



Waterlife Recovery Trust



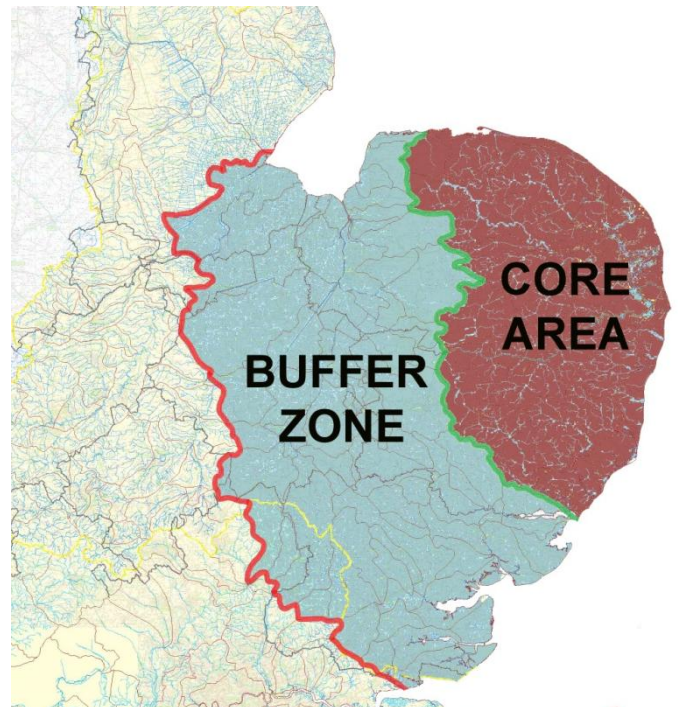
NEWSLETTER 4: October 2023

HUGE NEWS - Eradication trial success (but our secret for now, please)

The formation of the Waterlife Recovery East partnership (originally called MFEA - a mink-free East Anglia) back in 2019 was based on hoping to discover whether it was possible to eradicate American mink in lowland England. The challenge was monumental, and none of the recognised experts in the field thought it was possible, but the existing strategy of mink control was failing to prevent the continuing loss of water voles and other vulnerable native wildlife across the country, so something had to be done. The question was whether, by working together and filling gaps between them, organisations and individuals already striving to reduce mink predation in their local area could eliminate this damage altogether. Could a mink-free East Anglia ever be more than a pipe dream? Well, just four years later, we have the answer, and it's an astonishing YES. One of the world's most remarkable conservation successes really has just been achieved in eastern England.

Some reading this may be thinking 'hang on a minute - how can you claim to have eradicated mink from a small part of Britain without building the ecological equivalent of Hadrian's Wall to keep out invaders?'. That would indeed be a very good question, and one that we had to face at the outset. How could we set up a realistic, landscape-scale test area and isolate it from the rest of the country? How could we prevent new animals arriving as fast as we could remove them? The answer was to select a Core Area defended on two sides by the sea, and by a wide barrier of countryside with lots of mink traps across it - a Buffer Zone - on the landward side (see map).

Another conundrum to deal with was how we would define 'eradication'. An absence of all mink for a day? A week or a year? How would we ever be able to demonstrate this, given that mink are mostly nocturnal outside the breeding season? And of course eradication will inescapably follow even if mink are still present, but only of one sex or not reproducing, so proving feasibility would not necessarily mean that no mink whatsoever remain. In the end, we decided to define trial success as the lack of evidence of any mink breeding within the 5,852 sq km Core Area over a 12-month period. If mink were breeding, we would confidently expect to encounter evidence of this, either through trapping or reports from the general public, direct to us through our website or indirectly through various Facebook pages with thousands of keen-eyed, nature-loving members. Often, media stories



highlight mink families - remember the photo from Horsham in the last newsletter? Collectively, the public contribute untold thousands of hours of observation while walking, fishing, driving, steering their boat or just looking out of their garden window. If they are present, mink are seen all over the place during the summer, when mothers may be moving their young, or family groups are out foraging in daylight. A project of this size and ambition can only succeed with the support and contribution of the British public.



We were tantalisingly close to trial success in 2022, but belatedly received word of what was probably a family of mink in Norfolk. Since then, more traps have been deployed, and more effort put in to soliciting sightings from the public. Reports have indeed flooded in from all over the country, and many in summer mentioned young mink, but none of these were from within the Core Area.

And so, just four years from the formation of the Waterlife Recovery East partnership, with the participation of almost a thousand volunteer trappers, over a hundred nature reserve staff, no fewer than 45 Internal

A report of a mink family, rather smaller than this one, seen in eastern Norfolk during summer 2022 by a member of the public, was enough to persuade us that eradication had not quite been achieved by that time.

