

# 2013

## Development of Wolverine EEP

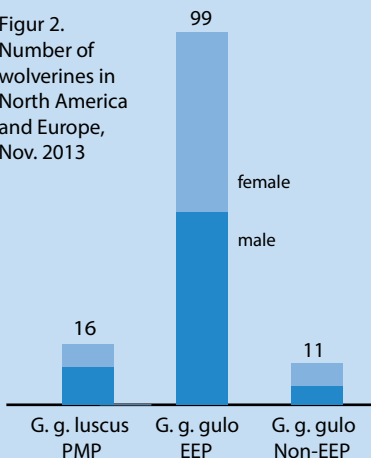
Leif Blomqvist, EEP co-ordinator



Wolverines breed at the coldest time of the year, in February and March. Six litters were born as part of the breeding programme in 2013.

PICTURE TOM SVENSSON

Figur 2.  
 Number of wolverines in North America and Europe, Nov. 2013



*Correction: At the close of 2012 it emerged that Moscow Zoo held 9.8 wolverines instead of the 9.9 previously stated, and that 1.1 remained at Springe, not 1.2 as stated (Blomqvist 2013). The total number of wolverines in the EEP at the end of 2012 was thus 48 males and 47 females instead of 48.49 animals as given in the annual report for 2012.*

### Development of the population in 2013

With hindsight, one can say that by the end of the year there had been a positive development in the wolverine *Gulo g. gulo* population within the framework of the European Endangered Species Programme (EEP). Six litters produced in all 14 kits with an unfavourable sex ratio of 10.3:1. As two of the youngsters died, the survival rate for the 2013 kits was 85 per cent. It is worthy of mention that a wolverine litter was born in France for the first time, with a pair at Calviac producing a female kit.

The most significant event of the year was without doubt the arrival of a wild-caught young individual at Moscow Zoo. During 2013 it was also established that the female that arrived in Novosibirsk from Ekaterinburg in 2007 belonged to the sub-species *Gulo g. gulo* and could therefore be included in the EEP Programme (Table 1). The table also reveals that 12 recommended

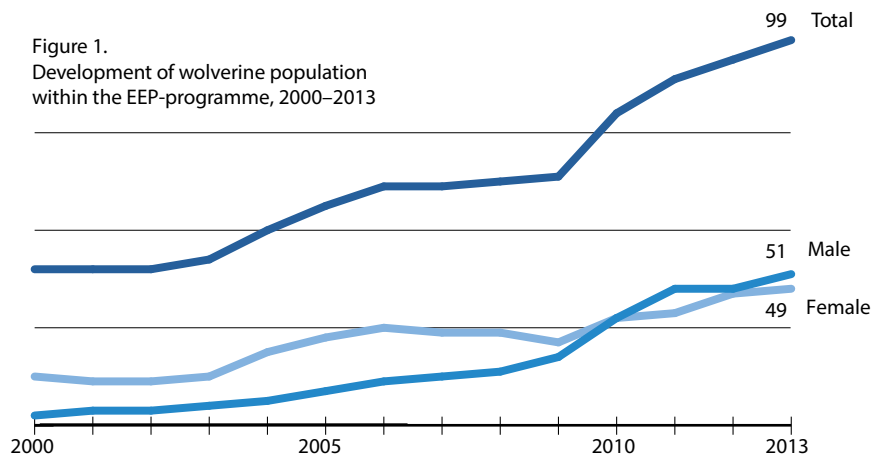
transfers took place within the EEP, while one wolverine left the programme. The wolverine pair in Edinburgh were moved to the Highland Wildlife Park, while Helsinki and Riga lost their last wolverines. In Europe, three new parks joined the EEP: Cézallier, Hluboká and Kingussie.

Since three parks lost their wolverines, the number of parks participating in the EEP was 36. As well as the year's two kits that did not survive, 7.3 adult animals died during 2013 and the number of wolverines in the EEP Programme therefore grew by 3.1 animals. The total EEP population was consequently 51.48, with a further 5.6 wolverines that are not part of the breeding programme located in six parks in Russia and Germany (Table 1). The population development in the EEP Programme during this century is shown in its entirety in Figure 1.

