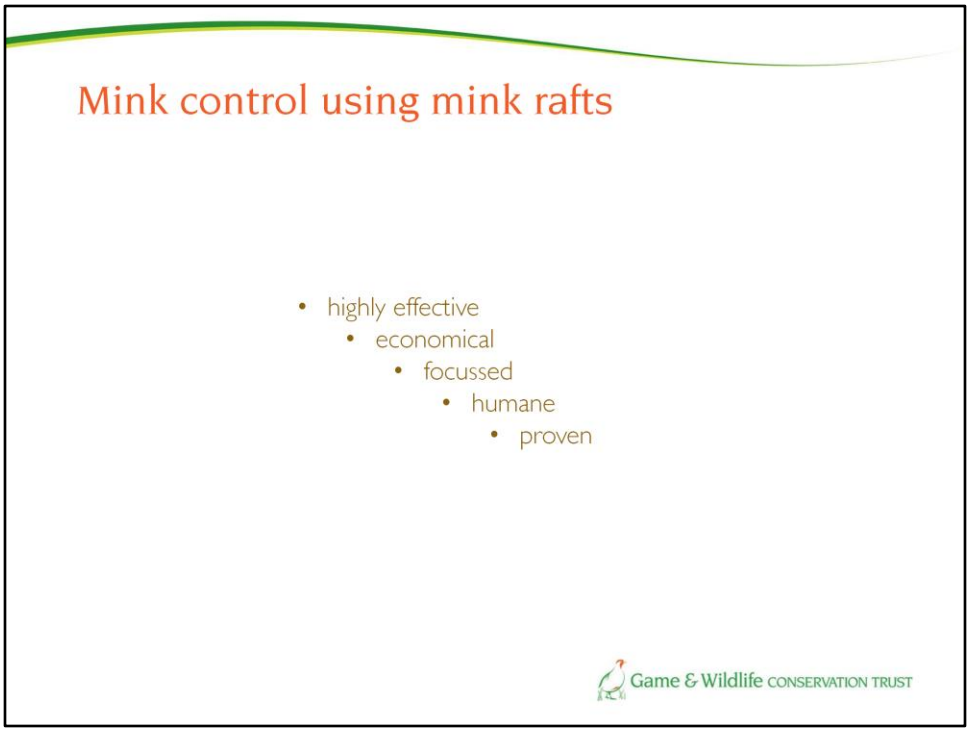
Mink control and eradication using the GWCT mink raft

Jonathan Reynolds

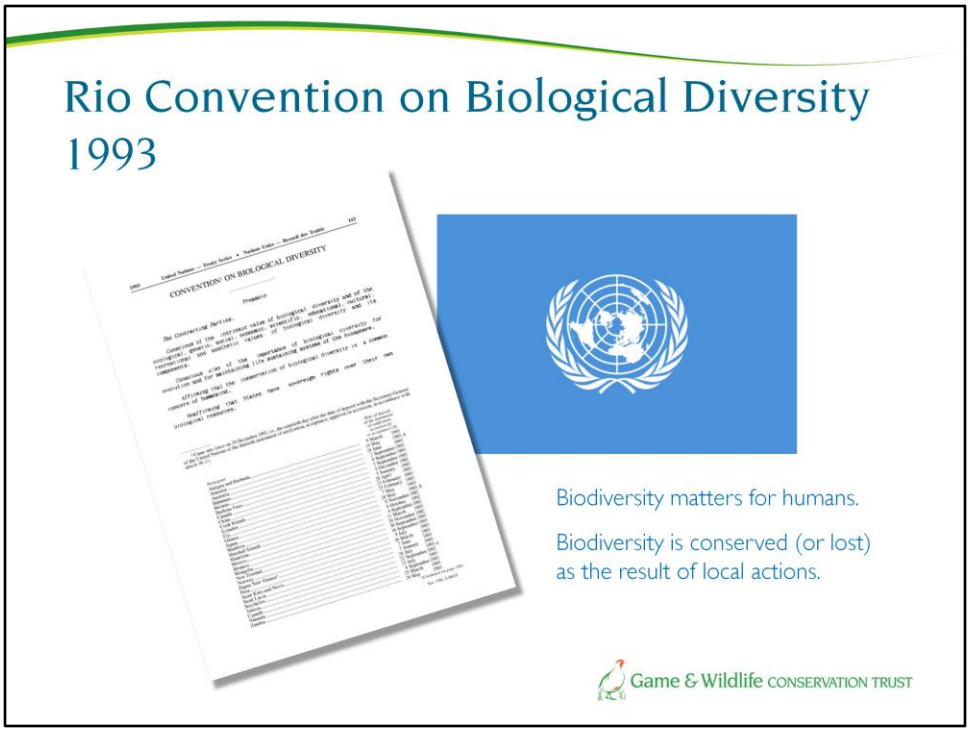
Game & Wildlife
CONSERVATION TRUST



By now you will probably be aware of mink rafts, and perhaps you have understood that they represent a very different approach to the control of mink.

I want to show you why we devised mink rafts, and how we worked out a strategy for using them, step-by-step.
I want to show you that they are highly effective, economical, adaptable, humane, and proven in widespread use.

But you don't have to take my word for it. The most important thing about mink rafts is that they tell you how things are going. So you can



My involvement with American mink was decided back in 1993, although I didn't know this until 9 years later.

The Convention on Biological Diversity, held in Rio, established two important principles:

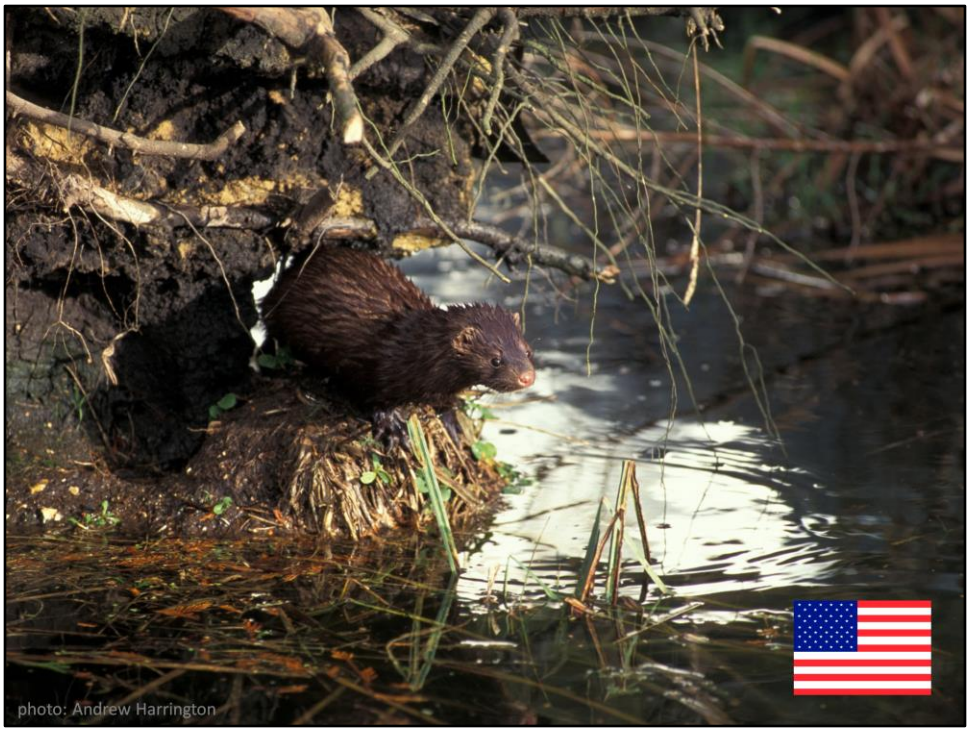
(1) that biodiversity is valuable to humans; and
(2) that conservation of biodiversity begins at home – we are all responsible at least for our own fauna and flora, and conservation has to be achieved as the sum of many, many local actions.

When the UK started looking at its own fauna, the mammal that seemed most in need of protection was this animal, *Arvicola terrestris*, which we call the 'water vole'.

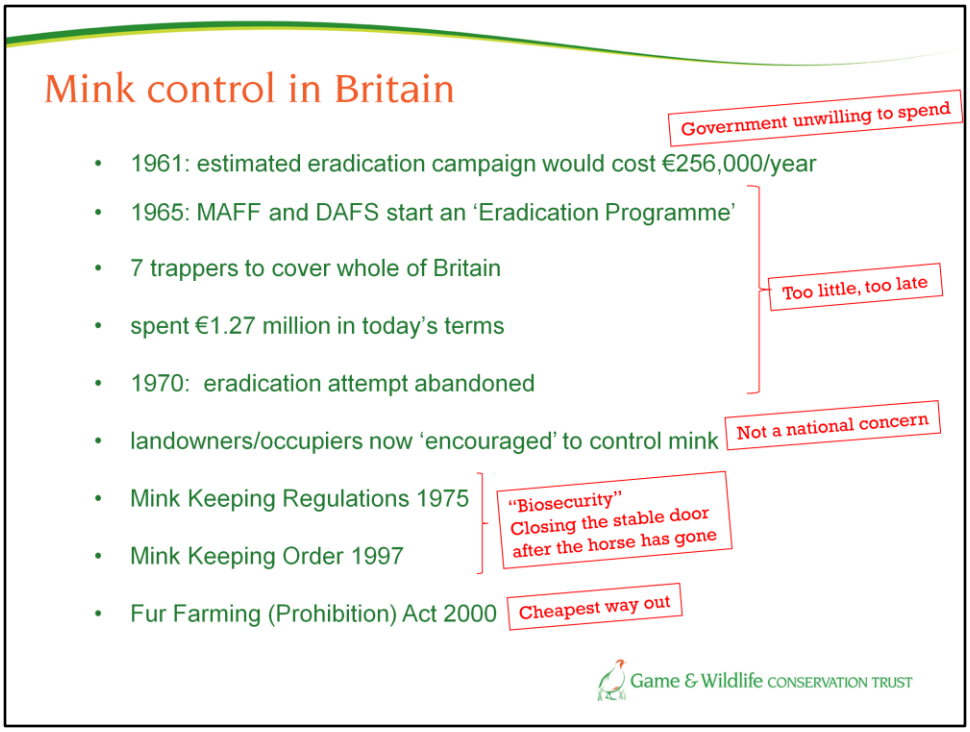
This little mammal suffered a decline in the 1970s and 80s that was severe enough to be noticeable to ordinary mortals. Two surveys of the whole of Britain in the late 80s and mid 90s documented a 68% loss of range and 88% loss of density in just 7 years. So *Arvicola terrestris* was Britain's fastest declining mammal.

These voles are basically little machines for converting green plant material into small packets of meat. The more habitat you have, the more voles you can have. This vole was once the commonest small mammal in Britain, and it is estimated that there were 64 billion of them. But agriculture confined them to river corridors, and those habitats too have been steadily degraded and lost. Habitat can be recreated and agri-environment schemes provide the incentive to do that.

However, there are <u>many</u> places with suitable or restored habitat and no water voles. The prospect of these places being repopulated naturally from the fragmented remnant population of water voles <u>within our lifetimes</u> is very small. The likelihood of remnant populations surviving is very uncertain. And this is because of …



…the American mink.



This is how the British government responded. Please don't make these mistakes in Spain!

When mink were confirmed to be breeding in the wild, government biologists advised Ministers that because mink did not have their natural food (muskrats) in Britain, they would not be any trouble. Other voices, however, pointed to conservation issues with seabirds that were already occurring in Norway.

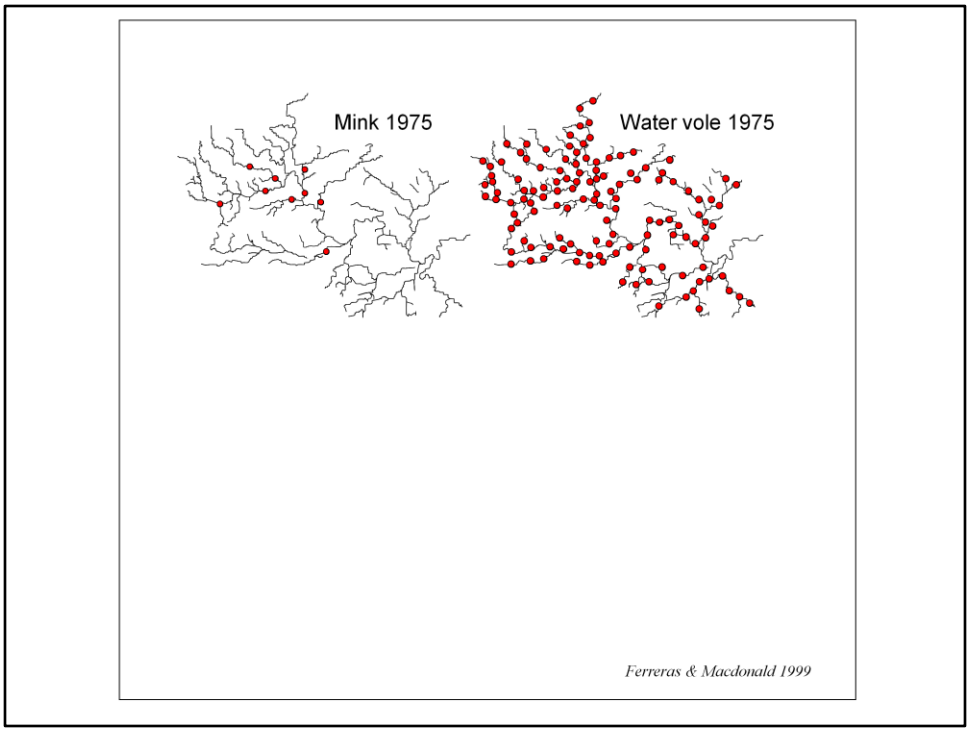
In 1961, it was estimated eradication would cost about £10,000 /year (in today's terms, about 256,000 Euros). It was hopeless under-estimate, but in any case Government wouldn't spend this money.

However, four years later, they changed their minds. They set up a team of 7 trappers, by now would have to cover the whole of Britain. It was too little, too late, and in 1970 the attempt was abandoned. From this moment, landowners were merely 'encouraged' to control mink - there was no financial assistance.

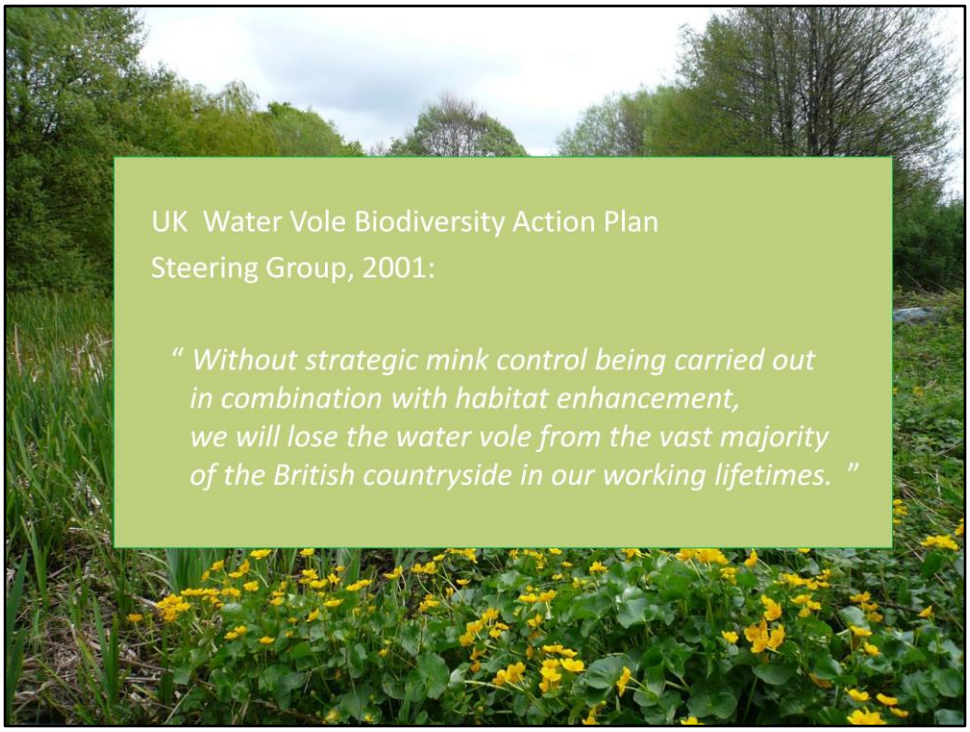
A succession of laws were passed, imposing tighter and tighter biosecurity restrictions on fur farmers. In English the phrase for this is "closing the stable door after the horse has bolted".

