American Mink – predator

The main cause of the decline in water vole populations is predation by the invasive non-native American mink *Neovison vison* so controlling mink numbers is paramount for water vole conservation. As with the water vole, the situation with mink seems to be similar to earlier years.

The positions of mink rafts within the county that are known to have been in use in the last five years are shown on the map (right). There may be others that are still functioning but are not included on the map. If you know of any please get in touch. As you can see, there are large gaps and some rivers where there are very few rafts.

MINK CAPTURES

YEAR	TOTAL	HERTS	ESSEX
2017	27	7	20
2016	23	14	9
2015	33	14	19
2014	33	7	26
2013	40	20	20
2012	34	26	8

At least 27 mink were caught in 2017. All but one of these were caught on the Lee or the Stort and many were on the Essex side of the rivers. As before, most of the mink caught in the lower Lee Valley were as a result of the efforts of the rangers of LVRPA, coordinated by Dawn Richardson, while the mink rafters on the Stort are coordinated by Bob Reed. Both the Lee and the Stort are important rivers for water voles so it is hoped that the increase in mink on these rivers in 2017 is not down to the availability of water voles as prey! It does illustrate the importance of maintaining the mink control effort everywhere within the two counties.


Photo: Tom Hibbert

If you would like a new raft or if you know someone who might be able to take a raft, anywhere in the county, please get in touch. If you need guidance on the use of the raft or on the safe dispatch of captured mink please refer to the Mink Control booklet from the Wildlife Trust or go to the website of the Game and Wildlife Conservation Trust www.gwct.org.uk

River Corridor Survey – the River Beane

The River Corridor Survey (RCS) is a way to assess a river in considerable detail. RCS records such things as water depth and width, type and extent of vegetation cover within the river, and on the bank, and produces much more detailed maps than are produced when mapping water vole surveys.

After training, a group of volunteers from the River Beane Restoration Association (RBRA) have used a slimmed-down version of the RCS to survey the Beane. RBRA member Bob Thornton organised several volunteer sessions, such as the one shown below, with RBRA member Marcella Randall. The volunteers surveyed part of the River Beane, contributing to the River Corridor Survey assessment of the river and now most of the river from Watton-at-Stone down to Hertford has been surveyed. The results will be digitised and analysed to see which areas have the best water vole habitat and what could be done to improve the river for water voles. Hopefully this will lead to a water vole re-introduction on the river at some point in the future.


RBRA member Marcella Randall surveying part of the River Beane, November 2017


Photo: Charlotte Hussey

Water vole survey on the River Beane

Training

In 2017 there were two survey training sessions – one in March at Thorley Wash for volunteers from the River Beane Restoration Association (RBRA) and a second in April at Tewinbury, with a total of 21 people trained.

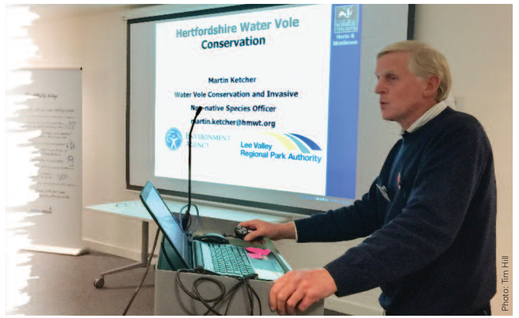

Photo: Tim Hill

Water Vole, Mink and Invasive Species Conference

In 2017 the annual conference was once again kindly hosted by Affinity Water in Hatfield on Thursday 9th November.

