decline. The same may be happening to Finland's wolves, he says.

In recognition of these growing tensions, in June the EU launched the Platform on the Coexistence between People and Large Carnivores, a forum to promote dialogue and understanding.

In some cases that means taking difficult decisions. Carnivores are heavily protected by European law: with the exception of Estonia, where lynx hunting is permitted, it is illegal to kill a bear or a lynx anywhere in the EU. Wolves are a different story. They are protected, but strictly controlled culls are carried out in many countries to keep the population stable.

For many people this might seem like a backward step. But such intervention can benefit wolves, says Cy Griffin, director of conservation at FACE, the European Federation of Associations for Hunting and Conservation. It can also serve a political purpose, he says. "The controlled management of some of those populations is going to be a very useful tool for easing some of those tensions."

The Large Carnivore Initiative for Europe agrees. "As long as hunting is humane, regulated and sustainable then it may well be the price of acceptance," says Linnell.

For Garry Marvin, an anthropologist at the University of Roehampton, UK, who studies conflicts between animals and

# "There is no creature in Europe as emotionally charged as the wolf"

humans, co-existence is possible. "I think we can live with large populations of wolves in Europe," he says. "The trick is to bring together the environmentalists, the biologists, the hunters and the farmers and get them to talk."

"There is no creature in Europe that is so emotionally charged, both for it and against it, as the wolf," Marvin continues. "It's one of the big tests of how you can get a proper conservation programme going. If you can do it over the wolf, you can do it over anything."

Somehow, Slavc managed to navigate his way to the Alps without getting into trouble.

In February he battled through 6-metre-deep snowdrifts to cross a mountain pass. Soon afterwards he entered Italy, crossed several ski runs and then headed south.

By now Slavc's travels were well known to Potočnik's colleagues in Austria and Italy. In March a forestry official sent him a video of a wolf in the Regional Natural Park of Lessinia north of Verona – the first sighting of a wolf there for almost 100 years. It wasn't Slavc, but a female. "We started joking that Slavc was on his way to find her," says Potočnik.

But Slavc bypassed Lessinia and continued into the vineyards on the fringes of Verona. What drew him was probably a female wolf in a private zoo on the outskirts of the city. Unable to break in, Slavc loped back north.

In April, Slavc finally entered the Lessinia park. Potočnik asked a park manager to check out a couple of GPS coordinates. She found the tracks of two wolves. Later in the year a camera trap photographed two wolf pups, the first time in recorded history that a wolf from the Balkans had bred with a wolf from the Apennines. With such a powerful love story set so close to Verona, it was inevitable that the Italian media would name the female Juliet.

Slave's collar ceased transmission in August 2012 so Potočnik can no longer keep regular tabs. But his excitement is undiminished. As far as he can tell, Slave and Juliet are still together. "They probably have another litter this year," he says. "Following Slave across Europe offered a rare insight into the secret life of the wolf. It was one of the most amazing events in my life."

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