In the 1990s, animal rights activists repeatedly destroyed biosecurity measures at fur

farms, while maintaining a very active political campaign against fur-farming. Policing these incidents was expensive, and in the end the Government took the cheaper and easier option, which was to ban fur farming entirely and compensate the few remaining fur-farmers.



The evidence linking water voles to mink was largely circumstantial, but very persuasive. This illustration comes from the Oxford University. The map shows the upper part of the River Thames catchment. In 1975 Arvicola was found throughout the region. Mink were just becoming established … and 20 years later the situation had more or less reversed.



So in 2001, the expert group overseeing the Action Plan for the water vole BAP stated officially that unless something was done about mink, we would lose water voles.

The actual ecological impact of mink has gradually become apparent over several decades, but only by piecing together information from many different studies. Seabird colonies were especially vulnerable. For thousands of years, seabirds had bred on islands around Britain that were inaccessible to mammalian predators, and for other bird species too these were important places. Suddenly the birds found mink in their breeding colonies: an amphibious predator with a tendency to kill far more than it can eat.

This photograph was taken in 1989 in what was – at that time – the largest colony of Common Terns in the British Isles. We don't often see scenes like this any more, because either the colonies are artificially defended by mink-trapping, or they have gone extinct. Mink have fundamentally upset the conditions on which these birds depended.

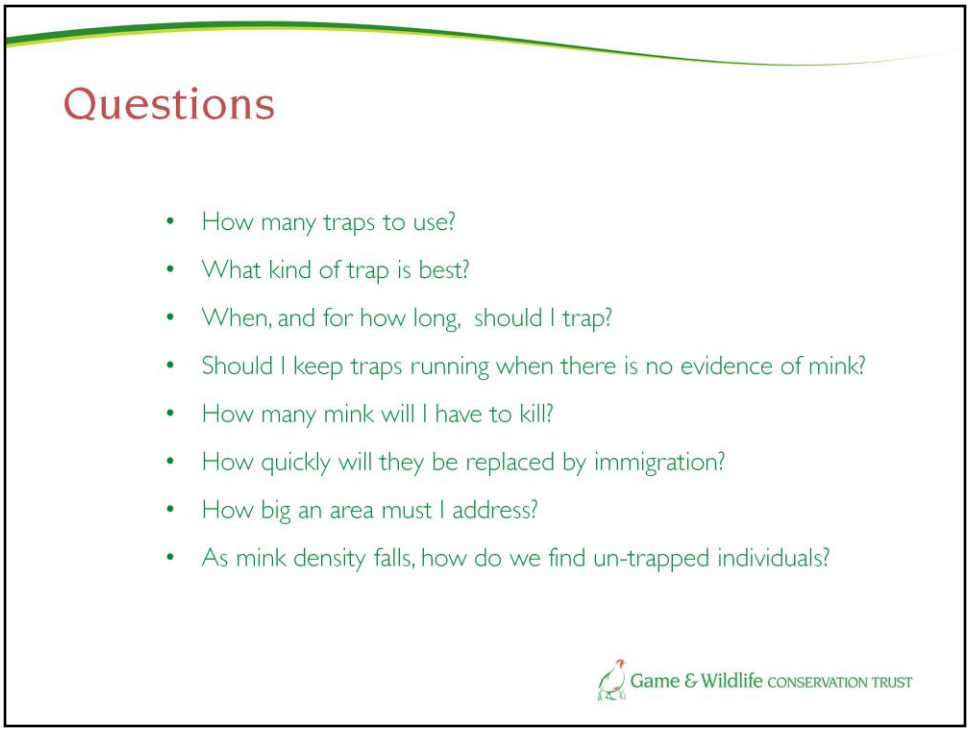
In the 1990s, we saw many attacks on fur farms by animal rights activists, just as you have in Spain, and in other European countries. (This photo comes from Denmark.) In Britain, the mink released by these lunatics added little to the wild population, which was already well established.

So, what can we do about mink? We have known for a long time how to catch mink, or at least how to catch some mink. The book in the front here was written in the 1930s.

Under UK legislation, you have the choice between 'kill traps', as here….

…or live-catch traps like this.

No-one had any idea what impact trapping could have on mink numbers, and whether it was worth starting. There were many unanswered questions about when, where, how much effort, cost, etc.



So around 2002, many conservationists had decided they must do mink control. Everyone was asking the same questions, and I'm sure most of these have troubled you, too.

Over the last 30 years, I have been doing research on how we manage common predator species, mostly in the context of game management. These same questions are common to all predator control, and generally they are not easy to answer.

The fundamental problem was that you don't often see mink. They aren't an animal you can easily survey, so you couldn't easily measure the impact of control measures on mink numbers.

A common way of detecting small mammals is to use footprint-recording in some kind of ink-and-paper system. But mink are wet much of the time.

There isn’t always – a convenient patch of mud to search for mink tracks – in fact there rarely is.

The GWCT Mink Raft

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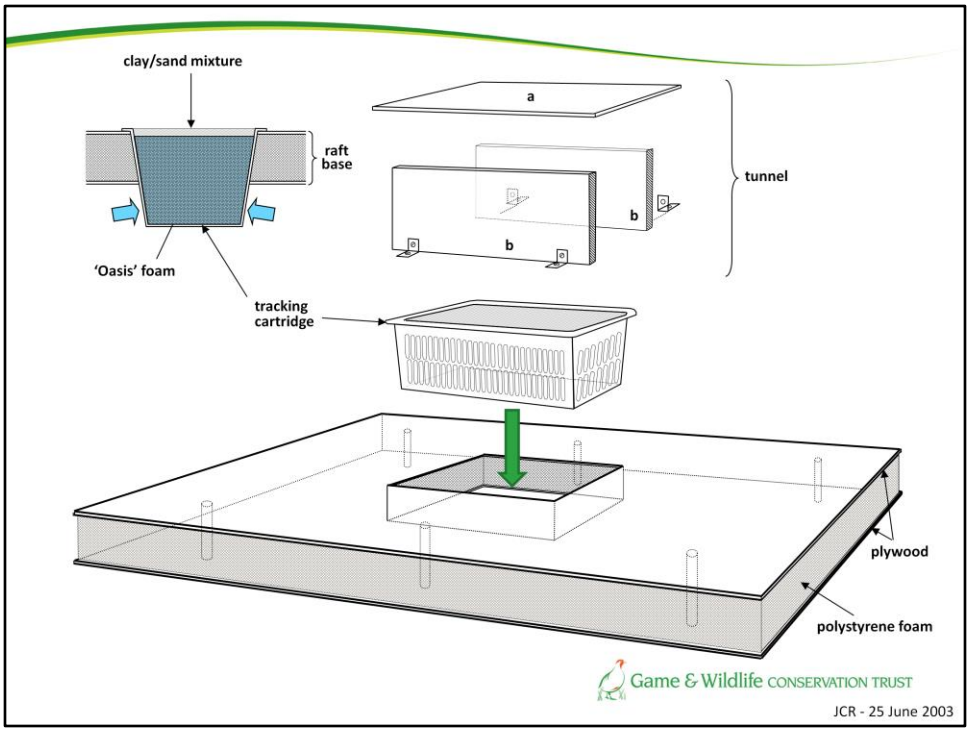
So we tried a new idea, and we intended it as a research tool.



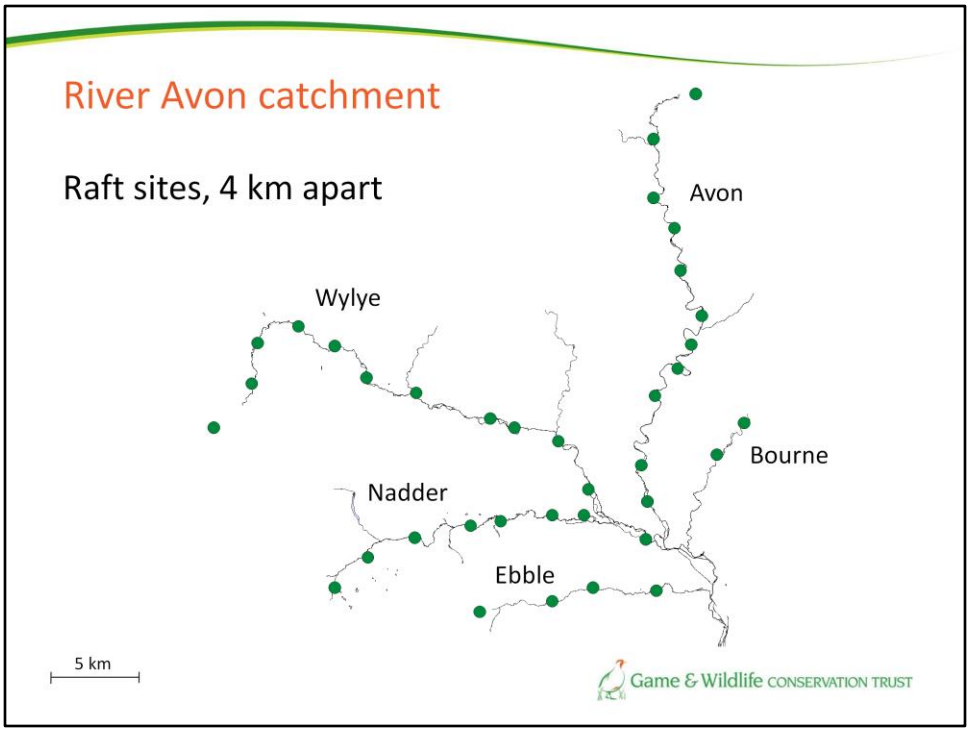
The raft itself is a sandwich of plywood and polystyrene foam, buoyant enough to keep the top surface dry. There's a hole cut right through the raft. In this sits a perforated plastic basket. The basket is largely filled with Oasis flower-arranging foam. On top of the foam is spread a 1 cm layer of clay and sand mixed into a smooth paste. The bottom of the foam is in the river, and it lifts water by capillary action to keep the clay mixture wet and receptive to tracks.

A tunnel protects the clay from the weather and from falling debris. It has several other functions, too. It makes an interesting looking 'hole' that mink might be curious to explore. It defines a space whose entrances can be regulated to exclude non-target animals. Finally, it provides a housing for a trap, which can be set there in place of the clay cartridge if mink tracks are recorded. A live-caught animal is protected and hidden from human eyes, too. It takes only a minute to convert the raft from monitoring to trapping mode, or back again.

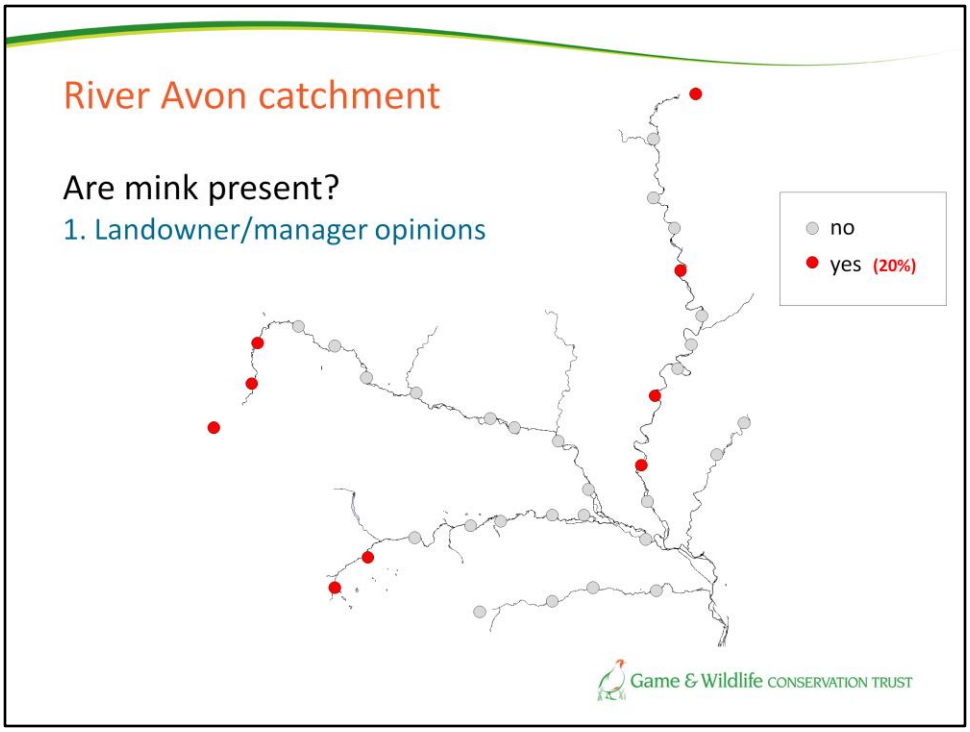
This is the tracking medium. You can see the green foam through the holes in the side of the plastic basket, and the clay/sand mix is being smeared over the top.

We intended the raft to be pushed into the vegetation at the edge of the river. Here's an example in use. It is camouflaged with local vegetation, largely to minimise vandalism by humans.

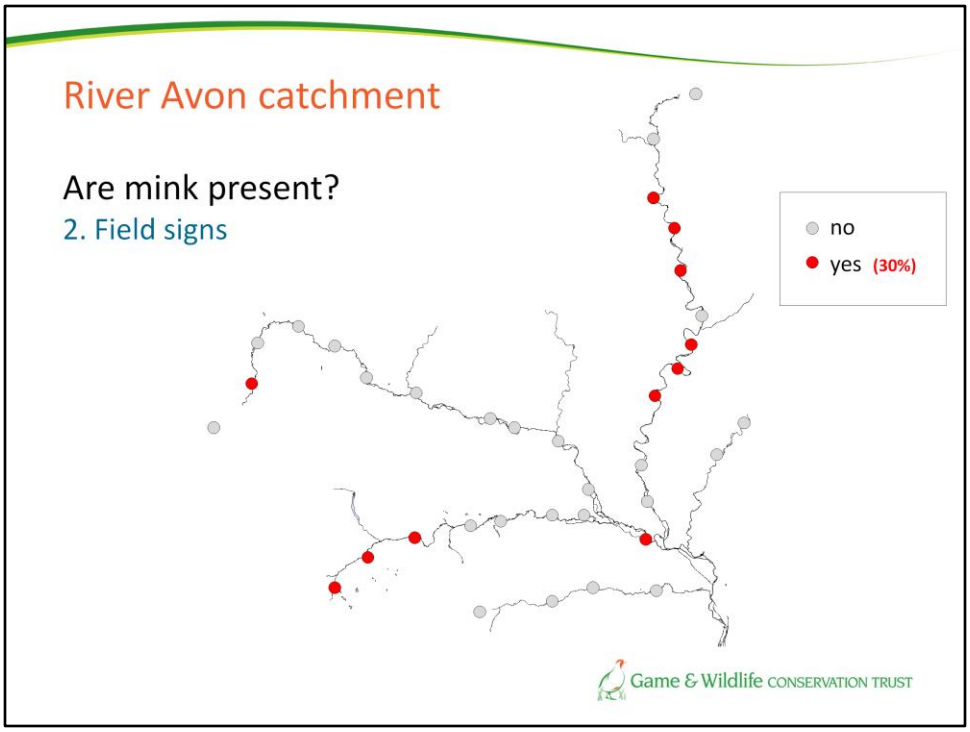
Our exploration of how this simple gadget might work began with a student project.



