



Waterlife Recovery Trust



NEWSLETTER 3: July 2023

Thinking big

We're constantly bombarded with depressing news that British wildlife is being pushed out by our increasing human population and the pollution, house building, road building, ever more intensive agriculture and so on that's needed to support all these people. It was therefore encouraging when the Westminster Government announced that it was committing itself to reversing the decline of a large number of endangered species across England, including water voles, by the year 2030. I doubt if many people have even heard of most of the species on this list (Forked Hair-lichen anyone?), but the iconic water vole is certainly one of the best known and, thanks to all the work we in WRT/WRE have done over the past few years, should be among the easiest to save. The Waterlife Recovery partnership has transformed the conservation prospects of water voles over 10% of England already, and has shown that scale is no barrier to success. Though various physical habitat improvements can be beneficial to water voles, all are pretty much futile if American mink remain in our countryside. The question now is whether Natural England, the agency given the responsibility and funding to save our wildlife, has the vision and can-do attitude to make it happen. If so, they'd better get moving. We've shown that mink can be vanquished within 5 years of a comprehensive trap network being set up. Working back from 2030, this means that such a network would need to be established across England by 2025. Such a project would need, say, two years of planning, once the funding had been secured, which takes us back to, um, NOW. The solution is clear, and available, and I suspect there aren't many species on this endangered list for which that's true.



The cause of the demise of water voles has been understood for decades, and we now have the ability to reverse their decline, allowing them to reclaim waterways from which they were removed by mink. Natural England has been tasked with making this happen, and the WRT partnership stands ready to play its part.

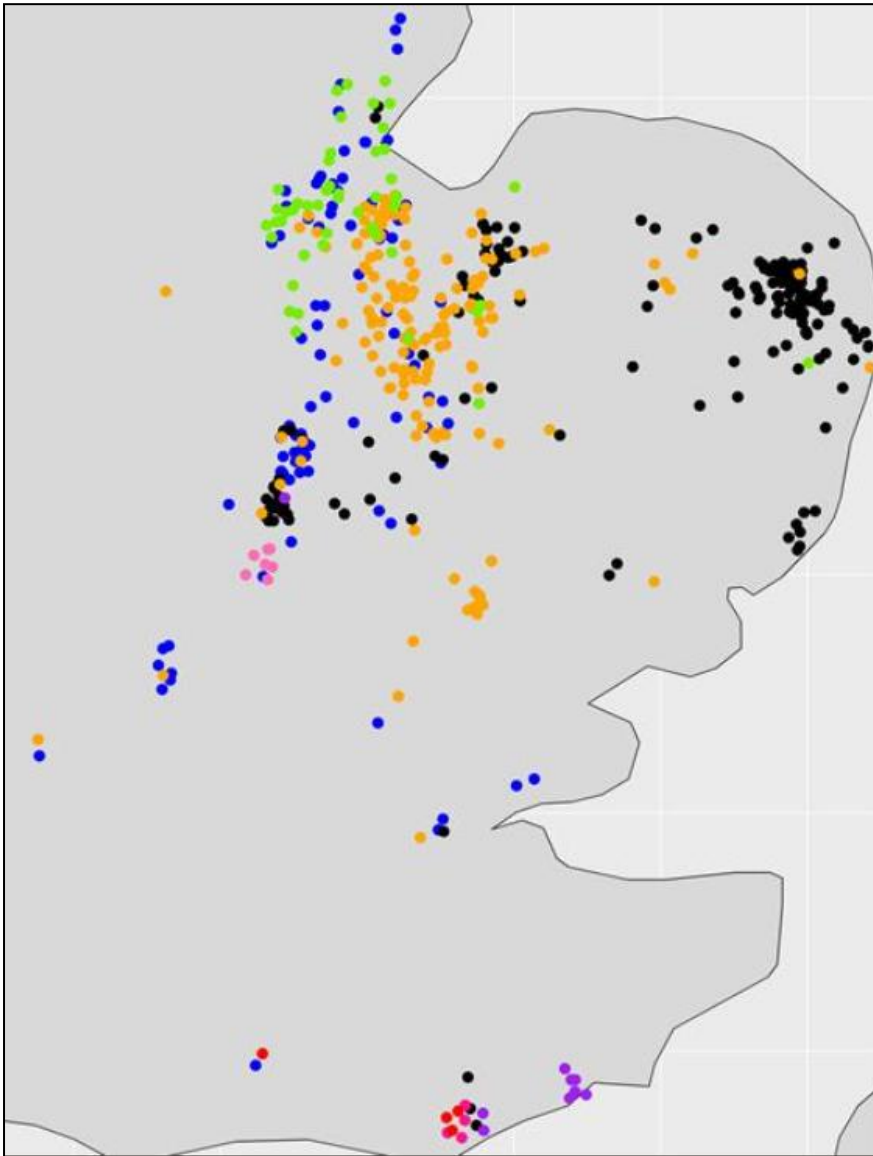
The really good news is that some in Natural England already recognise what Waterlife Recovery East has achieved in Norfolk and Suffolk, and are financially supporting the existing trapping network in these counties, now through WRT. Furthermore, Natural England has also recently renewed its support for the mink genetics work that Prof Bill Amos and Dr Angela Trowsdale are carrying out at Cambridge University (see Bill's latest news below), and age-determination work that goes alongside that, so there are encouraging signs that the WRT model of mink eradication is being recognised within the agency. Water voles must hope that the Species Recovery Team - entrusted with saving them nationally - will follow suit.

