Year of the serotine or year of the wolf?

The Dutch Mammal Society declared 2017 as the year of the serotine bat, and this was a justified choice as despite being common and widespread, little is generally known about this bat's ecology. Looking back at 2017 there are reasons to also regard this year to have been the year of the wolf. After its extinction in the second half of the 19th Century, and after more than 150 years of absence from the Netherlands, the wolf is making a comeback, a return that the media has made much of. After gaining protected status at the 1982 Bern Convention, and after the disappearance of the Iron Wall in 1989, the European wolf population started to expand and, as experts predicted it was not the question if, but when, the wolf would recolonise the Netherlands. This has happened much earlier than expected, and it is safe to say that in 2017 wild wolves once again became part of the Dutch mammalian fauna and that (at least) one individual managed to live here for at least some weeks, before being hit by a taxibus.

As wolf populations in Germany started growing and expanding, it seemed a matter of time before young, dispersing wolves would cross the Netherlands' border. The first sighting of a 'wolf-like mammal' was in August 2011, when a possible wolf was seen and photographed in Duiven near Arnhem, close to the German border. Experts think this 'alleged' wolf probably originated from the French-Italian wolf population. Unfortunately the photos were not of sufficient quality to confirm that it really was a wolf. Two years later, in 2013, a dead wolf was found by the side of a road in the Noordoostpolder, near Luttelgeest. This animal was at first declared to genuinely be the first wild wolf in the Netherlands since the 19th Century, but research revealed that this wolf was in fact shot in Eastern Europe before it popped up in the Netherlands (Gravendeel, de Groot & Kik et al. 2013). Was this a twisted, practical joke?

The first confirmed sighting of a wild wolf was almost two years later. In March 2015, when a wolf roamed Drenthe and Groningen for several days. Before entering the Netherlands, it was already being monitored by German wolf-experts, who followed this individual for hundreds of kilometres. As this individual was also active during the daytime, it was seen or spotted by dozens of observers, in both Germany and the Netherlands (Lelieveld et al. 2016; www.wolveninnederland.nl). The animal was born in Lower Saxony, and after exploring the Netherlands, returned to Germany, where it was killed on 15 April 2015 by a car. The second sighting of a wild wolf followed in September 2016 in Beuningen (Province of Overijssel). This observation was confirmed by a DNA analysis of fresh scat.

But things really started to happen in 2017. At the beginning of March 2017, a wolf was found as a traffic victim on the A28 between

Hoogeveen and Meppel. The healthy young male of about 1 1/2 years old originated from the 'Cuxhaven pack' which lives north of Bremen, some 200 kilometres away. The animal was well-nourished and remains of hare and deer were found in its stomach. In August, DNA analysis revealed that two sheep were killed by a wolf in the Province of Groningen, close to the German border (Nieuw Statenzijl), but unfortunately no genetic profile could be retrieved. In October, a wolf was photographed in the Veluwe area, but the wolf disappeared again. A few weeks later, on 13 November, a wolf was hit by a taxibus on the N343 between Kloosterhaar and Bergentheim in the Province of Overijssel, not far from Germany. It is tempting to link these two sightings as being the same animal, but there's no proof of this so far. The Kloosterhaar wolf was, again, a young and healthy male, which, according to its DNA, came from Brandenburg in the east of Germany. In the light of these recent sightings, we can expect more wolfs in the years to come. Maybe 2018 will prove to be an even better 'year of the wolf'.

These developments clearly show that ecosystems change, and species disappear, re-appear, or appear, recently and in historical times. It also shows that it is hard to pinpoint an exact moment of change. Did the wolf return to the Netherlands in 2011? Or should we declare 2017 as the year of its return? And, when did the brown and black rat colonise the Netherlands? In this issue of Lutra, Thissen and Uiterwijk, present a review of current views on when rats came to the Netherlands and their historic role in spreading the plague. The effects of this introduction were catastrophic for the human population, showing the dramatic effect that an exotic invader can have in a new environment.

New species can have a similar dramatic effect on other fauna. The introduction of feral cats has been disastrous for the endemic fauna of the island of Schiermonnikoog. It is shown that feral cats prey on common voles (another introduced species), as well as on hares, rabbits and birds. Van der Ende et al. describe the spatio-temporal use of different types of habitat by feral cats on the island of Schiermonnikoog, showing that these cats use even the most remote habitats as hunting areas. It is still too early to estimate which prey species will cope with the presence of these predators and which ones may be endangered by them.

Podt and IJsseldijk's study elaborates on the arrival of a top-predator in an ecosystem, grey seal in the Eastern Scheldt estuary. Over the years, hundreds of dead porpoises have been found on the shores of the North Sea, although the reason for many of these strandings was unknown. It was only recently that grey seals were identified as the main cause of death of these stranded porpoises (van Bleijswijk et al. 2014). In the Eastern Scheldt the porpoise population is monitored intensively and Podt and IJsseldijk show that several individuals of porpoise have survived attacks by grey seals, and that their wounds had fully healed and the animals had recovered completely. Podt and IJsseldijk's paper also highlights the value of intensive monitoring.

Canters, in his contribution in our opinion section, questions the scale of some elaborate contemporary counting and monitoring programmes and argues that the ecological rationale behind these programmes is often lacking or at least not very well-thought through. According to Canters, monitoring by itself will not increase our knowledge of the population ecology of the species being monitored. Canters' thoughts provoked La Haye and Schillemans to reply, arguing that monitoring is a good start, which can help focus on clarifying bottle-necks in the ecology of rare or declining species. Both contributors concur that monitoring is citizen science at its best, giving hundreds of people the opportunity to become personally engaged in contributing to the conservation of mam-

mals. Canters applauds this process of sparking individual curiosity, although he argues that monitoring and other time-consuming field research should be guided by (professional) scientists putting forward intriguing new ecological questions, rather than being an obligation of the Habitat Directive.

Citizen science is not a panacea for everything, but recent developments of new techniques and websites are playing an important role in the collection of biological data. Citizen scientists can contribute by uploading their data on websites such as www.waarneming.nl, www.telmee.nl and can even add a picture from their smartphone. This revolution in data collection certainly helped Goverse and Timmermans to follow and document the spectacular and convincing re-appearance of pine marten and beech marten in the city of Amsterdam. Both species have, like the wolf, recolonised former habitat and can now be found throughout the city. While these species were rare and shy some decades ago, recent sightings show that they are now able to survive in a highly urbanised habitat.

However, living in anthropogenic environment may have unexpected consequences. An image uploaded on www.waarneming.nl, of a stoat carrying around a young in the middle of winter initially resulted in confusion and raised eyebrows. In a short note, Mulder and van Maanen discuss some possible explanations for this very unusual observation, of which they could not find any previous example in the literature.

Altogether this edition of Lutra shows that our mammalian fauna is changing every century, decade, year, month and week. Studying and monitoring our indigenous fauna is exciting and unearths new information, whether discovered by experts or citizen scientists, but sometimes it takes a while before patterns can be interpreted or explained. Species come and go, but with current techniques and methods it is possible to discover more than ever before.

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