Drainage Boards and 15 organisations represented on the WRE Steering Group, and of course vital financial support from Natural England, Environment Agency, DEFRA, water companies, the Broads Authority and individual donors, the trial has concluded with success. The eradication of American mink in England is not only feasible, but can be achieved more rapidly and cheaply than anyone had dared hope.

So, what's next? Is that it? Not at all; we're only just getting started. This charity, the Waterlife Recovery Trust, was set up only last year with the objective of rolling out the WRE methodology, strategy and success across the rest of Britain, in partnership with established local and national trappers, recruiting new partners along the way. We intend to be a leading force in the achievement of a mink-free GB, thereby allowing remaining populations of water voles to recover and spread naturally, and



Matt Clarke

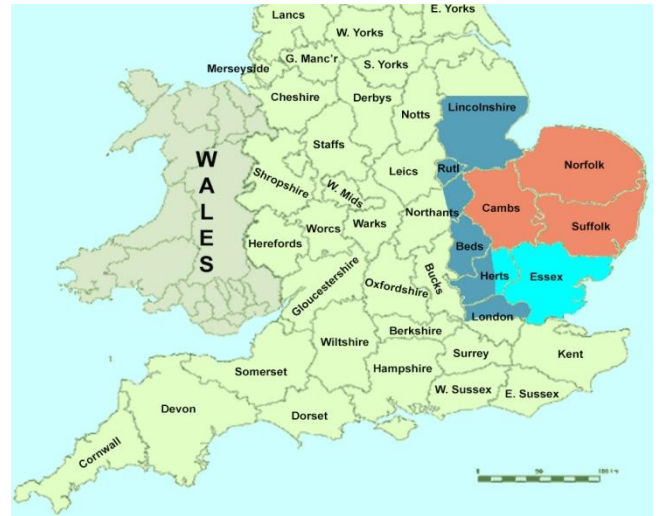
A Suffolk water vole - owing its life to the lack of mink in the county now

hole- and ground-nesting birds and all native water-dependent animals to be unmolested by this introduced predator. The first major step on this route has already begun, as Simon Baker explains below.

The WRE partnership and WRT will be issuing a press release about the trial success in the New Year. To maximise the impact of that, we ask that you keep this news under your hat for now, please.

The Thames to Lincoln Project is up and running!

In the last Newsletter, Tony wrote about the Natural England Species Recovery Programme and the government's commitment to reversing the decline in endangered species such as the water vole, **writes Simon Baker**. We put in an application to extend our current trapping into neighbouring counties, which would both extend the area within which water voles were protected and also reduce immigration into those areas already heavily trapped, including our trial eradication area. The areas included in the bid were those shown on the map in two shades of blue. The lighter blue areas are where we have match funding through our partners in the Essex Wildlife Trust and Herts and Middlesex Wildlife Trust. The darker blue area runs from the Thames in the South to mid-Lincolnshire.



I am delighted to say that the application was one of 61 projects that were successful and we received a maximum grant of £500,000 in August. This will cover staff and equipment and runs until the end of March 2025. In total, when you add the project area to where we already trap in Norfolk, Suffolk and Cambridgeshire, we will be protecting water voles in more than 20% of England. Better still, other award winners in this round of funding will be trapping mink in areas adjacent to our new project, and we have already been discussing with these teams (in Nottinghamshire, Berks, Oxfordshire and Berkshire) how we can collaborate in order to ensure even more effective use of the money provided.

On hearing of our success, the first task was to employ a good Project Manager and we were very pleased when Malc Smith agreed to join us. Malc has experience of running his own business and was already an exceptional volunteer, running 6 traps near Peterborough which have caught 25 mink over the past 18 months, so he was an ideal candidate. We have also been fortunate to recruit 5 very good Project Officers (POs), well located to cover the large project area. The project funding was only for 4 full time POs but