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Genetics Update

My focus has now shifted to looking at mitochondrial DNA **writes Bill Amos**. This is the DNA that you inherit only from your mother, so it tracks maternal lineages through time. Using mitochondrial DNA, each animal is assigned a 'type'. Males carry their mother's type but are otherwise dead ends.

So far, with a sample of 543 animals from eastern and southern England, I have found 4 common types, 4 rare types and 3 very rare types. The map shows the geographical distribution of these types, coded by colour.



As you see, the WRE Core Area is dominated by black, south Lincolnshire is mainly blue and green and west Norfolk/ NE Cambs is dominated by orange. In addition, there are several small, isolated clusters in red, purple and pink. Intriguingly, all the pink dots are from a relatively small area in central Bedfordshire; the mink there don't seem to get out much! This pattern reinforces earlier results, indicating that long-range dispersal is very limited. If females often moved large distances, the colours would be completely mixed. Moreover, we should be able to use these data to help identify migrants. For example, on the south coast there is a purple cluster (at Rye) and a red cluster (Pevensey Marshes farm cluster, East Sussex), but two purple dots sit within the red cluster, suggesting that these animals (or their mothers) dispersed westwards along the coast. There's also a lone green dot in eastern Norfolk, and a lone red one at Knepp in mid-Sussex. Further

sampling may indeed reveal that the red matriline is in fact the most common in Sussex.

While local clusters often reflect the offspring of breeding females, there are longer term trends as well. The fact that black, orange and blue, in particular, are found all over the region may well reflect old patterns generated by original mink farm escapees as they colonised the landscape many generations ago.

Overall, the extent of colour-mixing tends to indicate how often animals move between regions. We can expect the picture to change somewhat as new mink are added to the sample, and especially as animals from new regions become available for analysis. We are very grateful to Natural England for supporting this work, thereby improving our understanding of mink movements and population dynamics across the country.

Public outreach

We've known from the outset of the Waterlife Recovery project that removing American mink from East Anglia/England/GB can only be achieved with the support and participation of the public. There are four main reasons for this. Firstly, a pest eradication attempt on an inhabited island will fail if the human population is against it; that's one of the fundamental eradication 'laws' applicable worldwide. Secondly, the cost of a team of professional trappers large enough to do the job would be prohibitive. Thirdly, finding and catching the final 1% of mink, hiding anywhere across East Anglia, let alone all of England, Wales and Scotland, would be absolutely impossible without dog walkers, fishermen, gardeners, boaters, car drivers etc reporting their sightings. Fourthly, one of the most reliable indicators of mink having been removed from any area is the complete *absence* of public mink reports (sightings and road kill). That's already happening in East Anglia.

For all of these reasons, WRT has worked hard to seek public engagement and support - by means of giving talks, speaking with the media and developing a website that both informs people and makes it easy for them to report observations of mink - whether they be squished on a road, or very much alive - perhaps on a canal tow-path, in a garden or (as recently happened for the first time in our experience) in a kitchen!



Mink are sometimes reported from some unexpected places - as here, at Horsham in Sussex, in broad daylight.