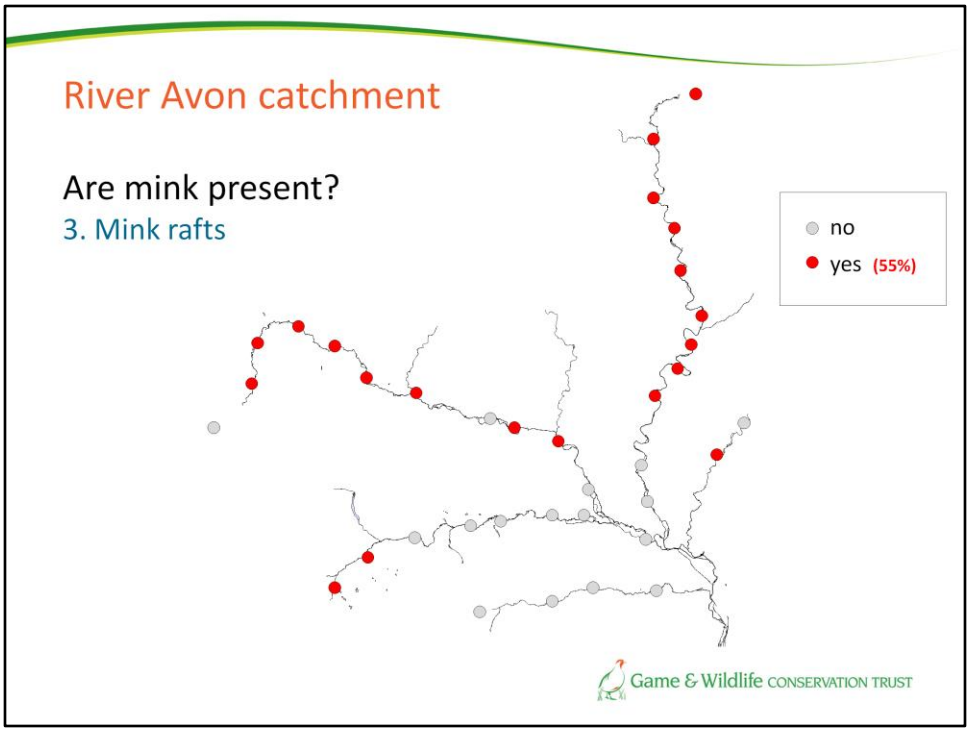
We placed rafts at sites around this river system in southern England. We in the literature for estimates of mink home-range size, and spaced our sites roughly 4 km apart to make it unlikely that any mink had access to more than one raft.



We had to ask permission from different landowners at each site, and we always asked them – and their river keepers, fishery managers or gamekeepers -- whether they thought there were mink present. Quite a number of them had traps set for mink. As this map shows, only 20% of sites were thought to have mink present.



We did a survey ourselves using the techniques other biologists had developed, searching for faeces and footprints. This detected mink at a few more sites (30% of all sites), although it didn't confirm mink presence at every site where landowners believed them to be present.



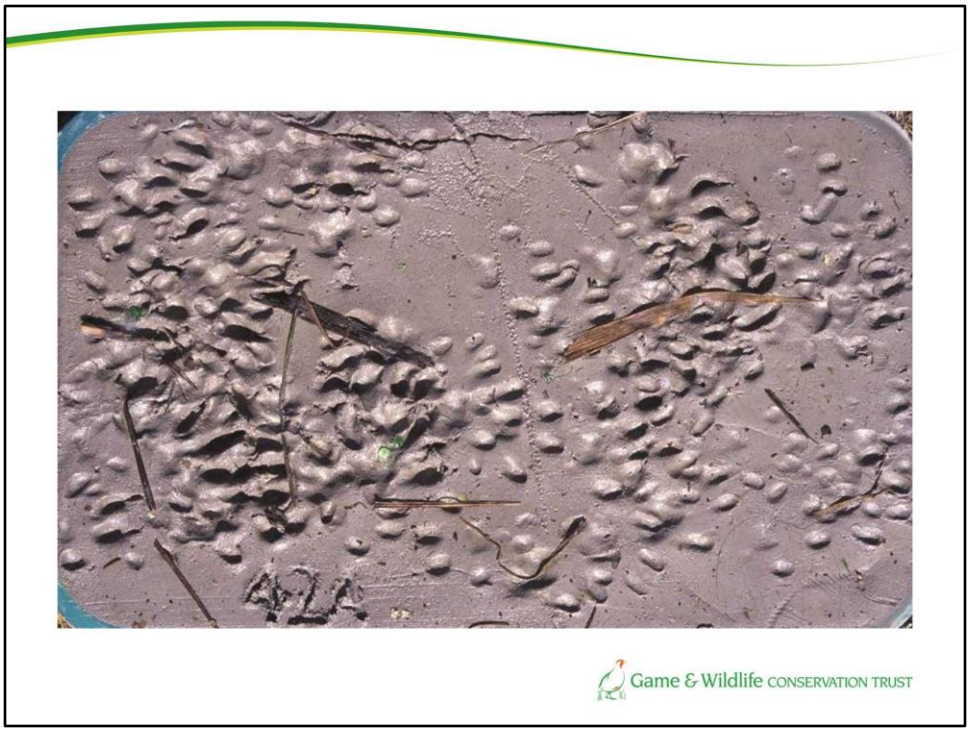
But our rafts were even more sensitive, detecting mink at 55% of sites.

Note that although mink had been present in this river system since the 1960s, and that in the 1980s animal rights activists had twice released several thousand from a fur farm about 20 kilometres downstream, mink were not simply ‘everywhere’ in 2002. There were quite a few gaps, and these remained gaps throughout the 7-month study.

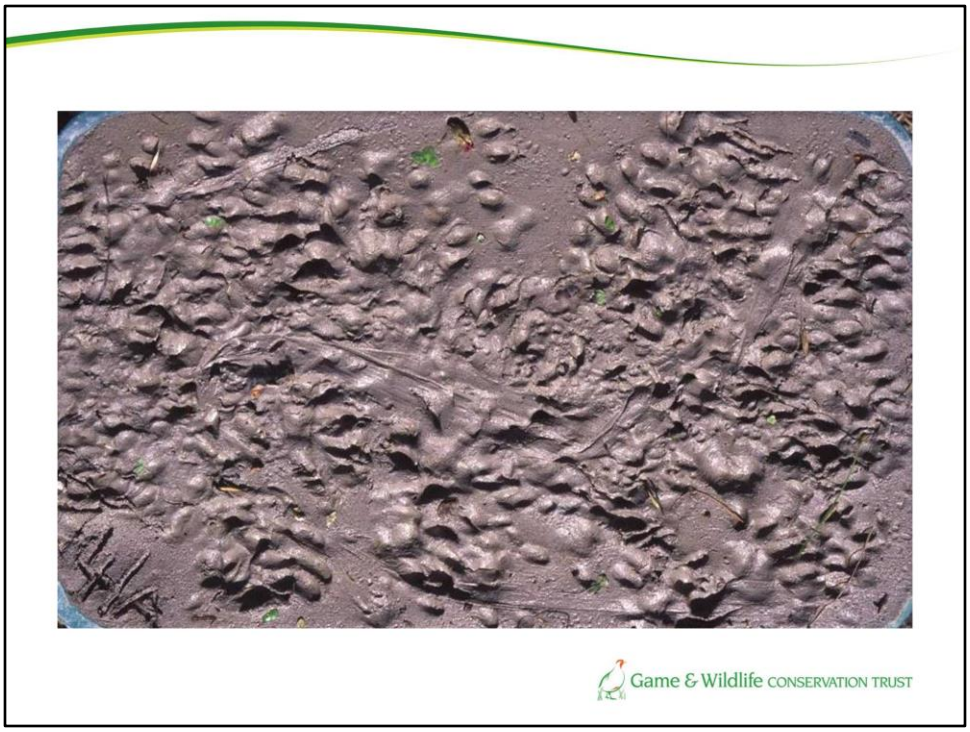
The evidence of mink presence was indisputable. In Britain the only species we might confuse is the polecat (Mustela putorius), and following clues from Vadim, we found later that we could distinguish these fairly reliably.

We often got quite a lot of mink tracks….

Here are a few more….



It could be quite busy…..



…as you can see.

So we had established three things:
1. Rafts appeared to be more efficient at detecting mink than incidental sightings, the use of traps on the river bank, or field-sign surveys.
2. The number of mink present in the river was quite small: we estimated 40 individuals. Nobody had any estimate of this before. Suddenly eradication did not appear such an enormous task.
3. Even though they offered no reward, our rafts were clearly visited regularly, perhaps repeatedly by the same mink. That suggested that they might also be a good trap site. Indeed, why would you put a trap anywhere else?

Detection probability

With one raft per 4 km and a two-week check interval.

probability of detection, per mink, raft and check occasion = 0.5

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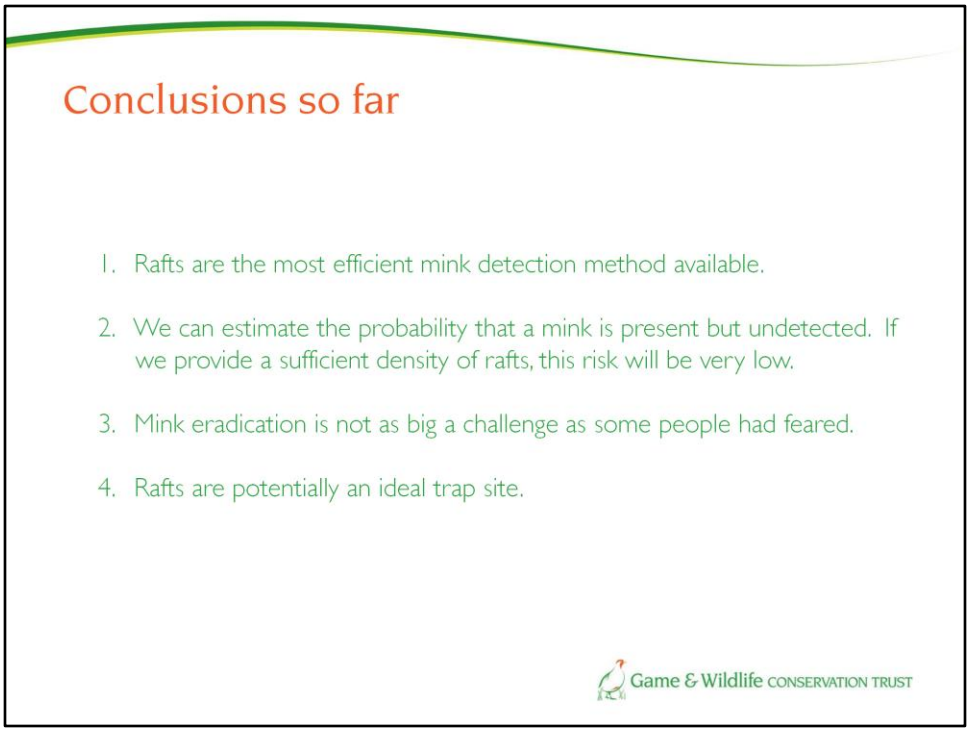
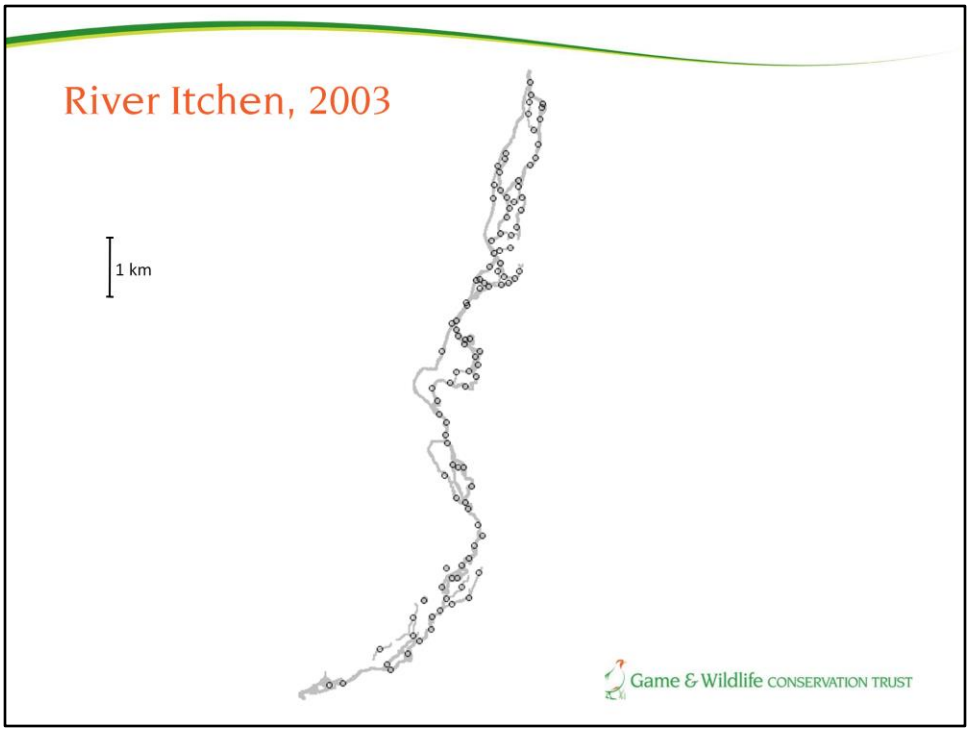


So we had established four things:

1. Rafts appeared to be more efficient at detecting mink than incidental sightings, the use of traps on the river bank, or field-sign surveys.
2. By ensuring a sufficient density of rafts we could ensure that the risk of failing to detect a mink would be very low.

3. The number of mink present in the river was quite small: we estimated 40 individuals. Eradication did not appear such a big challenge.

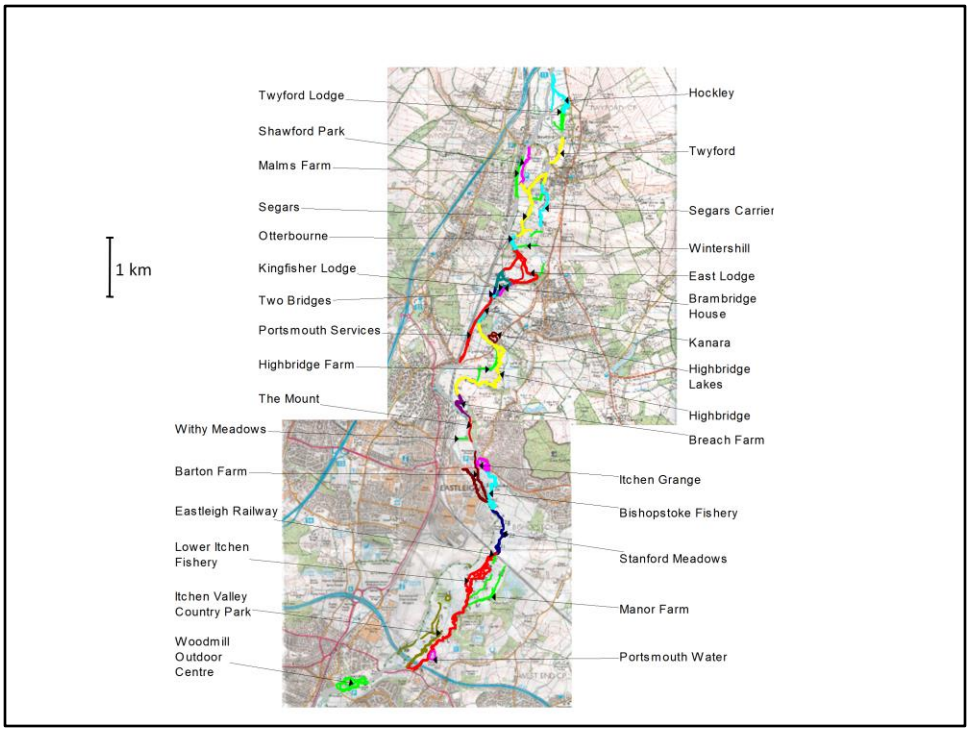
4. Even though they offered no food reward or scent attractant, our rafts were visited regularly, perhaps repeatedly by the same mink. That suggested that they might also be a good trap site. Indeed, why would you put a trap anywhere else? Why would you run traps when you had no evidence of mink being present? If there was no mink present, you could only catch non-target species – so there was a conservation issue here too.