### North American parks join the EEP

A new agreement between the North American breeding programme PMP and Europe's EEP was a significant step in the EEP's continuing development. The Small Carnivore TAGs (Taxon Advisory Groups) on each continent had previously agreed that the PMP should focus on the North American sub-species of wolverine, *Gulo g. luscus*, while the EEP Programme held only the nominate *Gulo g. gulo*, but during 2013 a waiver was made to this arrangement. The reason was mainly the lack of reproducing individuals of *G. g.*

Figure 1.  
 Development of wolverine population within the EEP-programme, 2000–2013



**Table 1. Wolverine population development in EEP/Europe during 2013**

| EEP population<br>Institution     | Status<br>1.1.<br>2013             | Born                   | To EEP                    | From EEP                           | To<br>non-EEP      | From<br>non-EEP    | Died                  | Status<br>1.1.<br>2014 |
|-----------------------------------|------------------------------------|------------------------|---------------------------|------------------------------------|--------------------|--------------------|-----------------------|------------------------|
| Ahtari/FIN                        | 3.2                                | -                      | 0.1 Cezallier             | -                                  | -                  | -                  | -                     | 3.1                    |
| Bardu/N                           | 0.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 0.1                    |
| Berlin TP/D                       | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Borås/S                           | 1.1                                | 2.1                    | 0.1 Orsa<br>1.0 Cezallier | -                                  | -                  | -                  | -                     | -                      |
| Brno/CZ                           | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Burford/UK                        | 2.3                                | -                      | 1.0 Munich<br>0.1 Hluboka | -                                  | -                  | -                  | -                     | 1.2                    |
| Calviac/F                         | 1.1                                | 0.1                    | -                         | -                                  | -                  | -                  | -                     | 1.2                    |
| Cezallier/F*                      | -                                  | -                      | -                         | 0.1 Ahtari<br>1.0 Boras            | -                  | -                  | -                     | 1.1                    |
| Chomutov/CZ                       | 1.1                                | -                      | -                         | -                                  | -                  | -                  | 1.0                   | 0.1                    |
| Duisburg/D                        | 2.2                                | -                      | 0.1 Kerkrade              | -                                  | -                  | -                  | -                     | 2.1                    |
| Eberswalde/D                      | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Edinburgh/UK                      | 1.1                                | -                      | 1.1 Kingussie             | -                                  | -                  | -                  | -                     | -                      |
| Helsinki/FIN                      | 0.1                                | -                      | -                         | -                                  | -                  | -                  | 0.1                   | -                      |
| Hluboka/CZ*                       | -                                  | -                      | -                         | 0.1 Burford                        | -                  | -                  | -                     | 0.1                    |
| Hunnebostrand/S                   | 2.2                                | 2.1                    | 0.1 Minnesota             | -                                  | -                  | -                  | 1.0                   | 3.2                    |
| Järvsö/S                          | 2.2                                | 1.0                    | -                         | -                                  | -                  | -                  | -                     | 3.2                    |
| Kerkrade/NL                       | 1.0                                | -                      | -                         | 0.1 Duisburg                       | -                  | -                  | -                     | 1.1                    |
| Kinguisse/UK*                     | -                                  | -                      | -                         | 1.1 Edinburgh                      | -                  | -                  | -                     | 1.1                    |
| Kolmården/S                       | 1.1                                | 2.0.1                  | 1.0 Minnesota             | -                                  | -                  | -                  | 0.0.1                 | 2.1                    |
| Kristiansand/N                    | 1.1                                | 3.0                    | -                         | -                                  | -                  | -                  | -                     | 4.1                    |
| Lycksele/S                        | 1.2                                | -                      | -                         | 1.0 Stockholm                      | -                  | -                  | 1.0                   | 1.2                    |
| Minnesota/USA*                    | -                                  | -                      | -                         | 1.0 Kolmarden<br>0.1 Hunnebostrand | -                  | -                  | -                     | 1.1                    |
| Moscow/RUS                        | 9.8 <sup>1)</sup>                  | -                      | 0.1 Novosibirsk           | -                                  | 1.0 Izhevsk        | 1.0 wild           | 2.0                   | 7.7                    |
| Munich/D                          | 1.1                                | -                      | -                         | 1.0 Burford                        | -                  | -                  | 1.0                   | 1.1                    |
| Namsskogan/N                      | 1.0                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.0                    |
| Nikolaev/UKR                      | 0.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 0.1                    |
| Novosibirsk/RUS                   | 1.1                                | -                      | -                         | 0.1 Moscow                         | -                  | 0.1                | -                     | 1.3                    |
| Opole/POL                         | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Orsa/S                            | 1.1                                | -                      | -                         | 0.1 Boras                          | -                  | -                  | 0.1                   | 1.1                    |
| Osnabruck/D                       | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Ranua/FIN                         | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Riga/LAT                          | 0.1                                | -                      | -                         | -                                  | -                  | -                  | 0.1                   | -                      |
| Salzburg/A                        | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Skåne/S                           | 3.1                                | -                      | -                         | -                                  | -                  | -                  | 1.0                   | 2.1                    |
| Springe/D                         | 1.1 <sup>2)</sup>                  | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Stockholm/S                       | 2.1                                | -                      | 1.0 Lycksele              | -                                  | -                  | -                  | -                     | 1.1                    |
| Szeged/HU                         | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Usti/CZ                           | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| Whipsnade/UK                      | 1.1                                | -                      | -                         | -                                  | -                  | -                  | -                     | 1.1                    |
| <b>IEEP<br/>(36 institutions)</b> | <b>48.47<sup>3)</sup><br/>(95)</b> | <b>10.3.1<br/>(14)</b> | <b>5.7<br/>(12)</b>       | <b>5.7<br/>(12)</b>                | <b>1.0<br/>(1)</b> | <b>1.1<br/>(2)</b> | <b>7.3.1<br/>(11)</b> | <b>51.48<br/>(99)</b>  |

