# Moving mammals

The only personal, tangible experience I have had that relates in any way to the 1997 Kyoto climate treaty (official lifespan: 2002-2012, so now assigned to the dustbin of history…) are the 'Kyoto cookies' on the shelves of my local supermarket. I can't remember whether the point about them was the 'sustainability' of their ingredients or that they were non-fattening, or perhaps it was something else – for example an especially tasty biscuit brought back from Kyoto by someone attending a congress there and recreated by a Dutch baker. What was clear, though, was that 'Kyoto', despite all the scepticism about the need for and 'realism' of treaties like this (even back then), was nonetheless passed down to the proverbial man in the street and imbued with meaning by a supermarket chain – not the most conventional approach to educating the public on nature and the environment.

Over the past few decades the world, and particularly the western world, has been confronted with a series of far-reaching developments, including the ICT revolution, our proven vulnerability to terrorist actions and a series of crises in the financial and economic realm and, partly as a result, large-scale, far-reaching geopolitical changes at the global level. One of the effects of the current economic-financial crises is that economic growth has fallen, in some cases to below zero, while positive growth is often regarded as absolutely essential for continued prosperity. In concrete terms, though, it translates to less fossil fuel being burned, falling sales and consumption of all manner of goods – apart from real estate, also luxury items like multiple foreign holiday trips every year – and an easing of road congestion. And so in a roundabout way the goals of green-minded NGOs, for years deemed utopian and therefore out of the question, are nonetheless being realised. So we should count our blessings!

That the original Kyoto targets have not been secured by a long chalk and that in later preliminary talks on follow-up treaties it proved impossible to even reach agreement on basic targets means, among other things, that the process of global climate change that began to unfold in the 1990s continues unabated and that it is now questionable whether humanity still has time to achieve the kind of drastic change required to as yet turn the tide. Perhaps during the forthcoming negotiations the current position of the US president – no longer guided, as he was, by a desire for re-election when setting and implementing a climate agenda – will contribute to greater, and more structural, success when it comes to formulating and then actually securing climate targets. And perhaps now that the BRIC nations (Brazil, Russia, India and China) are also becoming more wealthy these countries will also show rather more responsibility in this arena and translate that responsibility into concrete, practical action. It would certainly be worth the effort.

In the context of policies to mitigate climate change and limit its consequences there exists something of a conundrum in the Netherlands, too. When 'new' species move into the Netherlands as a result of climate change, this is regarded as a more or less natural process and thus one that does not necessarily need to be steered or controlled. Species arriving in the Netherlands with human aid (whether intentionally or unintentionally) are seen as intruders, on the other hand. If there is any risk of them 'endangering' the country's present biodiversity, its public health or economic values, they are even regarded as a threat – in which case the species in question must be exterminated. But what's the difference between mankind's role in species introduction due to climate change and species introduction via the bilge water of a mammoth tanker? Both may be unintended, but in both cases it is *Homo sapiens* that is the ultimate vector.

Why this distinction and, while we're on the subject, why that sometimes so panicky response to the emergence or discovery of another newcomer? The appearance of 'new' species in the Netherlands has always been with us, the brown rat (*Rattus norvegicus*) being just one example of a mammal species within historical times. This generally happened or happens unnoticed, without any problems at all, let alone that a need was felt to take combative action. In the early days there may be some teething troubles, as new species often become established according to a fixed pattern: first a pronounced and rapid increase in the number of individuals, then generally a gradual decline and eventually stabilisation at a level acceptable in every respect. No worries, then! But this comforting knowledge, this empirical evidence, is not usually employed in any rational way when it comes to programmes addressing new species. On the contrary, the situation is presented as if doomsday lies just round the corner unless immediate and radical action is taken.