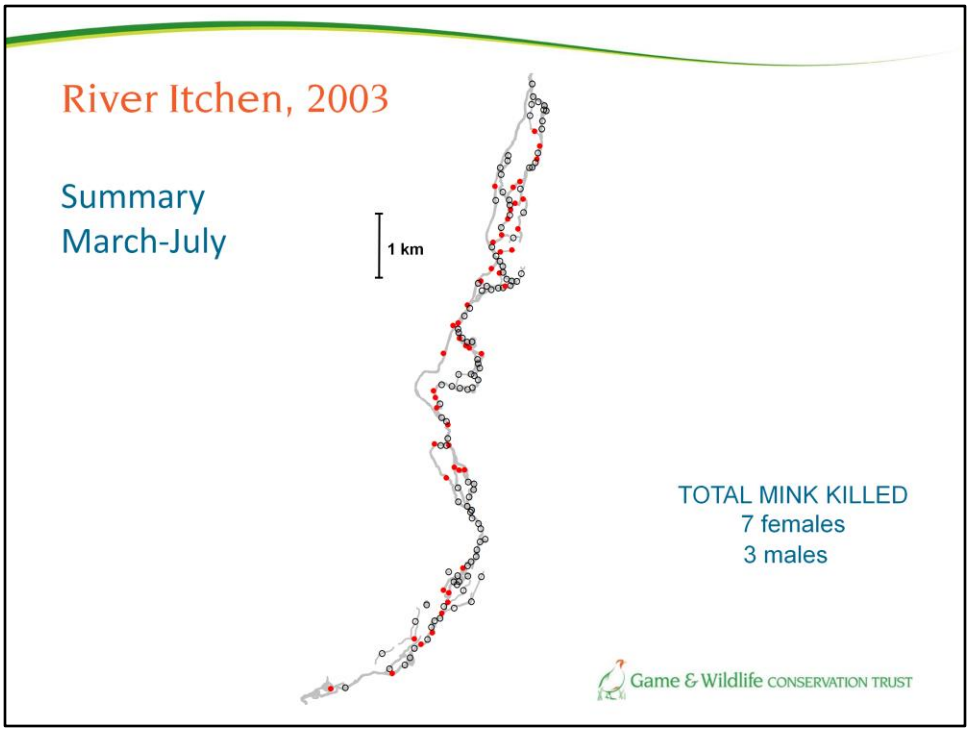
So we now needed to establish two more things:

1. What was the optimal raft spacing?
2. Could we eliminate mink by trapping on rafts?

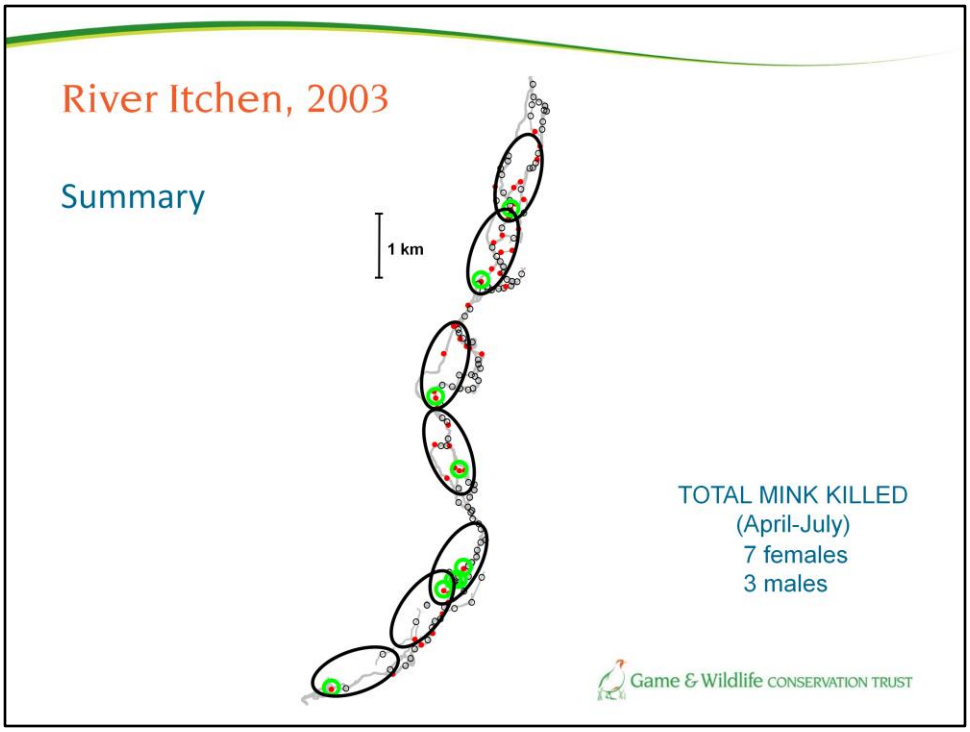
We were commissioned to try this out along a 12 km part of a different river system, where there were said to be 'a lot of mink'. In this 12 km section of river, we installed 102 rafts! This was a deliberate overkill.



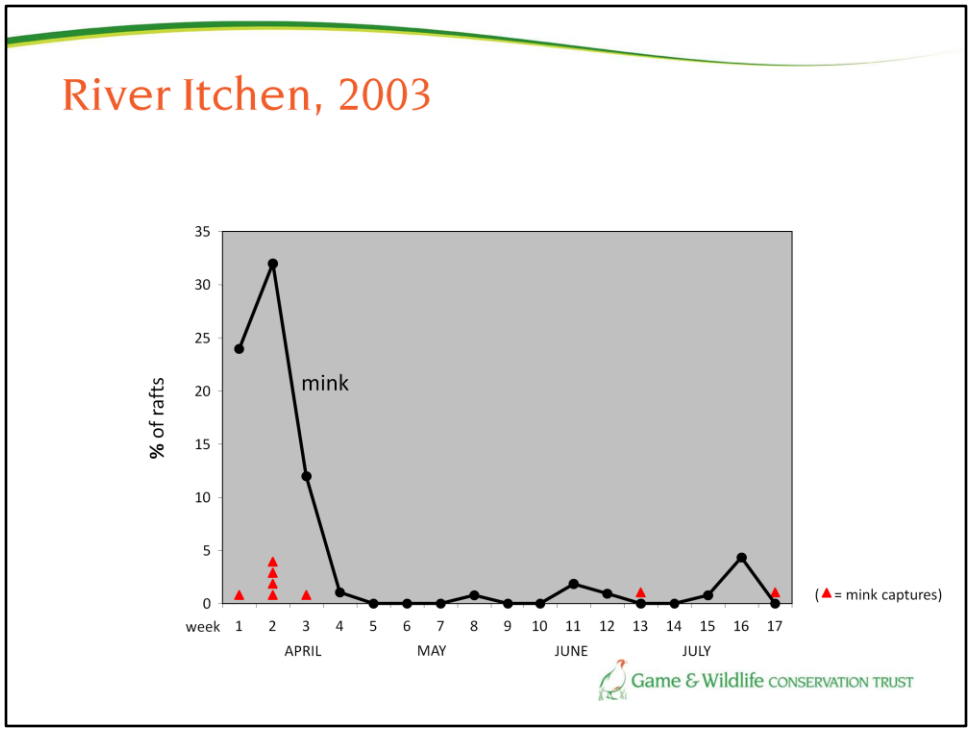
This will give you an idea of the amount of organisation that is necessary. There is a lot of fishing interest on the Itchen, so this short stretch of river corridor involved liaising with about 30 fishing syndicates, each with different locks on their gates, each with a river keeper who was supposed to be doing mink control.



This summary shows all the raft sites used and (in red) all the sites where we recorded mink footprints. Traps were always placed in response to footprints, and then checked daily for 10 days. In total, we removed 10 mink (7 females, 3 males) during the spring and summer. Maybe that doesn't sound very many?

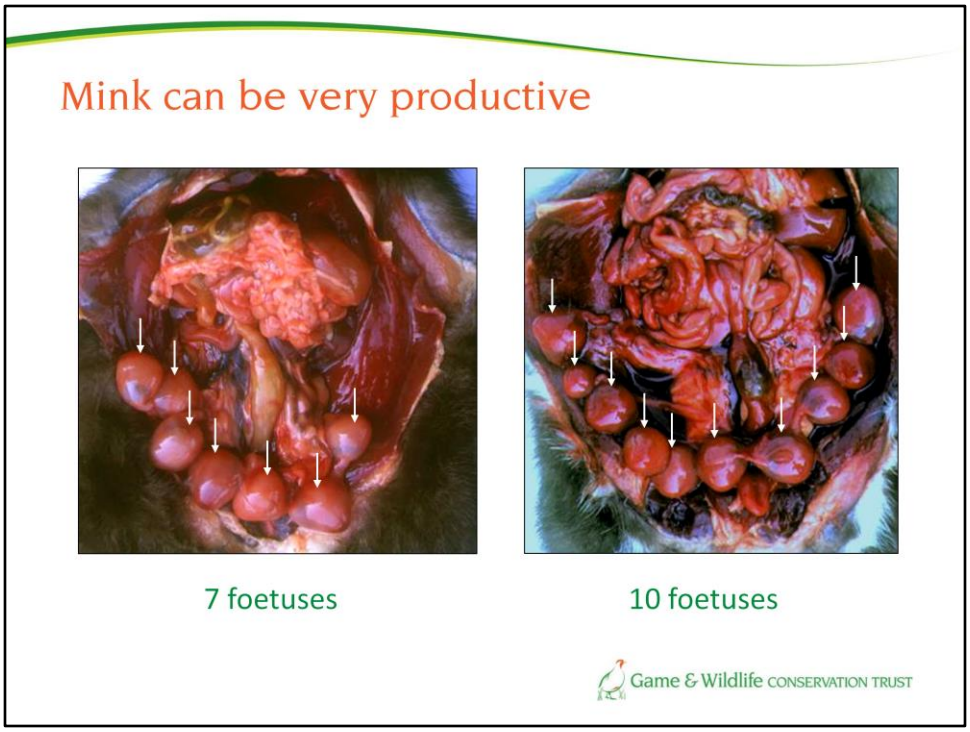


Did we catch all the mink there were? These green circles mark where the captures were made. From radio-tracking studies, a breeding female is expected to occupy an exclusive home-range about this size. If we put one of these around each of the sites at which we caught a female, and try to make them exclusive, it explains most of the mink tracks on rafts, and neatly fills up the whole river section.



But above all, we had the evidence of the rafts. The level of mink activity recorded at rafts dropped from around 30% to zero after just the first flurry of captures (these red triangles). Thereafter, two further small peaks in activity were each terminated by a mink capture.

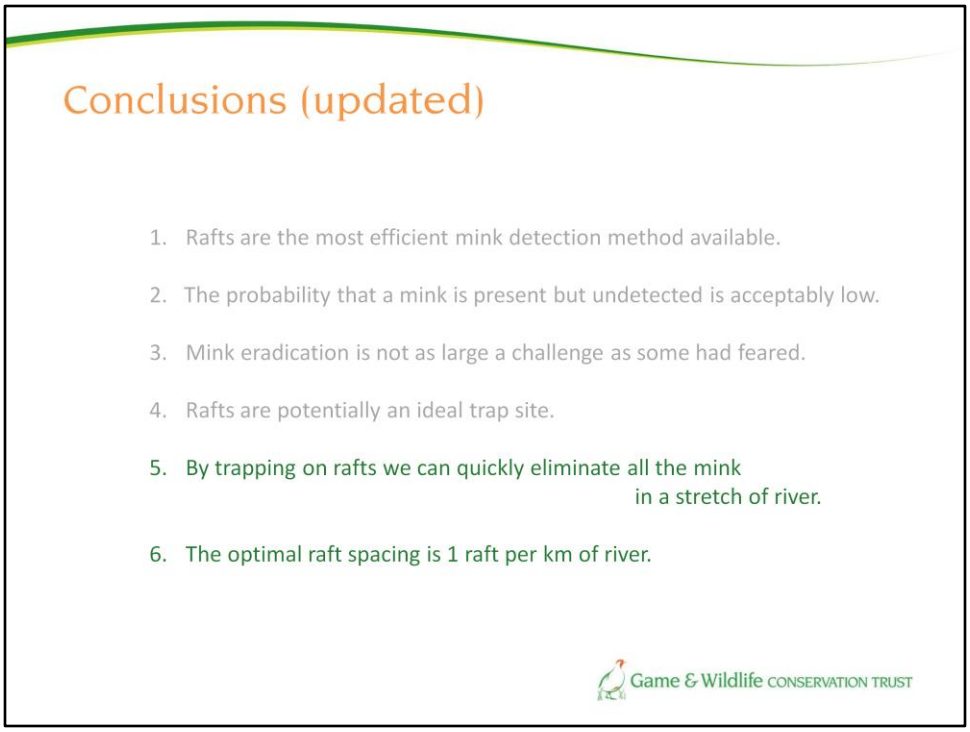
We weren't really interested in how many mink we caught. What we were interested in was the rafts that showed no evidence of mink.



We had aimed our trapping at that window of opportunity when females had settled into breeding ranges but had not yet given birth. In theory, this ensured the maximum impact on the mink population, but avoided welfare issues associated with dependent young being orphaned.

We examined the females we caught to check that they didn't already have dependent young.

This emphasized the impressive productivity of mink. This one carried 7 foetuses, this one 10. According to literature, mink can have up to 14 young but the average is 5. Actually, 5 was the minimum here on the Itchen. If all these foetuses had survived to weaning, we would have been dealing with sixty mink, not ten.



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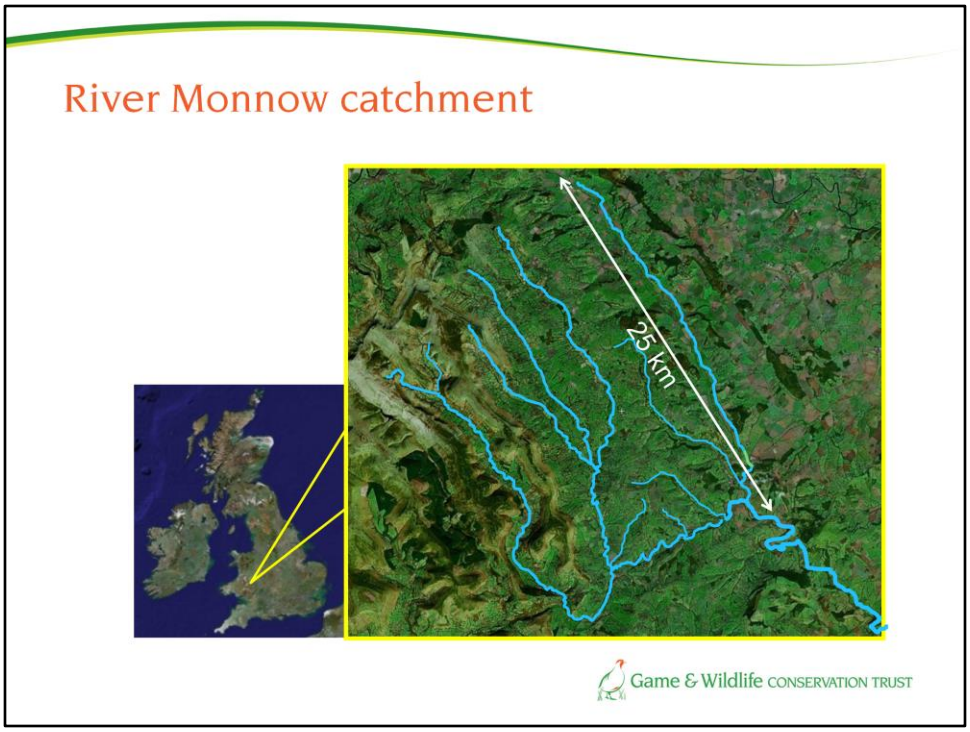
2. The number of mink present in the river was quite small: we estimated 40 individuals. Eradication did not appear such a big challenge.

3. Even though they offered no food reward or scent attractant, our rafts were visited regularly, perhaps repeatedly by the same mink. That suggested that they might also be a good trap site. Indeed, why would you put a trap anywhere else? Why would you run traps when you had no evidence of mink being present? If there was no mink present, you could only catch non-target species – so there was a conservation issue here too.



So by now we were feeling quite confident about our new technique. But already there were people suggesting that it wouldn't work elsewhere. In particular they suggested that fast rivers would make it impossible. We needed to out it all together in a demonstration.

The opportunity came in 2006 on the River Monnow, which is here on the border of England and Wales. The River Monnow consists of a group of sdimilar-sized rivers, and is itself a tributary of a still larger river, which it meets down here at the south-east corner.

We aimed to remove mink and re-introduce water voles on this river, which is 25 km long.

This river system is fed by an upland area.

So it gathers plenty of water, and flooding occurs frequently.

The river is often difficult to work in.

Or downright dangerous.