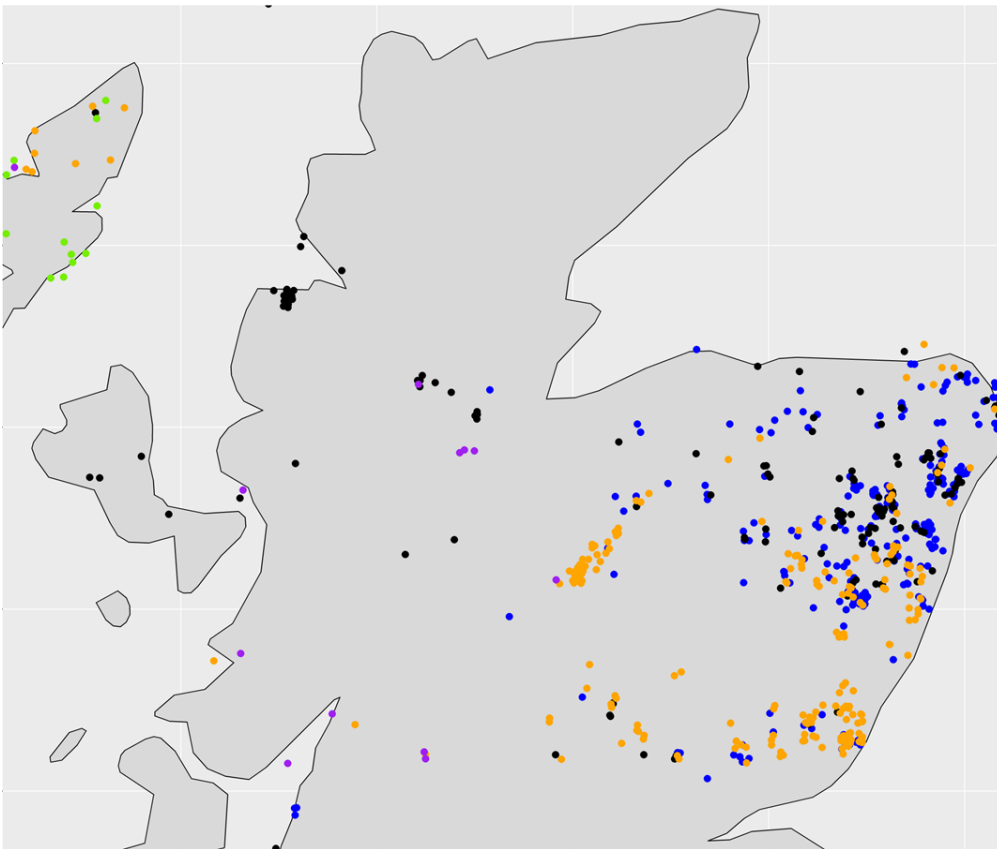


employing one for 3 days a week has allowed us, with an additional grant from the Environment Agency, to employ a 5th person full time and expand our trapping northwards to cover the whole of the Witham catchment in Lincolnshire. We were able to get all the new staff together in mid October for a training and a 'get to know you' session. The photograph shows Malc (2nd from left) and all the new POs - Emily (covering London & Herts), Elliot (central & N Lincs), Howard (SE Lincs), Lara (Beds & NE Northants) and (crouching) Martin (Rutland & S Lincs). They had just finished a session on how to extract mink anal gland secretion and were clearly happy to be able to move upwind for a photo!

We have also purchased 200 smart rafts and the POs will now be setting to work engaging volunteers and starting trapping. I anticipate that we will soon be sampling large numbers of mink as they start work in areas that have not previously been trapped!

Genetics Update

I have previously presented the results for mitochondrial DNA (mtDNA) in East Anglia, (writes **Prof. Bill Amos**). To remind you, mtDNA can be thought of as rather like a surname that is inherited solely through the female line: sons and daughters both inherit their mother's type. Consequently, mtDNA reveals patterns of female movement. If females disperse over large distances, this mixes everything up and any patterns are weak or absent. However, if daughters tend to stay roughly where they were born, over time clusters of the same 'surname', called a haplotype, build up, generating strong patterning, whereupon it becomes progressively easier to identify where an animal comes from just by its haplotype. In East Anglia and the south of England, mtDNA patterning is strong, with south Lincolnshire, our Core Area and the region south of the Wash all being dominated by different haplotypes. This contrasts with research in Scotland, which concluded that dispersal was extensive, with lots of mixing between the regions.



Map of Scottish female mink lineages. To show multiple mink caught in the same location, each dot has been moved a little in a random direction, which means that some mink caught on or near the coast appear to end up in the sea!

The Scottish project, led by Prof. Xavier Lambin, has kindly sent us their sample set and we have now obtained the female haplotypes for most of these. The results are presented in the map shown, with each haplotype represented by a different colour. Given the size of the region covered, there is less structure (clustering) than we see down south. However, there is still a clear tendency for different regions to be dominated by one or two haplotypes.