Our website manager Stephen Mace has been monitoring public mink reports arriving via the WRT website, and his map (left) shows their origins. New reports are arriving almost daily, at an accelerating rate, and it is hugely encouraging to see that word of WRT's work has already spread far and wide. Many of the reports are coming in from areas where WRT partners are already operating, or will shortly be setting up, and in these cases we're sometimes able to help facilitate a response. An example of this came in very recently, from Guildford in Surrey, where a mink was seen and the National Trust is about to protect native wildlife on the River Wey from mink predation with a trap network. This welcome initiative will contribute to the Waterlife Recovery Southeast partnership (south of the Thames from Hants and Berks to Kent).

News from the counties

Norfolk

Life has been relatively quiet on the mink front in Norfolk this quarter, with only one mink caught. This was a female, caught on the River Nar just south of Kings Lynn on the 18th April. It brings the total caught so far this year to 4, and the total for the past 12 months to just 5. This is despite a very considerable trapping effort. We had 370 active smart rafts across Norfolk at the end of June and have achieved 64,000 trap days (176 trap years) of effort. One trap day being a trap open and available to catch an animal for 24 hours. The trapping effort to catch just 5 mink over the last 12 months is an amazing 345 trap years. So, we know that there are very few mink left in Norfolk and volunteers working together on a project can make a huge difference to the environment.

Interestingly all 5 mink have been females from locations widely spread across the county. We are now waiting to see if we catch any juveniles that might disperse later this year, which would indicate if there had been any breeding in the county. We have had no hard evidence of any breeding in 2022 and are hoping for the same this year. A species clearly cannot sustain several years of no breeding and will inevitably disappear. However, all is not quite 'done and dusted' yet, as we know that there are still one or two mink remaining. Hopefully they are continuing to lead a quiet, celibate life or better still will check out one of our traps!



We continue to add traps to the network where we feel that we could do better. One such place that has received attention this year is the River Wissey where it goes through the MOD Stanford Training Area near Thetford. This is a beautiful stretch of river, with clear water, as can be seen from the photograph, and is a haven for wildlife. We have

worked this area in the past, mainly using traditional, non-smart rafts, but there have always been challenges with access and phone signal strength. However, our new Project Officer Paul Douglas has access to the area and, with support from Stephen Mace, has removed all of the old traditional rafts and found locations for new smart rafts along the river. We don't know of any mink on this section but if they do disperse this way they will now be in for a warm welcome.

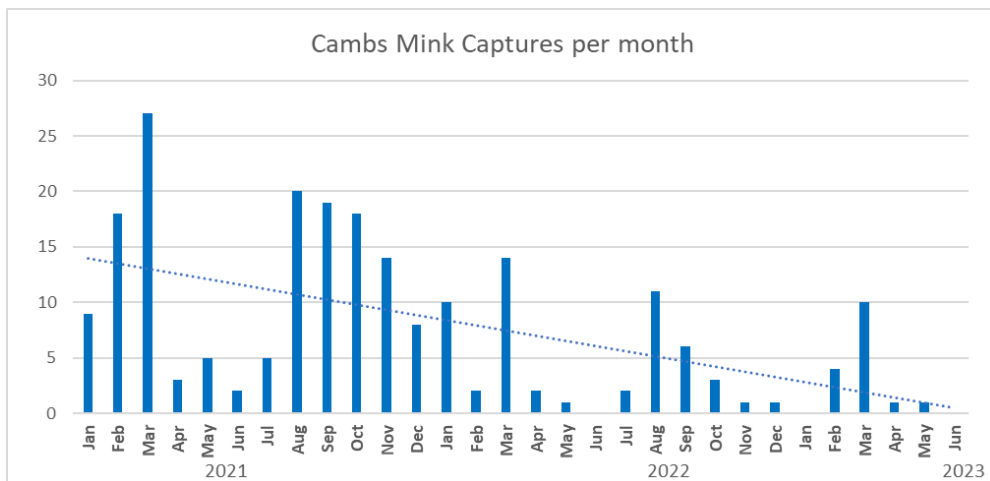
Bedfordshire & London

In the spring, Vince Lea from the Countryside Regeneration Trust spoke to people looking after the middle section of the River Great Ouse and tributaries of it in Bedfordshire. They were interested to hear how mink eradication could help them restore the native wildlife to their river, particularly the prospect of getting Water Voles back after a long absence. Also at that meeting was Joe Peccorelli, Conservation Programme Manager for the Zoological Society of London, who had heard about our work in East Anglia and invited us to a meeting at London Zoo this summer. That meeting was about developing a Water Vole strategy for London and involved a huge number of people from around the city with a shared vision. Darren Tansley from the Essex Wildlife Trust and Vince gave background information about the Waterlife approach to mink eradication; we are pushing at an open door to get something in place within a year or so which will help us with one of the biggest challenges of the eradication concept – how to deal with urban mink.