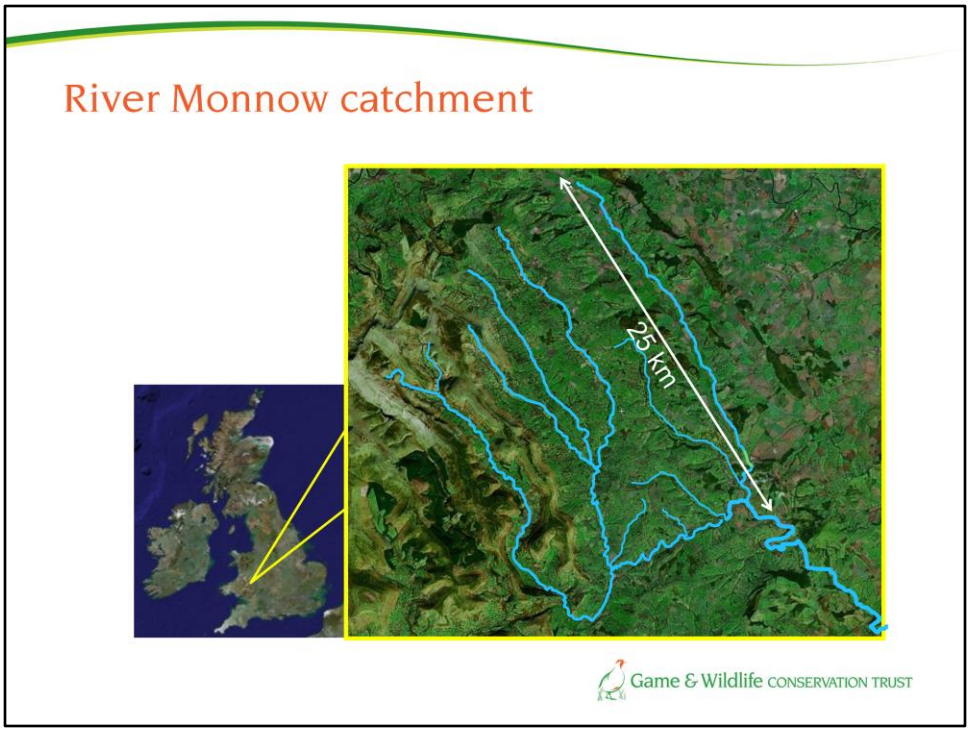
But we figured that when the water was too strong to operate rafts, a mink couldn't swim in it anyway. So using rafts became an exercise in anticipating high rainfall, and finding places where rafts could avoiding the fast water.

OK, sometimes we got things wrong, but most of the time monitoring and trapping effort could be maintained.

Then again, the river could be peaceful and beautiful.

And once it even dried up.

A lot of habitat improvement had been done already using agri-environment money, resulting in good water vole habitat. But this was one of the many, many catchments in Britain that had lost its water voles >15 years previously. Mink, on the other hand, were well established.



We set to work initially on this one tributary river, which we judged to be the best habitat for water voles.

The procedure we followed was this.

We placed rafts at intervals of 1 per km of river.

Each raft was fastened at the edge of the river. In monitoring mode we left them for 7 days between checks. There is no bait.

Once a week, the operator went along to check whether or not there are footprints. If not, he just smooths the clay over and leaves it for another week. If there are,…

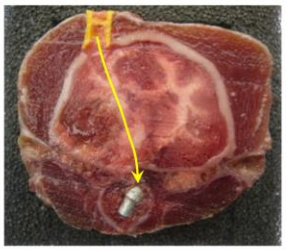
…he arms the raft with a live-catch trap, still without any bait. Traps are not used on rafts where there are no tracks.

He may find himself setting traps in response to tracks at 2 or 3 neighbouring rafts. The mink is usually caught within a few days in one of them.

The captured mink is dispatched with an air pistol. I haven't mentioned this up to now, and I notice that there is quite an emphasis in Spain on 'bloodless methods'.

Humane dispatch is a big issue for many people. In the game management world, of course, it is not such an issue. But we realised that many conservationists would not have licences to own firearms, and would not want one. So we researched whether dispatch could be achieved humanely using an inexpensive air weapon for which no licence was necessary.

We did this research very carefully, to ensure that inexperienced operators would know what weapon and pellets to buy, and how to handle the animal to ensure a humane end. For this we became the first ever recipients of the *Wild Animal Welfare Award* offered by UFAW (the Universities Federation for Animal Welfare).



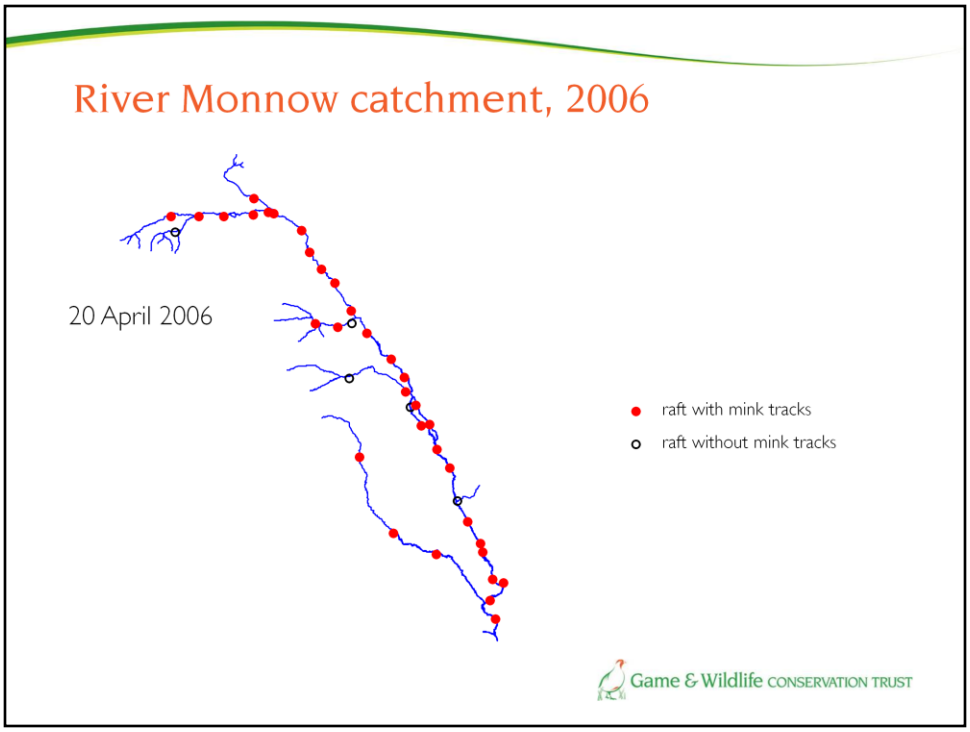
The mink is restrained like this, allowing the shot to be placed accurately. We give detailed prescription for the strength of the weapon, and the type of ammunition. If this prescription is followed the pellet passes right through the brain, causing immediate unconsciousness and

I very much doubt if any other method of dispatch can be arranged so swiftly and without unnecessarily causing further distress to the animal.

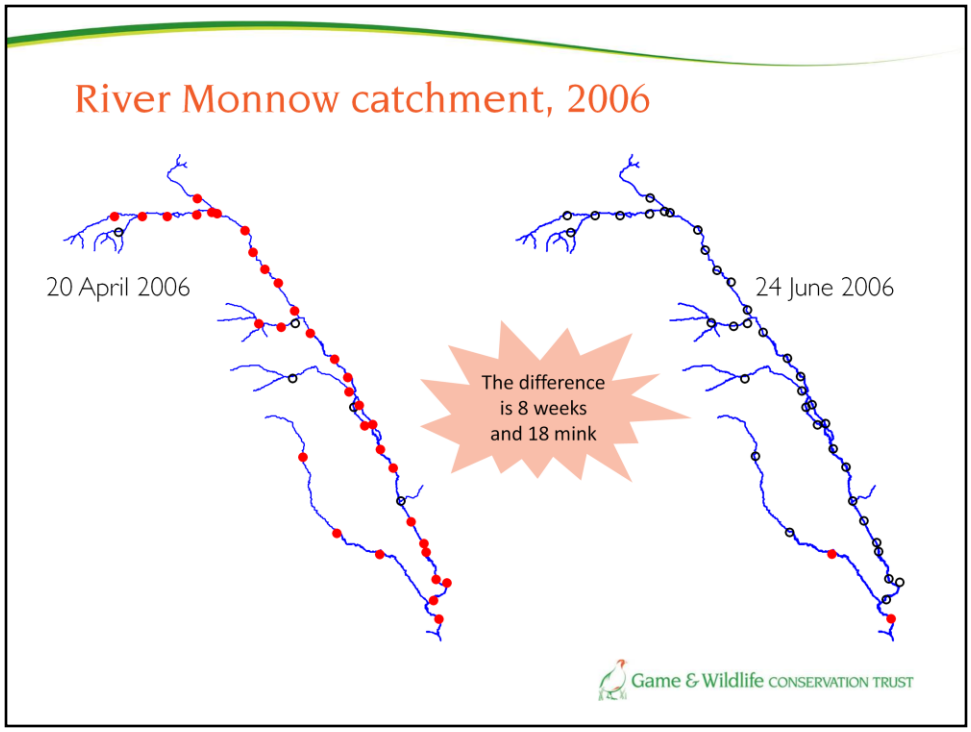
Once the animal has been caught and dispatched, the raft goes back to monitoring mode. This seems the least exciting part, but is actually the most important. What you want is to find no mink tracks, week after week after week after week.

By the way, this is Ben Rodgers, whom we employed as our trapper. He had not previously done any trapping of mink or anything else, but as his father was the local vicar (priest), he knew the area and the landowners trusted him.

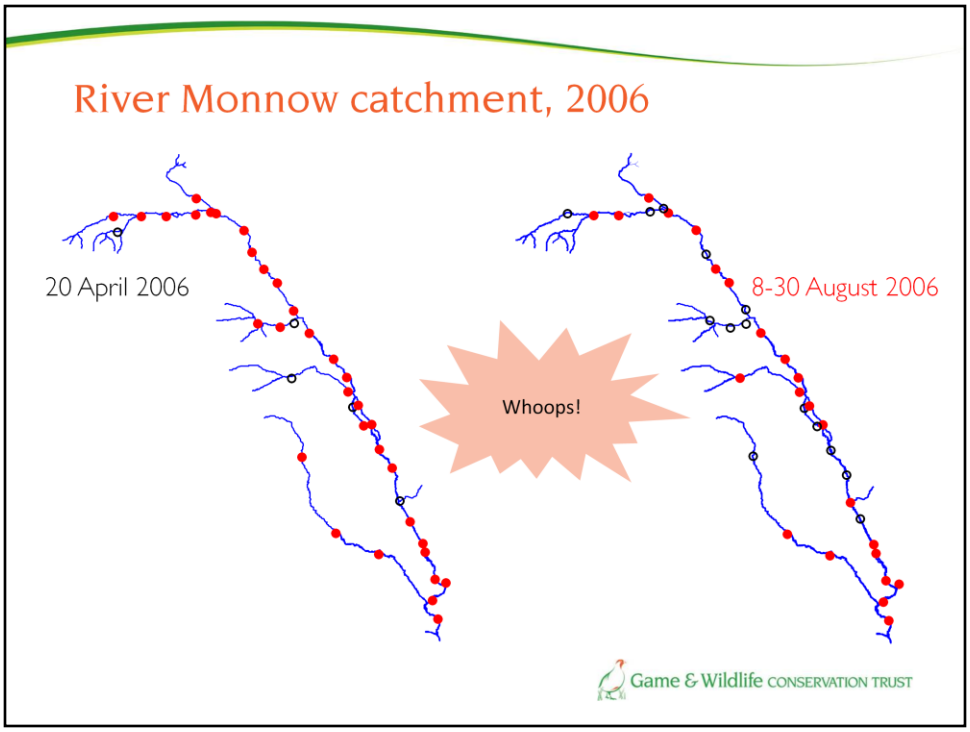
The really big advantage of paid staff is that they do what you ask them to do (otherwise they might be out of a job). So in this project we had total control over what was done and how it was recorded.



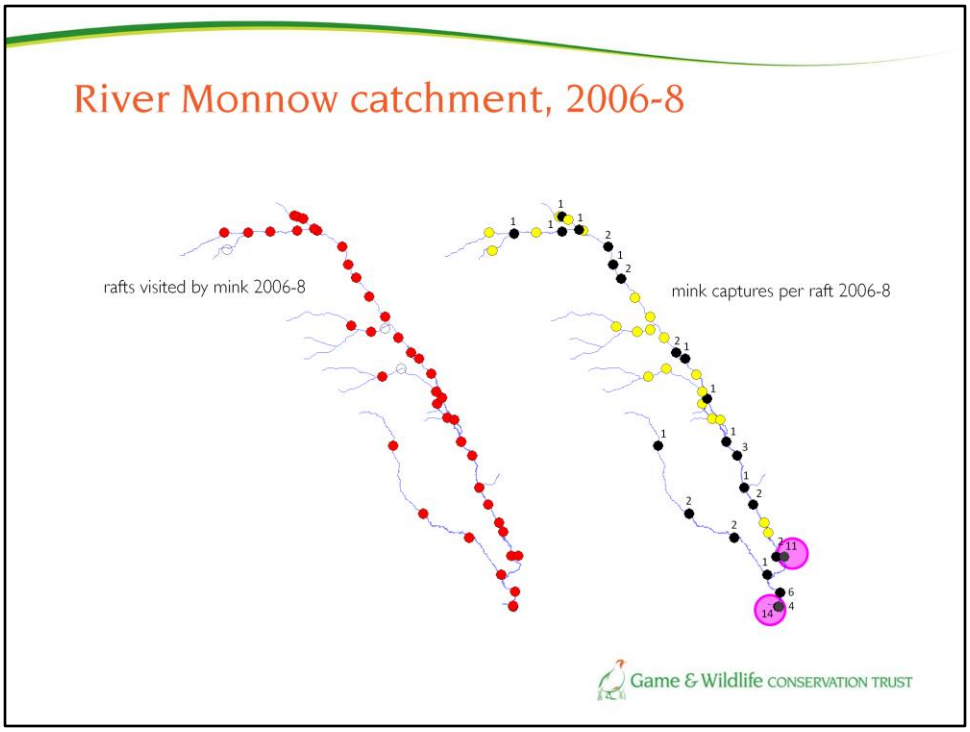
At the first check round, Ben found mink tracks on almost every raft, suggesting a rather high mink density.



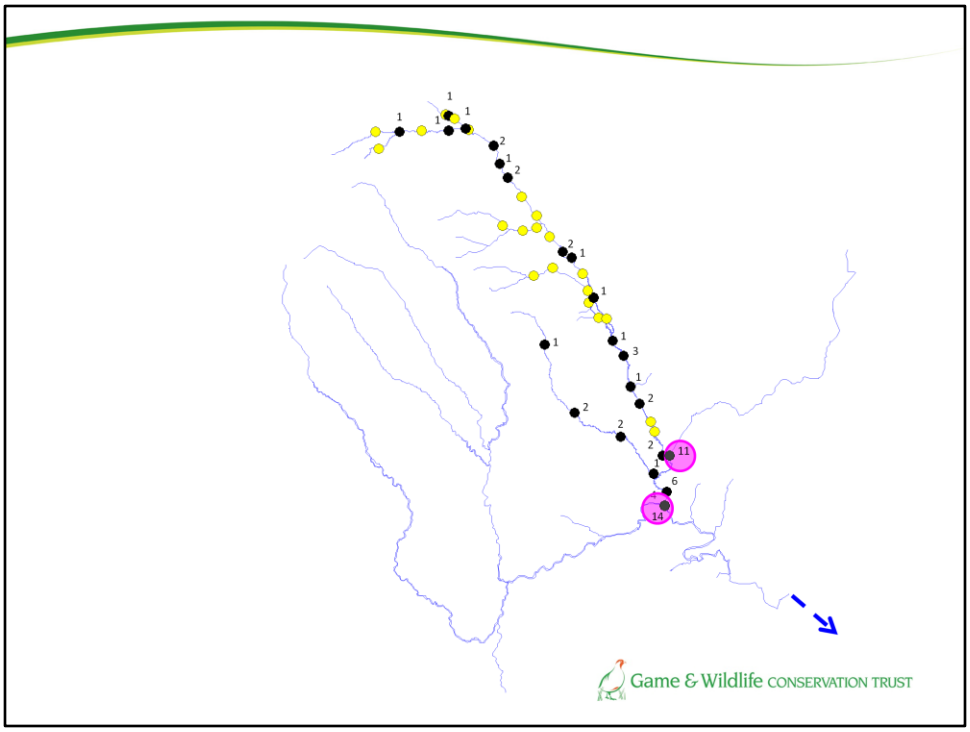
But as we expected, Ben was quickly able to get to this state, where almost all the mink he could find had been trapped. Note the dates. The difference between these two maps is 8 weeks and 18 dead mink.