Most obviously, Lewis in the Outer Hebrides has mainly green dots, while purple dots tend to occur

only in west mainland, and orange is much commoner in the southeast. Interestingly, the black dots are the same haplotype that dominates the core eradication area in Norfolk and Suffolk, while both orange and blue are also common down south. Why? The answer lies with the fact that the American mink population in the UK was founded from mink farm escapees, so the UK was seeded by a limited range of haplotypes. To begin with, having come from common sources, most parts of the UK would have been genetically quite similar. However, as time passed, the rather low dispersal rates meant that each area tended to become dominated by whichever female lineage happens to be most successful. Understanding why dispersal appears to be somewhat more extensive in Scotland will be the focus of future research. One possibility is that it reflects the different habitats. In Scotland, much of the land appears to be inhospitable to mink, being high ground where suitable prey are few and far between. The Scottish mink therefore face a rather

linear habitat along the banks of rivers in valley bottoms. In contrast, East Anglia has abundant habitat, allowing mink to disperse in any direction. Thus, if mink disperse more or less randomly (rather than travelling in a straight line) the same amount of movement will take a mink further from where it was born in Scotland compared with the Core Area.

Sightings and trapping progress around the country



Staff member Stephen Mace is coordinating responses to members of the public who report a mink sighting through the WRT website. Reports are arriving almost daily, and are hugely valuable in allowing us to see where mink occur. No observation doesn't necessarily mean no mink, and we know that the pattern emerging isn't yet an accurate representation of mink abundance. But a photo or good description does mean that a mink, or mink family, was at that point on that date, and this is of great help both in our planning for future work and in our targeting where to put mink rafts in areas where we're already working.

Stephen first thanks the sender, then filters out reports that are more consistent with sightings of other animals like otters, and finally plots them. To date, we have more than 150

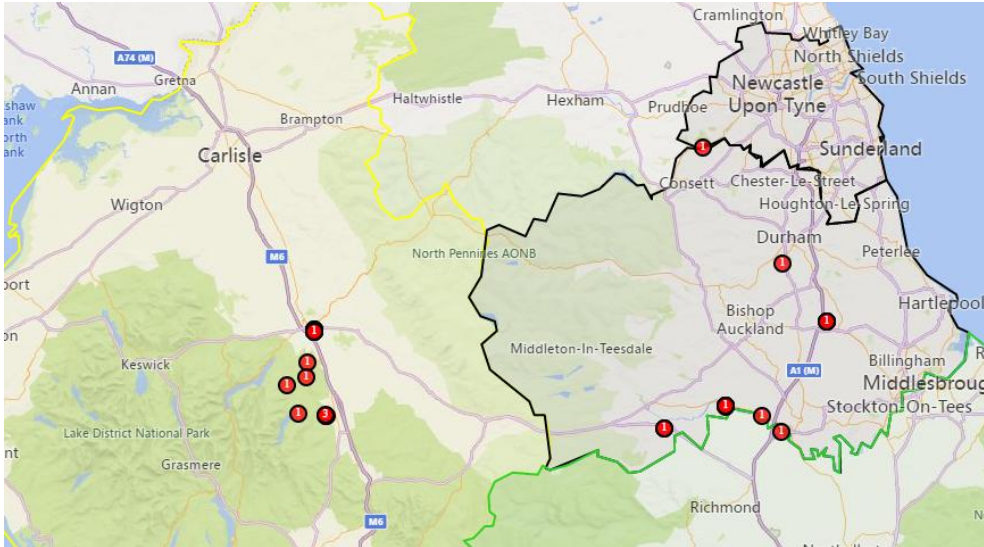
compelling observations of mink from England and Wales (just one from Scotland so far), distributed as shown on this map. Despite greater effort by us to urge East Anglians to send us their sightings, reports from eastern England are infrequent, as you can see. The hotspots so far are in the Manchester area, where we haven't yet got going, and in the southeast corner of the country, where things are gaining pace rapidly. Both East and West Sussex clearly have more than their fair share of mink, but WRT-coordinated traps are already making inroads, and an exciting new initiative involving 25 traps in the Adur Valley is bound to greatly reduce mink numbers in this part of W Sussex. Meanwhile, the Wetland Trust in E Sussex has recently deployed smart traps, the National Trust and local partners are now protecting precious water vole colonies in Surrey, and DEFRA money will soon be used to get on top of mink in the Darent Valley in Kent.