<sup>1)</sup> Previously given as 9.9

<sup>2)</sup> Previously given as 1.2

<sup>3)</sup> Previously given as 48.49

Key:

1.0 = 1 male, 0.1 = 1 female

\* Indicates new participant parks

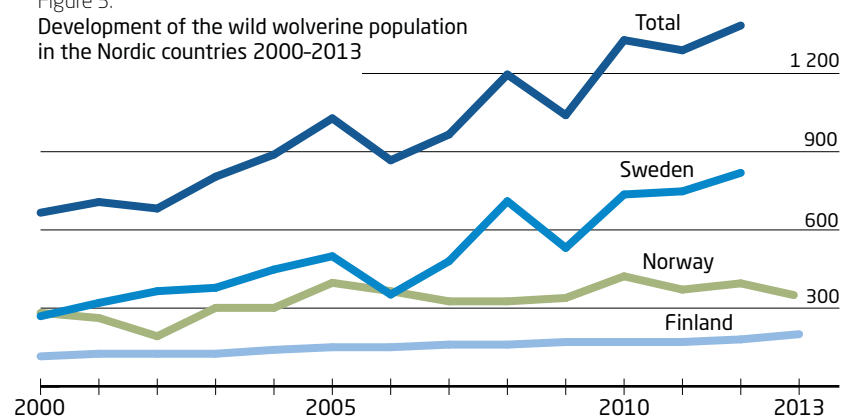
| Non-EEP-<br>population<br>Institution   | Status<br>1.1.<br>2013 | Born | To EEP | From EEP   | To<br>non-EEP | From<br>non-EEP | Died | Status<br>1.1.<br>2014 |
|-----------------------------------------|------------------------|------|--------|------------|---------------|-----------------|------|------------------------|
| Bielefeld/D                             | 1.1                    | -    | -      | -          | -             | -               | -    | 1.1                    |
| Fuerstenwalde/D                         | 1.1                    | -    | -      | -          | -             | -               | -    | 1.1                    |
| Izhevsk/RUS                             | 1.1                    |      |        | 1.0 Moscow |               |                 |      | 1.1                    |
| Krasnoyarsk/RUS                         | 0.1                    |      |        |            |               |                 |      | 0.1                    |
| Nizhny<br>Novgorod/RUS                  | 1.1                    | -    | -      | -          | -             | -               | -    | 1.1                    |
| Sababurg/D                              | 1.1                    | -    | -      | -          | -             | -               | -    | 1.1                    |
| <b>In Non-EEP:<br/>(6 institutions)</b> | <b>5.6</b>             | -    | -      | <b>1.0</b> | -             | -               | -    | <b>5.6</b>             |