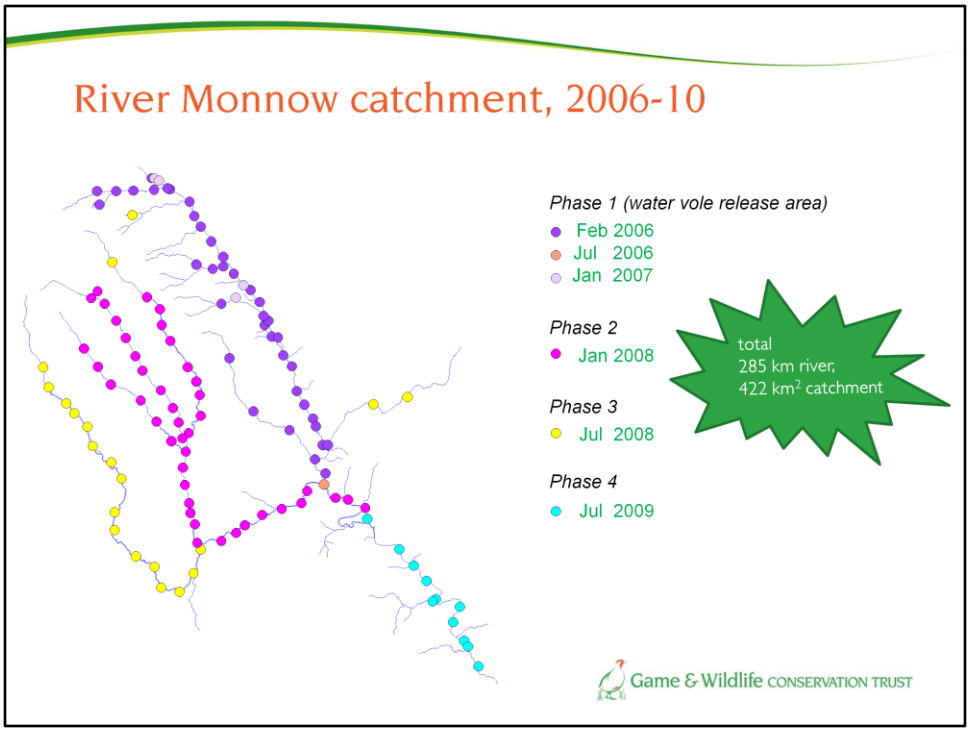
We then made a bit of an error by allowing Ben to go on holiday for 2 weeks. When he returned, the river was full of mink again. But never mind, the raft system works, and a few weeks later the river was once again clear of mink. It had taught us a lesson, though.



During the next 18 months Ben returned data every week after checking the rafts, and I studied it for emerging patterns. One thing I noticed was this. Although almost every raft recorded mink tracks at some stage, captures were very unevenly distributed. In this map on the right, rafts where captures have been made are shown in black, and those with no captures are yellow. The numbers may be difficult to see, but they are mostly ones or twos. Two rafts stood out: these two caught 11 and 14 mink respectively. Why?



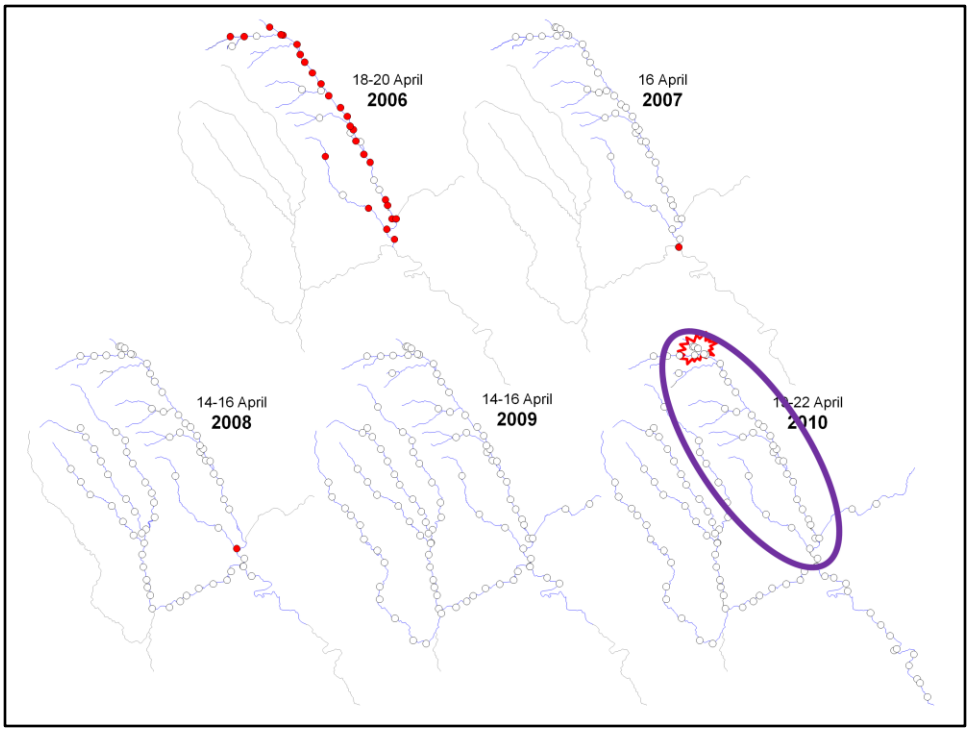
The reason is that these were where the river connected with the rest of the catchment. In other words, they were entry routes for mink. This was when we decided to expand our mink control effort stage by stage.



In fact we undertook to eradicate mink from the entire Monnow catchment, gradually extending the array of rafts outwards.

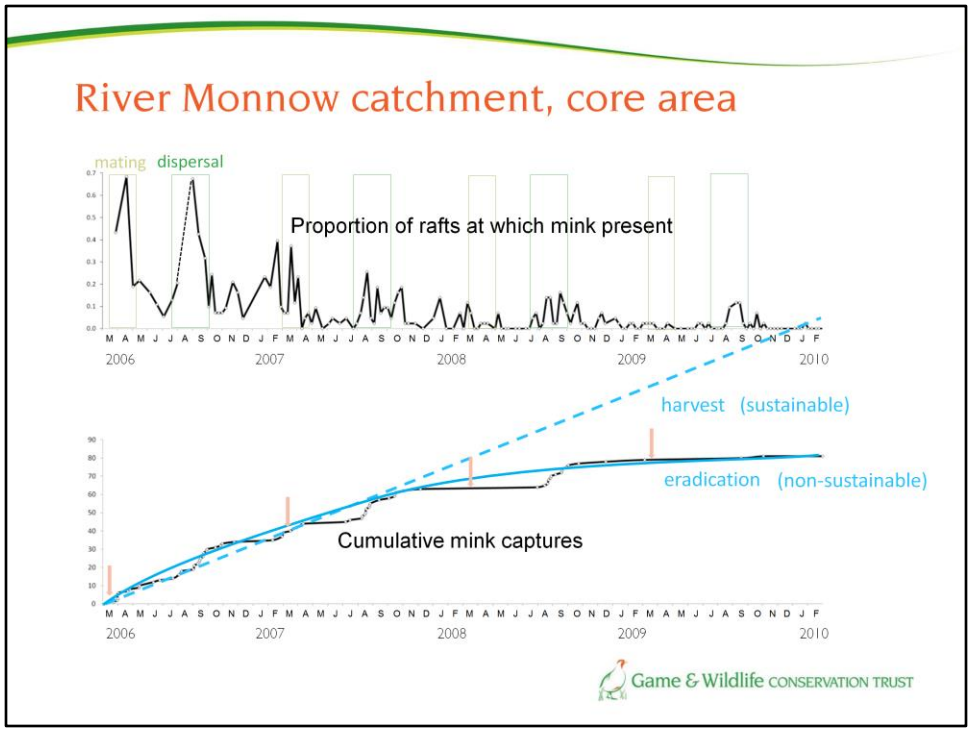
To do this we needed to employ a second trapper. So ultimately we were covering a catchment of >400 square kilometres, using two trappers.

Extending the mink trapping effort meant we had to employ a second trapper. Ben's brother Owain was available, so we took him on.



So, let's consider how the story unfolded across the whole catchment. This is the starting position in April 2006, which you have already seen. The set-back I have described was quickly rectified, and by April 2007 the situation looked a lot better. From there on, we kept clearing each new section of river as we extended the control area, and mopping up any re-invading mink. The control area grew step by step, and so did the area that we could show to be clear of mink.

The single occurrence in April 2010 looks to have spoiled our finishing position, but this mink was caught the day after the map was made!



Here's another way of looking at the story. These figures refer only to the rafts that were present throughout the whole 4-year period, in what we though of as our 'core area', because it was protected by extra trapping in adjacent parts of the catchment.

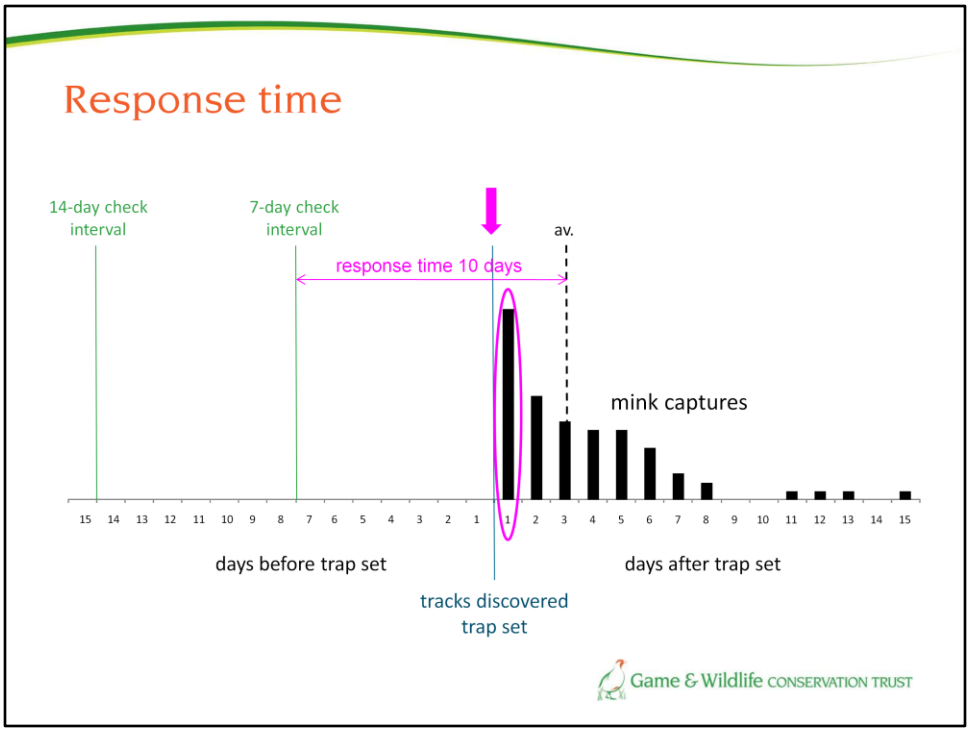
If we look at how many rafts showed mink tracks, week by week, we see that there were some detections in every year, because the scene was dominated by re-invasion from outside this area. There are two particular seasons when dispersal occurs. One is spring-time, when mink move around looking for mates. The other is autumn, after the summer breeding season. At this season we often caught an adult female and several juveniles, suggesting that mink – like other mustelids – may travel in family groups. But as the years went by, these peaks were greatly reduced, and there was a steady decrease in detections over 4 years.

Mink captures accumulated as you see at the bottom. This is not a straight line relationship, which would pass through the curve at the same point in every year (indicated by these arrows), and would indicate a sustainable harvest. It's very definitely a curve, which means the rate of capture was falling towards zero. It is the road to eradication.

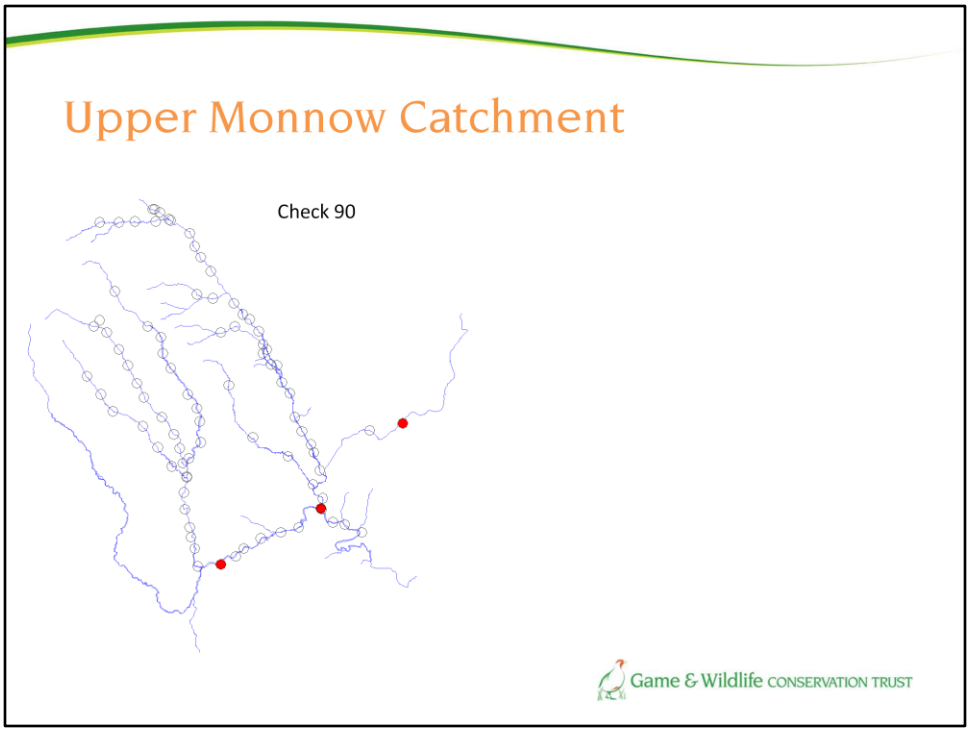
If we look at detections on rafts, we see that some detections occurred in every year, because the scene was dominated by re-invasion from outside this area. There are two periods of year when dispersal occurs. One is autumn, after the summer

breeding season. At this season we often caught an adult female and several juveniles, suggesting that mink – like other mustelids – may travel in family groups. But as the years went by, these peaks were greatly reduced. The same could be said about spring-time, when mink move around looking for mates. Overall, there was a steady decrease in detections over 4 years.

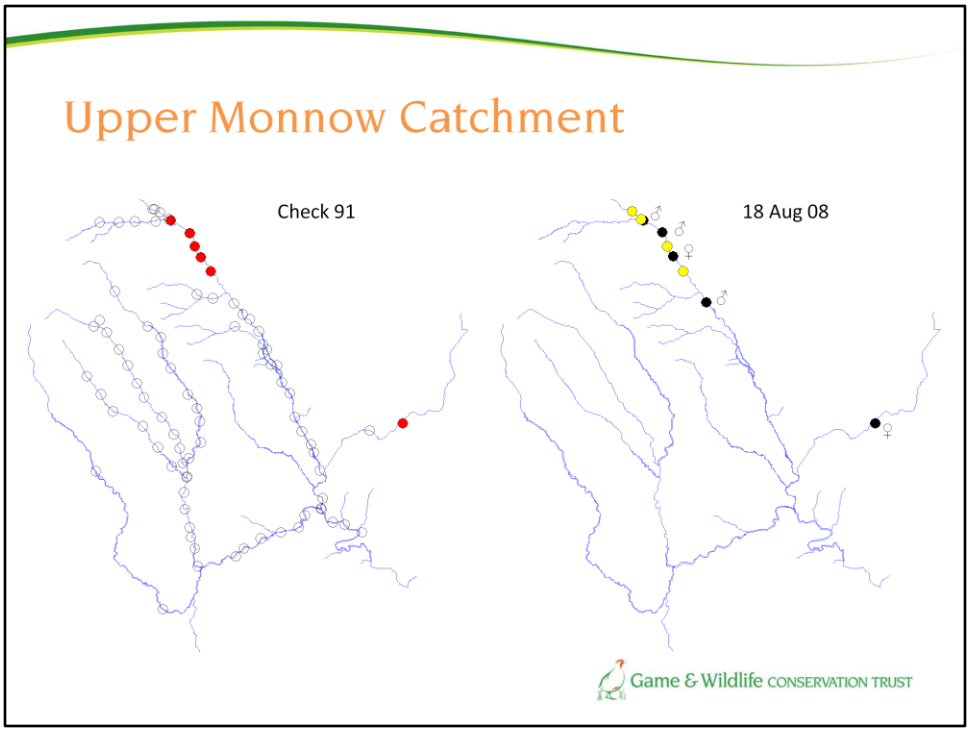
I'd like to mention in passing that throughout this 4 year project, and 16,400 man-hours in the field, our 2 trappers NEVER saw a mink that wasn't in a trap. There were in total 117 of those.