- **Tim Hill**, HMWT Conservation Manager chaired the evening.
- **Martin Ketcher**, HMWT Water Vole Conservation and Invasive Non-Native Species Officer, gave a 2017 water vole, mink and INNS summary.
- **Dr Djami Djeddor**, Senior Scientific Officer and project manager, a plant pathologist working on the biological control of invasive weeds at the Centre for Agriculture and Bioscience International (CABI), gave us an update on research towards finding biological controls for INNS.
- **Rod Cutler** from the Colne Valley Fisheries Consultative (CVFC) spoke about the Consultative's River Outfall Monitoring Project (ROMP), essentially a way for anyone to report evidence of pollution.
- **Jack Herriot**, EA Geomorphology Technical Specialist, talked about the work that the EA has done with the Boxmoor Trust to improve the River Bulbourne in Hemel Hempstead.
- **Bob Thornton** from the River Beane Restoration Association spoke about how the RBRA has been working with HMWT towards a possible water vole re-introduction on the river.
- **Cath Patrick**, LVRPA Senior Conservation Officer, gave us her annual update on what the LVRPA have been doing for water vole conservation.
- **Bob Reed**, Living Rivers Champion for the River Stort, wrapped up the evening with a talk about a small re-introduction of water voles on Sawbridgeworth Marsh to link up with the Thorley Wash population and hope-fully boost overall numbers on the upper Stort.

How you can HELP water voles

- Train as a water vole surveyor.
- Become a mink raft checker.
- If you have a mink raft that isn't checked as often as it should be, let us know and we can organise others to check it.
- As a surveyor, if you come across a raft on a survey please check it and let the Trust know what you find, including evidence of water voles.
- Let the Trust know if you see water vole or mink anywhere in the county, or if you come across either species killed on the road or in some other way.

Editor: Martin Ketcher,
Water Vole Conservation and Invasive Non-Native Species Officer

Thank you...

The conservation of water vole in Hertfordshire and Middlesex is dependent on the efforts of volunteers, so whether you are a water vole surveyor or check a mink raft, thank you very much for everything you have done. The list of those involved is longer than ever so, as before, I have not attempted to list everyone this year.

Thanks are due to the Environment Agency and the Lee Valley Regional Park Authority for their continued funding for the Water Vole Conservation and Non-native Invasive Species Officer post in 2017/18 at Herts and Middlesex Wildlife Trust.

Lee Valley Regional Park Authority

Environment Agency

Herts and Middlesex

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All maps...

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Water vole newsletter

2017-18

WATER VOLE, MINK AND NON-NATIVE INVASIVE SPECIES NEWS IN HERTFORDSHIRE AND MIDDLESEX

Herts and Middlesex


Photo: Tony Whitaker/2020 Vision

Welcome...

...to the 2018 Newsletter. This is the annual report on the situation within the Trust's area – the whole of Hertfordshire and the boroughs of Barnet, Enfield, Harrow and Hillingdon.

Water vole update

85 sites were surveyed for water vole in 2017. Of the 85 surveyed sites, 37 had water voles, four had signs that could have been water vole, three that had signs that were probably not from water voles, and 44 had no signs. Ideally, to confirm the presence of water voles it is necessary to find a latrine. It is more difficult to be certain that feeding signs are from water voles if no other signs are present hence the 'possible' category.

The table below shows the yearly comparison of surveying results. The proportion of positive sites remains similar to previous years indicating that water vole populations are broadly stable.

YEAR ON YEAR WATER VOLE SURVEY RESULTS

	2017	2016	2015	2014	2013	2012	2011
Number of sites surveyed	85	78	78	68	79	60	46
Number with voles	37	24	31	27	24	19	12
% with voles	44	31	40	40	30	32	26
Number with possible signs	4	5	8	4	7	1	0
% with possible signs	5	6	10	6	9	2	0
Number with no water vole signs	44	49	39	37	48	40	34
% with no water vole signs	52	63	50	54	61	66	74

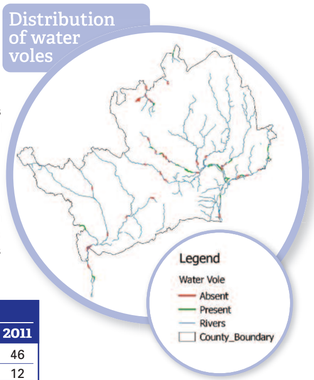
Distribution

The map (right) shows the distribution of water voles in Hertfordshire and down the River Colne into Middlesex. Overall the picture is similar to previous years. While there is some evidence of expansion in water vole populations in the two counties the situation could be a lot healthier so it is important to maintain the conservation effort.