*luscus* in North America combined with a surplus of wolverine kits being produced within the EEP. The wolverine has always been scarce in North American parks and the largest population was that of 2002, when the North American continent had 31 individuals (Ness 2013). Regular breeding has been rare since then, and by 2013 the population had sunk to 16 individuals. In order to revive its wolverine population, the PMP decided to keep both wolverine sub-species, though separately with no hybridisation. For the European breeding programme, however, there is no reason to depart from the decision to hold only the nominate form. Wolverine kits are produced every year in Europe and new potential members are invited to contact the EEP co-ordinator without delay. Minnesota Zoo joined the EEP in 2013 and received a young wolverine pair from Nordens Ark and Kolmården, while Columbus Zoo in Ohio will join in 2014. A pair from Calviac and Borås has already been reserved for Columbus.

### Sweden is the wolverine's strongest foothold in Europe

In Sweden and Norway, an inventory of the wild wolverine population is made every year during late winter by recording the number of litters and using tracking and DNA analysis to complete the information. In both countries, the populations have increased this century vis à vis the number of litters, at the same time as the range has expanded further and further south of the reindeer-herding region. The rise in numbers has been most marked in Sweden, which is today the wolverine's strongest foothold

Figure 3.  
Development of the wild wolverine population in the Nordic countries 2000-2013



in Europe. Statistics from Finland are not as reliable, but the increase has been far smaller than that in Norway and Sweden (Figure 3). Predator surveys carried out for the WWF in Sweden (Persson 2011) and Finland (Kojola et al. 2011) indicate that extensive illegal hunting of wolverines is continuing and is responsible for a large proportion of mortalities among wolverine adults. It is likely that illegal hunting has prevented the Finnish wolverine population from making the kind of recovery seen in the other Nordic countries.

The wolverine is a solitary animal with a large territory, and it's difficult and costly to obtain precise estimates of size and density of the populations. To get a more accurate estimate of the wolverine population, and to develop a long-term plan for the future management of predators in Scandinavia, there is an urgent need for closer co-operation with Finland. The authorities in Norway, Sweden and Finland were recently asked to develop a common strategy for

intensified collaboration over the future management of the predator strains. One can only hope this will reinforce co-operation between the relevant agencies and will in time involve their Russian counterparts. National boundaries don't concern the wolverine, and its management should be a task for the whole of Scandinavia.

### References

- Blomqvist, L. (2013): Number of Wolverines in EEP Approaches 100 Individuals. Nordens Ark Annual Report 2012: 21–25. Nordens Ark Foundation.
- Bröseth, H., M. Tovmo (2013): Breeding Record of Wolverines in Norway in 2013. NINA Rapport 981 (in Norwegian with English summary).
- Kojola, I. et al. (2011): Ahmojen salakaadot Suomessa WWF Finland (Finnish)
- Ness, T. (2013): AZA Regional Studbook Wolverine (*Gulo gulo* sp.). Minnesota Zoo
- Persson, J. (2011): Illegal Hunting of Large Predators in Sweden. WWF Report. 2011.