Even with naturally occurring arrivals there's still plenty of moaning and groaning, though not always from the same quarters. Once more, the short-term perspective is dominated by visions of doom. Thus the wolf (*Canis lupus*) and the lynx (*Lynx lynx*) are not welcome at all in certain circles, even though it's widely accepted that precisely these species, as top predators, probably mean a welcome addition to present-day biodiversity in the Netherlands and will cause very little damage, most of it merely temporary or incidental.

As is the case with strategies for species protection, with exotic and other new species, too, what should be the prime area of focus are numbers and population trends. The next step is to identify the factors driving those trends. Where in the case of threatened species the main focus is generally on the negative consequences of human activity for the species in question, with exotic species the focus should then be on the risks for 1. nature, in particular biodiversity (the ecological risks), 2. material damage to real estate and other economic goods (the economic risks), and 3. public health (the humanitarian risks).

And while we're on the subject: one overtly active and much-coveted form of mammal movement by us humans is species reintroduction. Here, government agencies and other parties must guarantee that the causes of local extinction have been removed and that supporting measures to that end have been duly implemented. With reintroduction of the otter (*Lutra lutra*) in the Netherlands, that proved not to be the case. Despite the relatively large number of animals ending up as roadkill, though, the reintroduction programme can nonetheless be termed a success. More controversial, perhaps, is all the carting-around of animals captured elsewhere, the frequent use of sedatives, and the use of transmitters and other devices attached to or implanted in the creatures' bodies.

The kind of insight yielded by carefully conducted research on an 'exotic' species is demonstrated by Mulder's case study on Dutch occurrence of the raccoon dog (*Nyctereutes procyonoides*), published in this edition of *Lutra*. The basic procedure is straightforward: first, track down potential problems as carefully as possible; next, based on the facts, examine what, if any, negative consequences are to be anticipated; then, where applicable, identify the potential for intervention; and, finally, take a decision on the basis of a cost-benefit analysis. 'Control' then generally emerges as one of the least attractive options, and this is the case with the raccoon dog, too. Indeed, control is often impossible in practice (lack of physical means, unfeasibly large-scale and thus too expensive or with too many side-effects) and, more importantly, alternative strategies are often cheaper and more effective, such as compensation for damage or intensification of management activities directed towards the species in question. In this context it's of interest to note that a long-term study was started this year on the muskrat (*Ondatra zibethicus*), an exotic species now common throughout most of the Netherlands. The species is to be monitored in 177 5x5 km grid squares, one-third of these with 'pest controllers' working at traditional intensity, one-third with efforts stepped up and one-third with efforts ratcheted down. How does the muskrat population develop in each case? How much damage is there to dikes and the banks of watercourses? What are the costs of repair? These are some of the questions to be answered in this study, which will probably vastly improve our knowledge of this exotic species and provide practical handles for future policy.

The movement of species and the appearance of 'new' species in a particular country are part and parcel of nature, and therefore also of mammalian life, and are consequently an important issue for scientific researchers. Species are, in principle, always on the move, looking for a more favourable niche in terms of climate, food, cover or whatever. Besides the raccoon dog, this proves to hold true for all the other species featured in the articles in this issue of *Lutra*: the harbour porpoises (*Phocoena phocoena*) coming to explore the Marsdiep tide-race, the colonisation of new polders by the common vole (*Microtus arvalis*) and the temporal changes in the geographic distribution of porpoises on the continental shelf.

Moving mammals – open to three interpretations, all of them covered or reflected in this issue!

Meanwhile, Kees Camphuijsen has stepped down from *Lutra*'s editorial board. For over six years Kees has made a highly valued contribution to the journal, not only through his lucid, succinct and always closely argued commentaries and the professional, accurate and stimulating support he gave to authors, but also as an author himself. In the period of his editorship Kees was (co-)author – and generally first author – of six full papers and one short note. In earlier years Kees had already been a regular contributor to *Lutra* and he has stated his intention to remain faithful. We would like to take this opportunity to thank Kees once more for all he has contributed.

*Kees J. Canters*