Key Site Surveys

There are some places across the area that are key sites for water voles. This is almost certainly because these sites are a complex of water bodies within a relatively small area. Unlike on a single-channel river, it will be difficult for mink to find and eliminate all water voles. These sites are usually nature reserves so knowing which parts of the site are used by

continued overleaf ➞



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Water Vole update


Photo: Paul Jennings

water voles can inform the management of the reserve. At these sites 10 or 12 100m strips of bank are surveyed instead of surveying a standard 500m of one ditch or river.

KEY SITE SURVEY – Panshanger 2017

Section	Spring		Autumn	
	Latrine	Feeding sign	Latrine	Feeding sign
1	1	6	n.s.	n.s.
2	8	14	0	0
3	3	37	0	9
4	n.s	n.s.	n.s.	n.s.
5	3	26	0	0
6	0	2	1	1
7	3	24	3	2
8	0	5	n.s.	n.s.
9	3	36	3	7
10	0	0	4	11
11	5	64	3	12
12	0	1	6	12
Total	26	215	20	54

Panshanger Park is one example of such a site surveyed with this method. The park's survey areas include three sections of the River Mimram, four sections of lakeside from three lakes, two parts of the Broadwater and three ditch sections. With a small team of surveyors all twelve sections can be surveyed in a morning. Ideally the site is surveyed twice a year, once in the spring and once in the autumn. The results in the table (left) are from Panshanger Park in 2017.

Sections three and five are both edges of different lakes and show that water voles are using the habitat for part of the year. Sections 10 and 12 were dry in the spring but had water in the autumn illustrating the importance of water to water voles! This sort of detailed site information would not be obtained by surveying one 500m section once a year.

Biodiversity Action Plan

Lee Valley Regional Park

The water vole is an important species in the Lee Valley, here Cath Patrick, Conservation Manager at Lee Valley Regional Park Authority (LVRPA), looks at the process of updating the Biodiversity Action Plan (BAP) for the Lee Valley that will include protecting water voles.

The first Lee Valley Biodiversity Action Plan was launched in 2000 and although there has been a national policy shift away from BAPs, the LVRPA still sees the merit in the system as it provides clear targets for delivery of biodiversity action and partnership working to achieve those targets.

This year consultation opened on the new draft with the final document due to be adopted following this consultation.

The overarching vision for the LVRP BAP is to work with partners and communities to create, restore and enhance the habitats of the Regional Park, providing access to and appreciation of this area.

This vision will be met through certain key objectives:

- To create, restore and link characteristic ecological, hydrological and landscape features to form a fully integrated river floodplain corridor.
- To realise the full ecological potential of the Lee Valley Regional Park by maintaining and enhancing the present range of species, habitats and landscape features combined with extensive re-creation and expansion of key habitat types.
- To achieve a sustainable use of the natural resource.
- To achieve awareness and understanding of the biodiversity of the Lee Valley Regional Park and to encourage participation in its conservation.

A species review carried out by Herts Environmental Records Centre identified that over 4,700 species have been recorded in Lee Valley Park. This total includes over 300 species of bird, 33 species of mammal and over 900 species of flowering plant. There are also records of over 2,400 species of invertebrate. Within this diversity many individual species or assemblages are significant from local up to international level.

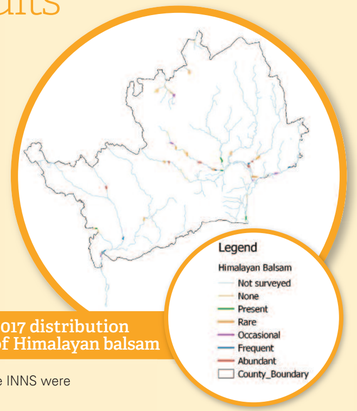
The Species Action Plans in the revised plan include all those from the initial BAP; this includes water vole, for which the Lee Valley is still an important area, as well as some new additions including invasive non-native species which are closely linked to water vole conservation and to the quality of a range of habitats across the Regional Park.