Meanwhile, in Bedfordshire, action is well underway with a growing network of smart traps and a growing tally of mink captures, standing at 23 in early July, already more than the total from 2022 and with a full juvenile dispersal period still to come. This great progress is largely due to an initiative of the Bedford

Group of Drainage Boards, guided by their ecological consultant. Further afield, an article in The Times last year inspired one member of the public to contact us from Dorset, and with a bit of help and support he set up a trap on his wildfowl pond which has started to catch mink this summer. We now have a second trap going on the River Stour nearby; a major mink highway. This is a very welcome start for a county new to smart mink trapping.

The trap network in **Cambridgeshire** remains active and patiently waiting for the next mink to turn up; the last, in mid-May, was the 16th mink of the year for Cambs. At the end of June last year we were on 29, and at the same point in 2021 the total was 64, so numbers are approximately halving each year in the same period. The population appears to have been heavily impacted by the intense trapping over the second half



of 2021 and beginning of 2022, which resulted in less breeding during the 2022 season. Those animals that were caught were primarily in the west of the county, indicating that many were immigrants. With many of the Bedfordshire mink being intercepted at source this year, we hope for a quieter autumn in 2023!

Essex

The RBI Catchment Partnership (Roding, Beam and Ingrebourne) is hosting an event to introduce the idea of a Roding Farm Cluster to a group of key landowners on the river. Farm clusters are an excellent way for landowners to coordinate all sorts of projects of mutual interest but are also an opportunity for external organisations such as WRE to get their message out to a whole riparian community in one go. With support from the Environment Agency for a catchment-wide mink eradication project, this could be the final piece of the puzzle, so Essex Wildlife Trust will be demonstrating the use of Smart Rafts on a local farm at the end of the initial meeting.

With two large funding bids for equipment and Project Officers reaching the final stage in Essex, the timing could not be better. Any landowners or land managers along the River Roding are encouraged to get in touch with Catchment Host for Thames 21 Will Oliver (will.oliver@thames21.org.uk) if they want to learn more about the Farm Cluster. For information about the mink work you can also contact Darren Tansley (darrent@essexwt.org.uk).

Meanwhile, as an indication of the urgency of establishing a comprehensive trapping network in Essex, a single trap on the River Chelmer at Thaxted, managed by two excellent volunteer river wardens, has caught 8 mink since the beginning of 2023 - the same number as have been caught in all the hundreds of Norfolk and Suffolk traps combined over that period.

Kent and Sussex

Interest in a coordinated mink trapping campaign in the southeast has been growing apace, with the Environment agency, Natural England and farmers/land managers leading the way in Kent, and a host of organisations looking to join forces with the Knepp Estate, the Sussex Wildlife Trust and a very effective

farm cluster in the Pevensey Marshes area in Sussex. These two counties currently host a high density of mink, and consequently native riparian species like water voles have been substantially banished to a small number of key reserves, like Stodmarsh and Elmley in Kent, where they are protected by mink trapping. Our expectation is that the greatly enhanced trapping network now being planned and deployed will profoundly enhance the conservation status of water voles south of the Thames.

As this Newsletter goes to Press, I've just learned that a female mink has been caught by a volunteer on the River Darent in Kent, in a trap that first caught one within an hour of being deployed, brand new some months ago. It'll be fascinating to see what colour dots these animals add to our Mitochondrial DNA map, and what they tell us about mink movements in a county that is clearly hooching with mink.



And, finally, we may think we know what mink kill and eat, but sometimes they surprise us. This photo shows an adult heron being dragged along by the mink that has just killed it - a male judging by body size. I showed an image of a young mink attacking a heron in an earlier Newsletter, and on that occasion both lived to tell the tale. Not this time.

Mink really are daring and remarkable predators; that they can avoid the fearsome beak of a heron, and bring down a predator many times their size, is nothing short of astonishing. I've also seen video clips of mink killing swans; they really are fearless.

With my best wishes,

Tony Martin

Chair of the Waterlife Recovery Trust Board of Trustees