When a mink entered the catchment, our system produced a swift response. On average, each mink was detected **##** times. The most common outcome was that it was caught within 24 hours of setting traps. Only rarely were we still trying to catch it a week or more later. So if we add in the 7 days between raft checks during which time the mink appeared and left its tracks, our response time was on average only 10 days.

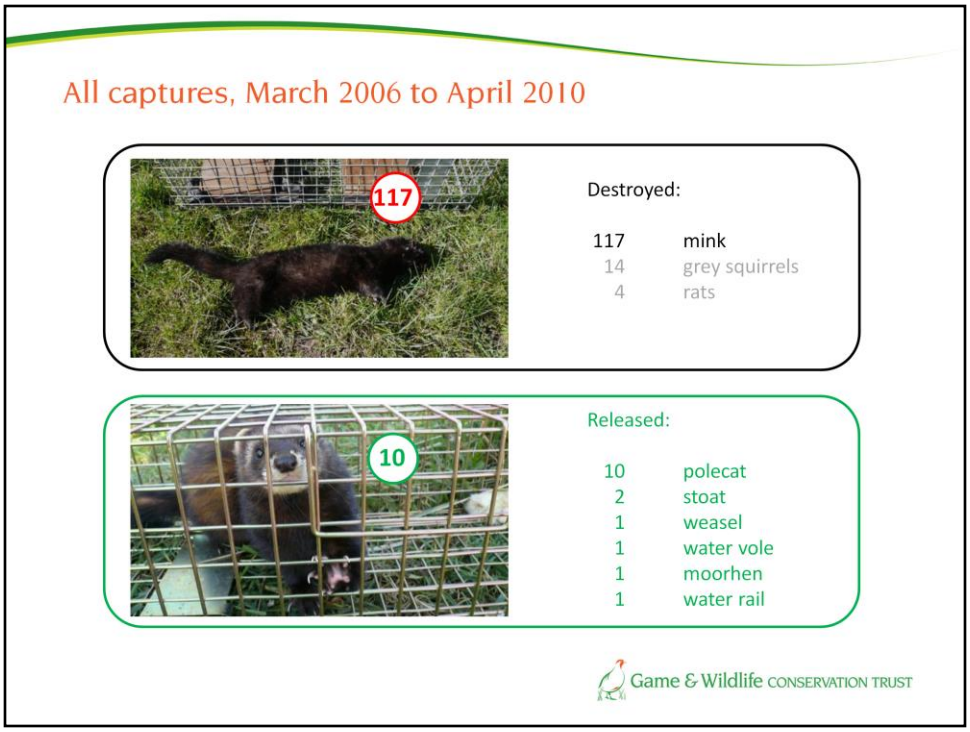


So this is the kind of thing that could happen. Here on 10 August we have an almost clear raft check, with detections on 3 rafts. 3 traps were therefore set, shown in this map on the right, resulting in the capture of a single male.



A week later, detections occurred on a group of rafts at the top of the river, and again at a single raft down here. Traps were set, and this time we caught an adult female and 3 juvenile males, plus another adult female down here.

And so on. The entire series of weekly maps spanning the four years of our project are available on our website if you would like to see them.



I haven't really mentioned non-target captures. In our raft system, the use of traps is restricted to the places and times when a mink is definitely present. Consequently there is much less opportunity to catch non-target species. Non-targets can in any case be released unharmed. We preferred to risk catching a non-target rather than miss a mink. So in the process of catching 117 mink, we also made 10 captures of polecats. Grey squirrels and rats we deliberately removed. The remainder of our non-target list is really trivial.

I know you won't be terribly interested in how we re-introduced water voles from captive-bred stock, but the ultimate proof of whether we succeeded is whether these little creatures survived. In your case, think of the European mink, and how you are going to demonstrate success.

We released them into what we deemed to be good habitat, and we started in the same year that we began mink removal: 2006.

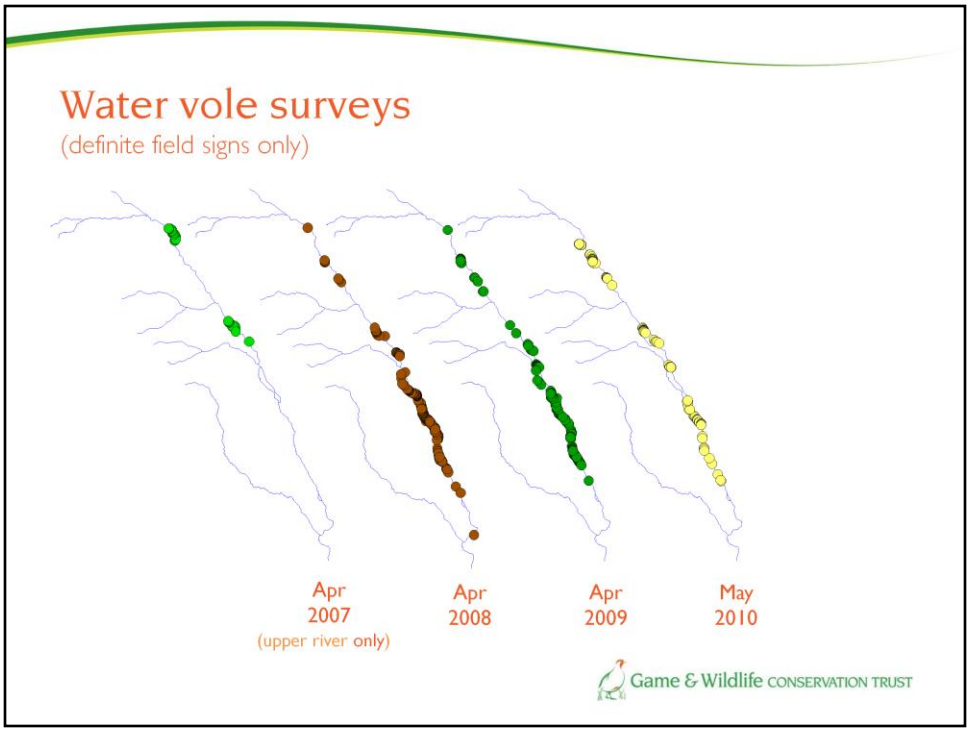
There was no guarantee that the water voles would stay where we put them. They had a lot to cope with. A stretch of river that looked like this in summer ….

…could look like this in winter. There was no guarantee that water voles would stay where we put them. We expected them to move around and find the best places for themselves.

So we had to survey the whole river every year to find out whether they were still present

We had to search for field signs like this food store.

…or holes with faeces.

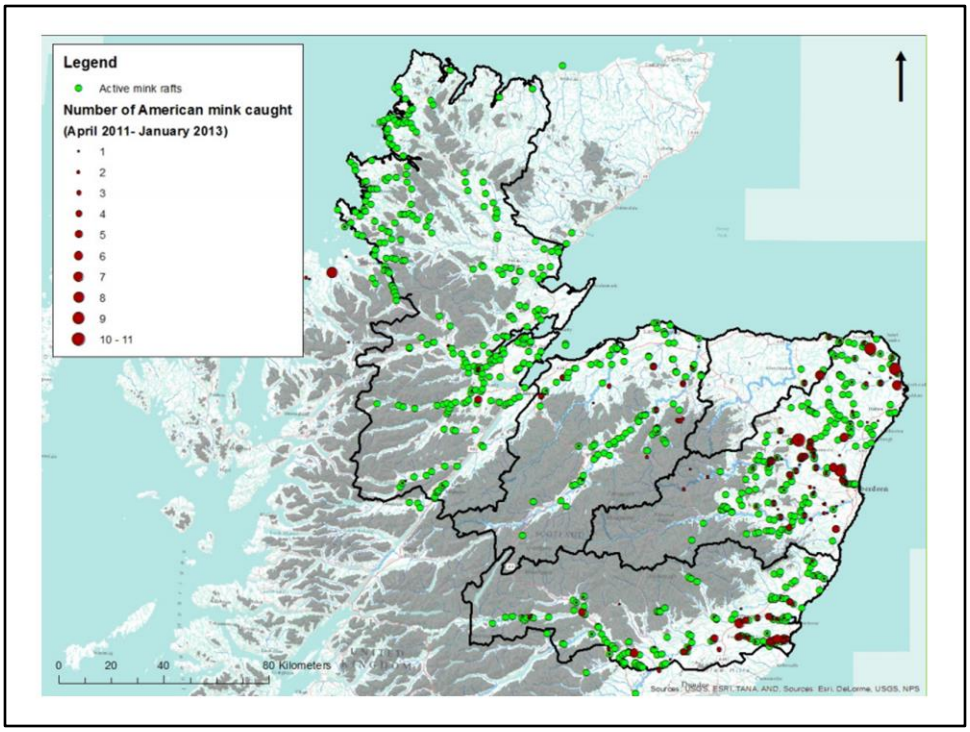


After 4 years, the water voles were well established along that tributary. When our project finished in 2010 we felt we had made the point, but actually the voles are still there today in 2014.

So this is what we produced: a proven effective technique, documented through peer-reviewed science and practical how-to-do-it guides. We have demonstrated that in the case of mink and water voles it is possible to turn the clock back and to restore lost biodiversity.

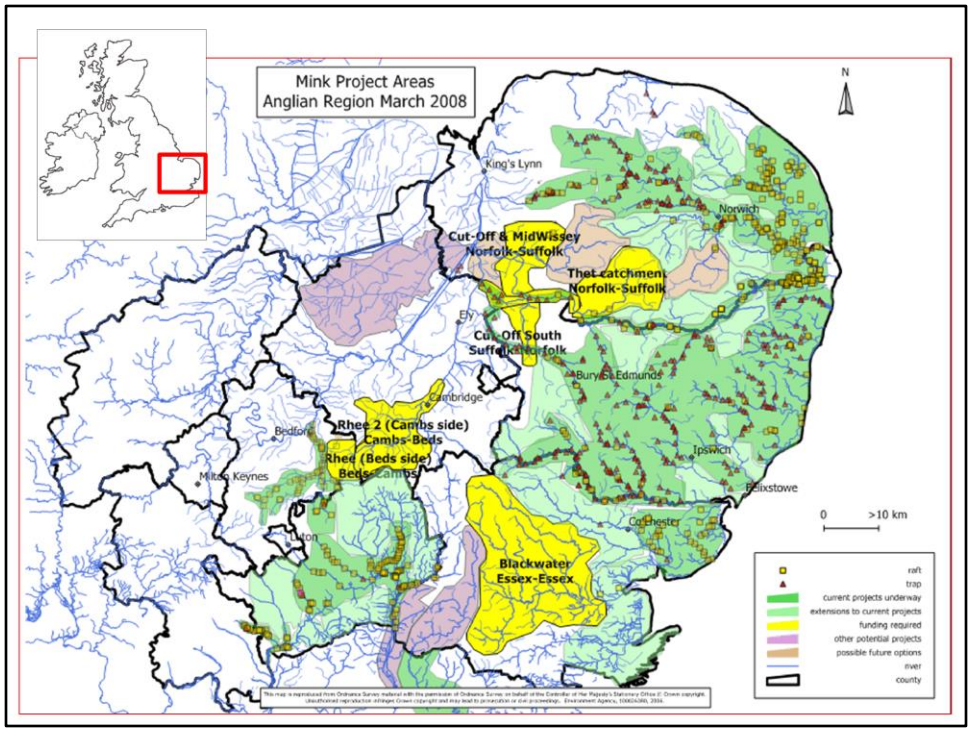
It would be crazy to imagine that we can give you the answers to all the new conditions you will face, but you don't need us to. Mink rafts give you a constant flow of information on how things are going, so you can adapt to the situation as it unfolds.

Training, training, training. It's all common sense, but people need to be made to think about it.

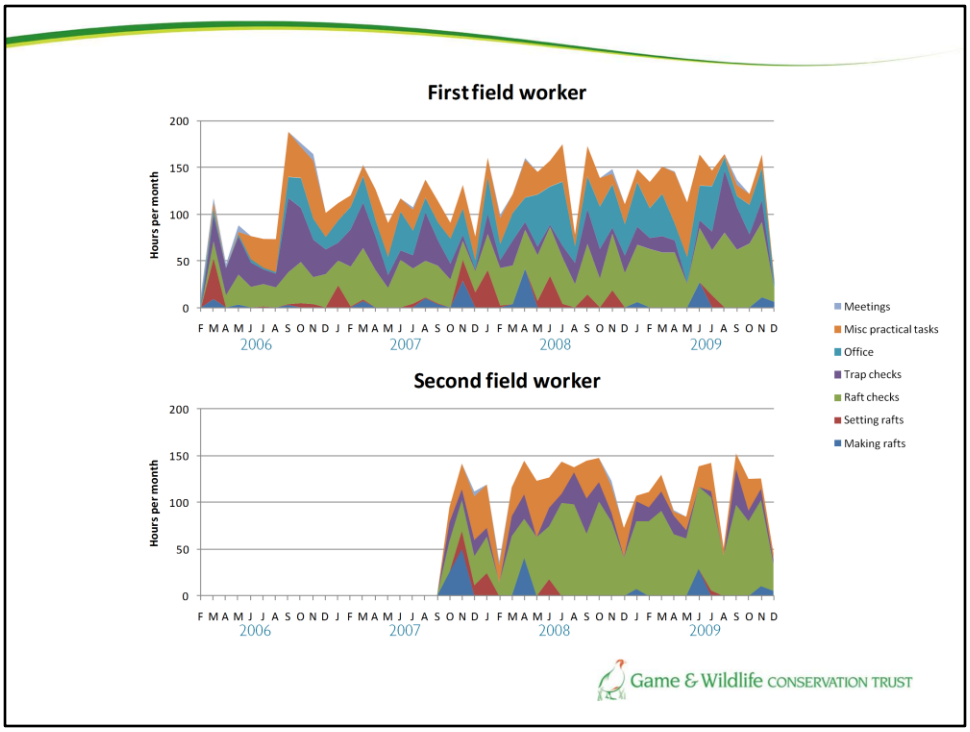


There are several successful models though. In Scotland, the government agency Scottish Natural Heritage and a number of partner organisations have funded a massive project to eliminate mink from large parts of Scotland. Each green dot here is a mink raft. The project uses volunteer trappers with professional coordinators.

Ultimately SNH wants to end its financial commitment, and that is where I see problems starting. Unless this effort is pursued so vigorously that it results in eradication, it must be sustained indefinitely. That is impossible if it depends on external funding. The resources either have to come out of taxation (in a recession?) or from within the affected community.

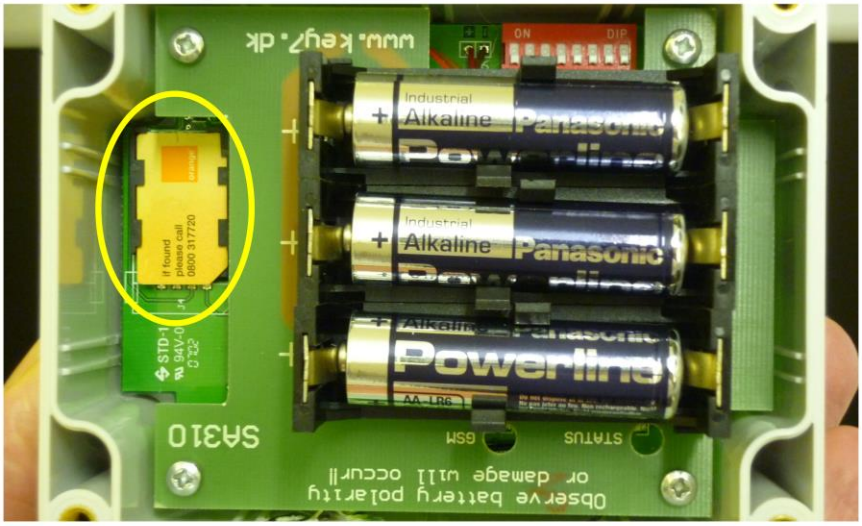


In East Anglia, existing mink control projects were almost joined up a few years ago, and they have now won European funding to continue and intensify that effort. Again, I worry what will happen when that special funding expires.