If you would like further information on the plan please contact Cath Patrick, Conservation Manager at Lee Valley Regional Park Authority on cpatrick@leevalleypark.org.uk

Annual Survey – results


Photo: Gillian Day

Himalayan balsam - the most consistently widespread of the invasive species in recent surveys



2017 distribution of Himalayan balsam

The details of the survey results of Invasive Non-Native Species (INNS) are shown in the tables below.

Himalayan balsam *Impatiens glandulifera* remains the most widespread and frequent of all the invasive species. The map *(above)* shows where Himalayan balsam was recorded in 2017 and the different colours indicate the abundance (related to the DAFORN scale). There are, however, examples of it being brought under control.

In 2016, orange balsam seemed to be increasing so was included as an invasive species to record in 2017 and was found in 10% of all the sites where INNS were recorded.

Floating pennywort *Hydrocotyle ranunculoides* is a huge problem on the lower Colne and the Fray's River (around Denham) – *see photo opposite.* It is also a problem on the Stort and the reason for the apparent decrease from 18% to 8% of sites from 2016 to 2017 was that less of the Stort was surveyed in 2017 following the blitz in 2016.

With little chance of total eradication of floating pennywort hope is pinned on a weevil as Djami Djeddour's piece *(next page)* details.

INVASIVE NON-NATIVE SPECIES (INNS) – Sites Surveyed

	2017	2016	2015	2014	2013
Total Number of Sites	67	84	66	70	75
Sites Surveyed	59	65	53	66	60
Sites Not Surveyed	8	19	13	4	15

PERCENTAGE OF INNS IN SURVEYED SITES

	2017	2016	2015	2014	2013
Himalayan balsam	47	35	40	33	47
Japanese knotweed	2	2	2	3	2
Giant hogweed	3	6	6	8	8
Floating pennywort	8	18	8	9	4
Water weeds	0	5	2	2	2
Water fern	0	5	2	2	2
Parrot's feather	0	0	0	2	0
New Zealand pigmyweed	2	0	0	0	0
Orange balsam	10	0.5	0.5	0.5	0.5


Photo: Crown Copyright

Giant hogweed


Photo: Bernie Hyland

Japanese knotweed


Floating pennywort

Photo: Paul Jennings

Floating pennywort – in search of a solution

Floating pennywort is a strong contender for the title of worst aquatic weed in the UK. Djami Djeddour, Senior Scientific Officer and Project Manager at the Centre for Agiculture and Bioscience International (CABI), tells us about the search for a natural solution.

Originating from South America, floating pennywort arrived in the UK in the late 1980s as an oxygenating ornamental plant for the aquatic trade. It now over-runs water bodies and is threatening the habitats and native biodiversity they support in the UK and across northern Europe.

Able to grow up to 20cm per day, floating pennywort is capable of forming dense mats which reduce light, restrict growth of submerged aquatic plants and outcompete native plants in an affected area. Floating pennywort is an economically important weed; costs linked to flood and physical management and the impact on tourism and recreational activities across Europe and Great Britain is estimated to exceed £25 million per year.

With the invasion going beyond any containment and eradication stage, longer-term solutions, such as classical biological control (the use of highly co-evolved, host specific natural enemies from the country of origin of the target weed), are being investigated in the UK. From a large suite of herbivores and pathogens associated with the plant in its native range in Argentina, a weevil *(Listronotus elongatus)* has been prioritised and causes considerable damage to the plant.

Under the Defra-funded project initiated in 2011 and through comprehensive specificity testing in CABI's UK quarantine facilities, the weevil's safety and impact has been largely assessed. In early 2017, a Pest Risk Analysis was submitted to the UK biocontrol licencing authorities for review and feedback was received. Further research is now being undertaken to fill in knowledge gaps and further consolidate the data on safety before the review process is resumed.This year, the final application to release the weevil into the wild in the UK will be comprehensively reviewed by government licencing teams as well as going through external scientific and public consultation before a decision is made.

This weevil could be the fourth in a series of recent biocontrol agent releases in the UK – a sign that long term solutions are being sought to help mitigate the impacts of our most intractable invasive weed problems.