The scarcity of reports from Scotland more reflects the low density of people than of mink. I recently gave a talk in Aviemore at the Scottish Invasive Species Initiative (SISI) conference, and came away realising just how big is the challenge of mink trapping in Scotland, not least because of the paucity of volunteers to manage traps locally. In this past week, 50 continuous hours of solid rain turned gentle burns into raging torrents, threatening every raft along them - a far cry from my part of the Fens, where there's rarely any perceptible movement in most waterways. A visit to the Scottish Highlands was a very instructive lesson in the necessity to avoid imagining that everywhere in Britain is flat, has little rainfall and has infinitely more people than mink, everywhere.

News from the counties

Northern England

Three very welcome insulated boxes have been delivered to my house in recent weeks, containing frozen mink from Cumbria (courtesy of the Eden Rivers Trust) and County Durham (Durham Wildlife Trust's Naturally Native Project) (see map showing where these mink were caught). Analysis of these animals will



greatly enhance our understanding of the population dynamics and movements of mink either side of the Pennines, leading to a better strategy for removing them. Natural England's Species Recovery team has convened a meeting in November for people interested in trapping mink in Cumbria and neighbouring counties to aid the recovery of water voles,

and has kindly invited me to explain to how they can make a big impact in a short time by deploying smart traps. Based on experience elsewhere, it seems likely that mink may be persuaded to leave the less accessible higher ground in the Lake District if trapping is focused in the fertile river valleys, where food is plentiful and the mobile phone signal is conveniently stronger, aiding the use of smart traps.

The first thing that struck me about these mink from northern England was the proportion of females that showed unmistakable signs of having produced young, in contrast to mink from East Anglia, which now rarely reproduce, their numbers being so low. Most seemed to be smaller than their southern counterparts, too. I very much look forward to taking a close look at the second batch of Durham mink that arrived only yesterday!

Norfolk

Excitement on the mink front in Norfolk is relative these days, says **Simon Baker**, as we rarely trap any, despite vast trapping effort – 409 traps active across the county as I write. This quarter the Wash has been the focus of the modest mink action. Just after our last Newsletter a young mink was found dead under a hopper on an estate bordering the Wash and then in August another, in the shape of a rather decayed corpse, was collected from the strandline near Heacham. These animals coupled with the mink caught on the river Babingley last year indicate that the Wash is a key immigration route into Norfolk from Lincolnshire. Consequently, our PO in the area, Karl Charters, has been putting out additional traps along the sea wall to the south of the Wash.



Yet another Norfolk water vole?

The two corpses recovered from near the Wash were then followed by the only mink that we have caught since April, a young male trapped near Stody. It is most likely that this was another immigrant that had come into the county, probably following in the footsteps of the other two and moving in round the edge of the Wash. However, we still have no hard evidence of mink breeding in the county, a fantastic improvement on where we were only a few years ago.

Essex

Extremely encouraging news from Essex, where progress has been made in filling some of the large trapping gaps in the county over the past few months. Firstly, with help from the Essex Wildlife Trust, the Thames21 charity has established 15 smart rafts along the River Roding in the west of the county, from Stansted Airport right down to the M25, and these have already reduced the number of mink on the river by three. This is a really valuable new initiative, because previous trapping efforts in the lower Roding yielded a large number of mink, so this is prime mink habitat. Repeated water vole surveys from 1989 to the early 2000s revealed a decline



Newly installed WRT smart raft at Chelmsford in Essex

to extinction of this species along the main channel, but if water voles are still in surrounding farmland, they could provide a source for recolonisation once the river is mink free. Just a few miles to the east of the Roding, at Felsted, Project Officer Mark Thackstone recently deployed a raft with a new local volunteer, and that trap has also quickly yielded mink - two in three days. Meanwhile, a trap established at Pebmarsh, just south of the Suffolk border (and the Core Area) by another Project Officer, Nick Oliver, has also caught two mink since late summer. These captures are vital in helping to prevent mink from Essex destroying all the hard work that has gone into clearing them out of the WRE Core Area.

South of the Thames

Barely a week goes by without news of another new mink trapping initiative in Kent, Sussex or Surrey, such is the rush to banish mink before the last water vole strongholds are breached. The great thing about this is that, as in East Anglia, the whole is greater than the sum of the parts - every group benefitting not only their own patch, but reducing the number of mink able to re-invade neighbouring lands and waterways. I was delighted to train some staff and volunteers from the National Trust and other organisations in Surrey recently, and have learned this week of similar projects being set up by the South Downs National Park and a farm cluster in my native Sussex, as well as by the Darent Valley Landscape Recovery Project in Kent. Things are moving at pace across much of England, which is so very encouraging.

With my best wishes,

Tony Martin

Chair of the Waterlife Recovery Trust Board of Trustees