We know what it cost to do the job on the River Monnow. We know how much of the work was research related. We also know that

Game & Wildlife CONSERVATION TRUST



Game & Wildlife CONSERVATION TRUST

Game & Wildlife CONSERVATION TRUST

MONNOW
RIVERS ASSOCIATION

Going Native

A project to control invasive non-native species and reconnect local communities and visitors to the value of our rivers

MONNOW
RIVERS ASSOCIATION

So they spray Giant Hogweed…

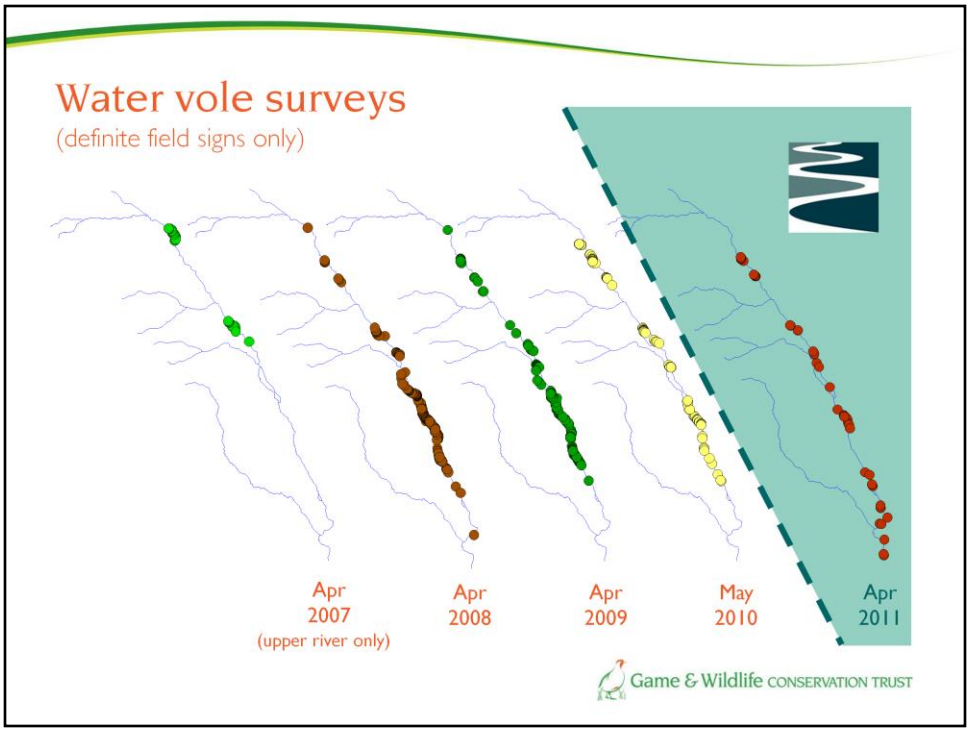
MONNOW
RIVERS ASSOCIATION

Completing the circle

Year	Passport scheme income (£)	Estimated contribution to local economy (£)
2007	1.6K	9K
2008	5.2K	29K
2009	7.8K	44K
2010	8.6K	48K

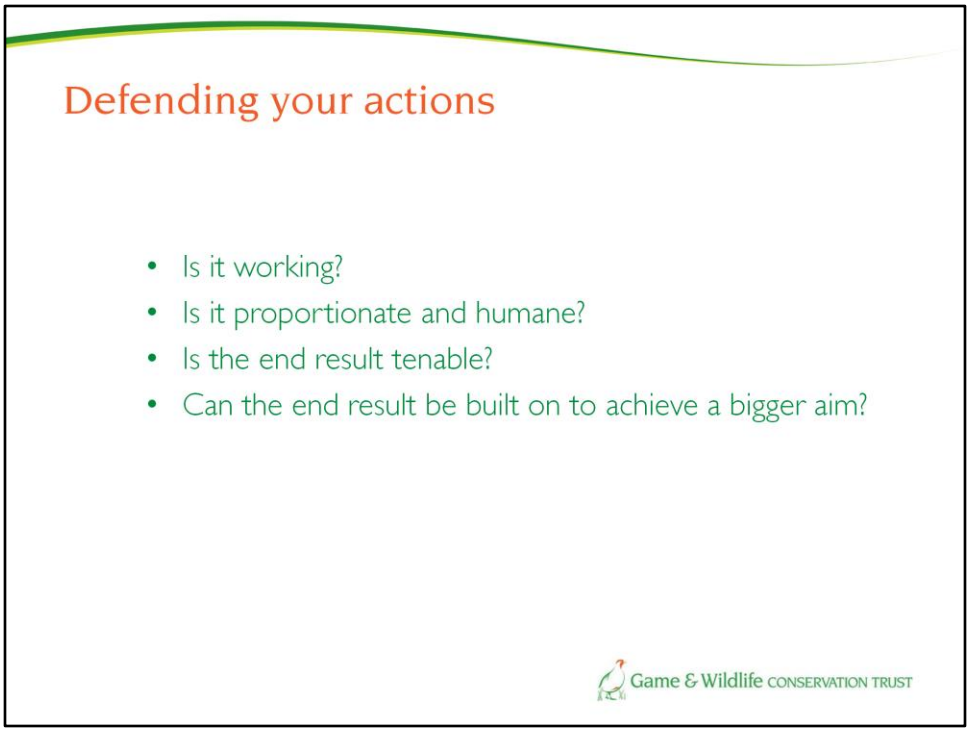
About 60 farmers and fishery owners who did not let their fishing before the passport scheme began, now do so.

They are allowed to do all this by the (many: >100) landowners because their activities also bring a small income to the local community. There is a passport scheme for visiting anglers, and landowners directly receive a proportion of the income depending on how much each beat is used. But of course the visiting anglers have to stay somewhere, and eat and drink somewhere, so they also generate an income to the entire local economy.



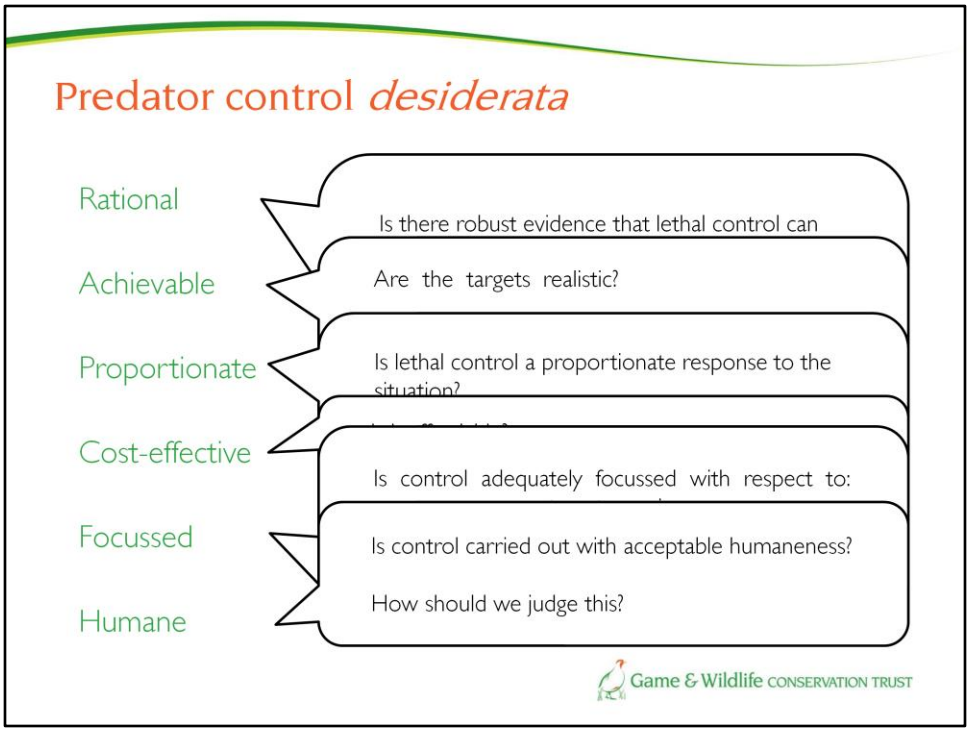
So the Monnow Rivers Association has been running mink control and water vole surveys since we left. The way they do it is to involve very local volunteers, people who live right beside the river and can easily check one raft when they walk the dog. The raft positions have been adjusted to make it even easier for them.

I need to update this map, but I can tell you that the voles are still there on the River Dore, and have spread into other parts of the Monnow catchment. The Association has even begun to extend its mink control out into the parent catchment, the Wye.

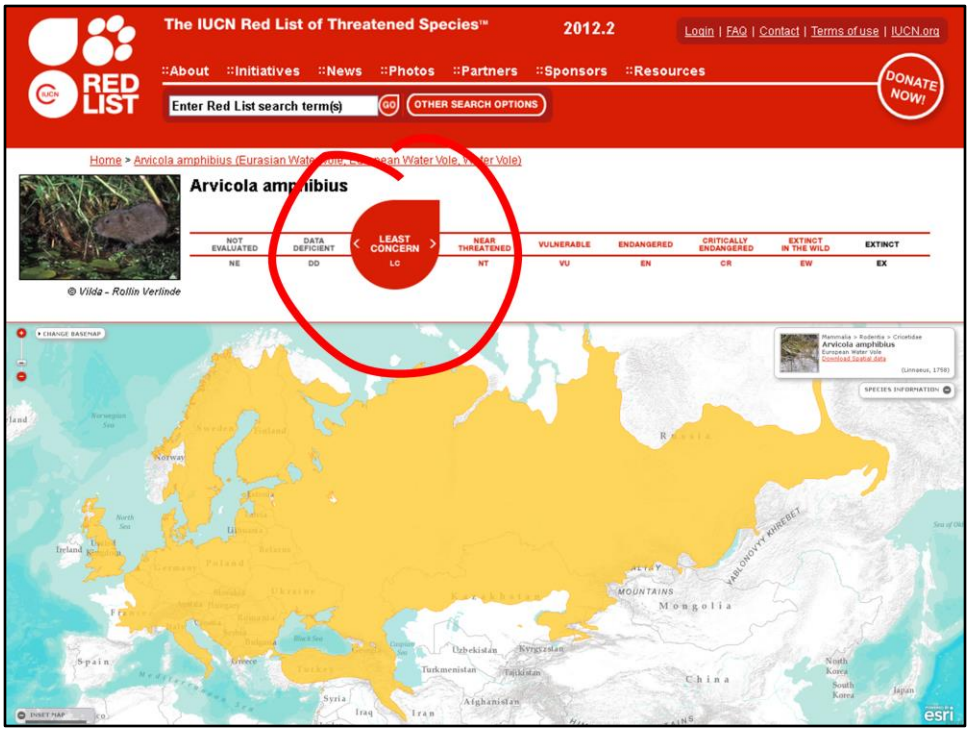


Documentation is really important.
Science.
Robust defence.
End result must be tenable with available resources, or else a stepping stone to some bigger goal.


Miljøministeriet
Naturstyrelsen
Forvaltningsplan
for mink (Neovison vison)
i Danmark

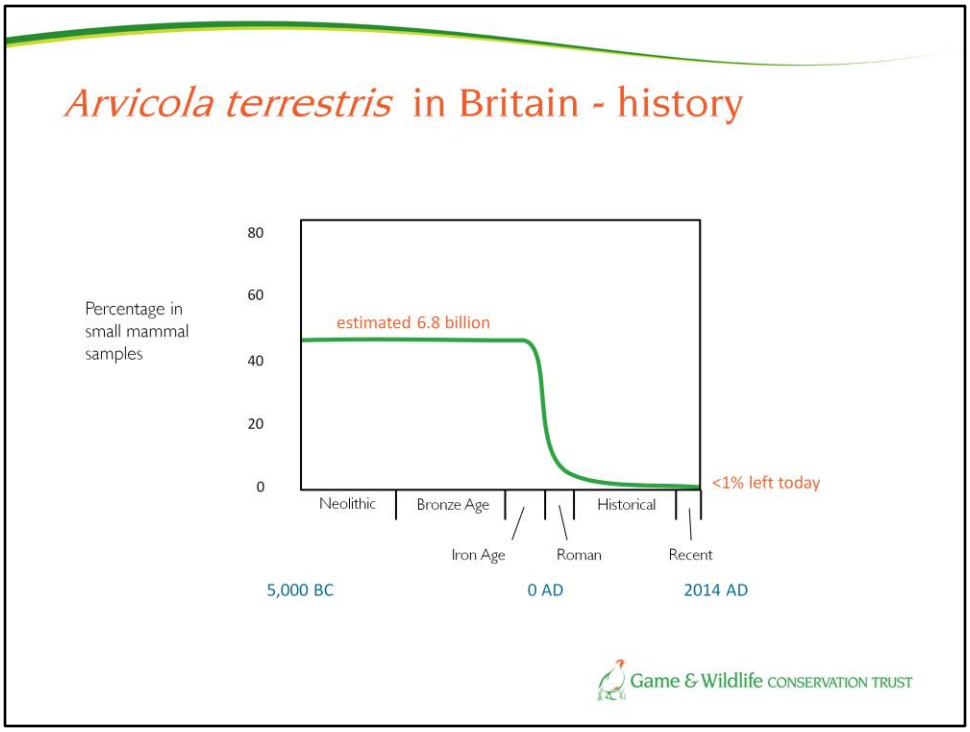


These are desiderata, but I don't mean to imply that they must all be in place before anyone should start. The urgency of many conservation issues there isn't time to accumulate a dossier of perfect evidence. In any case, the control of common predators already happens and has done for many centuries. We are aiming for improvement.

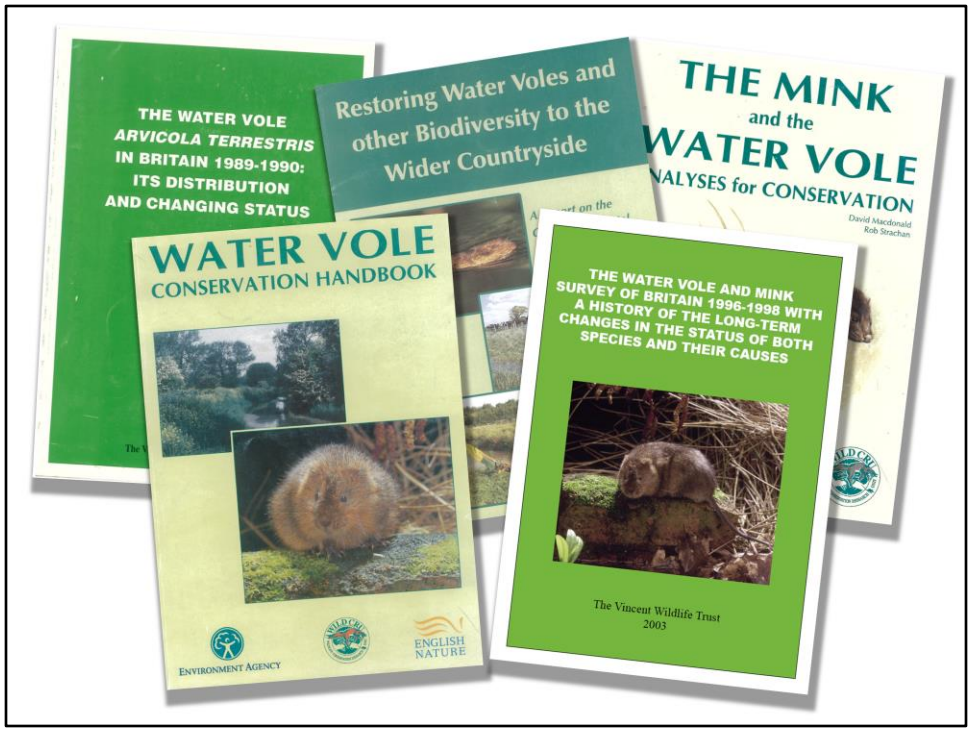


It's ironic, isn't it? The water vole actually has a huge geographical range. It is a pest in many European countries, and it barely figures in the thinking of international conservation agencies like IUCN.

Ecologically, these are fast-reproducing small mammals which rapidly convert green plants into packets of meat. Their natural place is near the bottom of a food pyramid supporting a variety of our native predators. When conditions are favourable, they can withstand a high level of predation.



But actually in Britain those days have largely gone. Before the late Iron Age /early Roman period, the water vole was Britain's commonest small mammal; but as farming quickly took over the landscape, water voles started to vanish. This is probably the stage at which they became confined to waterways. Today we are looking at just the tail-end of that history, the last 1% of Arvicola. The decline of this species is entirely the result of human activity.



There has been a lot of work on the water vole in Britain, by many individuals and organisations, but particularly by Oxford University. We know what water voles need in terms of habitat.

It is undoubtedly true that man has trashed the natural habitat of water voles in the UK, although they are sometimes found hanging on in places where the habitat is far from ideal.

The reason we had American mink at all was of course the result of the fashion in fur in the 1920s and 30s.

Mink farming was a profitable business even for small establishments. There was no bio-security, and mink probably became established in Britain straight away. It is also likely they were deliberately released by fur farmers to establish a wild population.