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Wilbraham River Water Vole Survey

August / September 2002

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INTRODUCTION

Overview

Contract report commissioned by the Wilbraham River Protection Society. Work carried out by Mark Ricketts on behalf of The Cambridge Greenbelt Project. Work undertaken involving a water vole and mink survey of Little Wilbraham River, and linking ditches (total length 15km). Watercourses surveyed are shown on the enclosed map.

Date of Survey

July/August 2002

Survey Methodology

The water courses were either surveyed from in the channel, from the bank or a combination of the two depending on conditions. Where possible the channel was waded and a metre by metre search for water vole signs was carried out. Where this was impractical due to the depth of the river or the nature of the vegetation, spot checks were made every 20m. Signs looked for included droppings, latrines, burrows, footprints, runs in the vegetation, feeding remains and cropped grass around entrance holes.
Mink and otter signs, including droppings, footprints, feeding remains and dens were also looked for during the survey.

Difficulties encountered during surveying

Due to the time of year that the survey was undertaken, the tall growth of both in-channel and riparian vegetation meant that progress was sometimes difficult. Such tall and thick growth of vegetation as found in mid-summer impedes physical access to the bankside and obscures possible signs. It is possible to survey as signs are still to be found if water voles are present, but more time has to be taken to carry out a thorough survey.

RESULTS

Water Vole

There were no signs found to indicate that water voles were present along the Little Wilbraham River or linking ditches. Old water vole burrows were seen on the ditch that runs from Island Bungalow past the Teversham sewage works, though these were not in use.

During a separate River Corridor Survey of Wilbraham New Cut, Rob Mungovan discovered one water vole latrine (TL 533579), though no signs of mink or otter.

Mink

Mink scat was found in three locations. Four were found under Quy Water Bridge (TL 510594), many on a log half in / half out of the river (TL 521587) (high numbers possibly indicating a breeding site nearby, but none found) and one on the footbridge crossing a linking ditch (TL525584).

No other signs of mink were seen during the survey, however mink have been sighted at Teversham sewage works (*pers.com.* Roger Featherstone). This is adjacent to a ditch that runs into Caudle Ditch, which in turn links to Little Wilbraham River. Mink are reported to be fairly common here, probably preying on rats.

Otter

Several otter spraint (recent and old) were found under Quy Water Bridge (TL 510594). No other signs of otter were found further upstream.

Other wildlife observations

There were many bank/field vole droppings, runways and feeding stations. The latter were often close to the water and could easily be mistaken for water vole signs. Little Wilbraham River is rich in both flora and fauna, with several species observed during the survey, including:

- grass snake, common lizard
- moorhen (+ nest), kingfisher, grey heron, green woodpecker, kestrel, marsh harrier
- hare, water shrew, weasel
- fresh water shrimp (an indicator of good water quality), whirlygig beetles, dragonflies (including brown hawker, common hawker, migrant hawker) and a variety of butterflies,.

DISCUSSION

The results show that the Little Wilbraham River does not have a viable population of water voles at present. However, the single latrine found by Rob Mungovan in the Wilbraham New Cut in July does indicate a presence of water voles nearby, albeit in extremely low number. (The stretch of watercourse where the latrine was found was re-surveyed by two people (Mark Ricketts and Jo hn Green) in August but no water vole signs were found.) This find also shows the possibility that the area can be recolonised by water voles if conditions can be optimised.

Historical anecdotal evidence says that water voles were numerous along Little Wilbraham River and linking ditches. Data from more recent surveys shows that the lack of water vole signs in the area is not a new phenomenon. Cambridge Green Belt Project records show water voles were last recorded on Little Wilbraham River in 1997. A survey carried out in April 2000 along Caudle Ditch and Fulbourn New Cut was negative. Reasons for the loss of water voles are varied and often interrelated.

Threats to water voles include:

- Habitat loss/degradation – Unsympathetic management of watercourses (including bank protection and maintenance). Also urbanisation of flood plain, heavy grazing pressure (both can lead to loss of vegetation = loss of food and cover from predators)
- Predation – Although prey for a range of predators, water voles are particularly susceptible to american mink. Sufficiently dense habitat may lessen the impact of mink predation.
- Water level fluctuations – Dry conditions make water voles more susceptible to predators such as stoats and weasels. Refuge areas are needed during flood events as food, cover and burrows can be lost when the water level rises.
- Pollution – The effects of contaminants such as pesticides/insecticides and heavy metals is unknown, may have played a role in the past and in urban areas.
- Persecution – accidental poisoning due to control of rabbits may be responsible for some localised extinctions.
- Rats – can act as a competitor as well as a predator of young water voles.

In Little Wilbraham River, the latter three do not appear to be a factor for the absence of water voles. In the past, stretches of the river have been unsuitable for water voles due to drying out, but this year flow was present throughout the summer. The greatest threats to water voles along the river and linking ditches seems to be unsuitable management of the watercourse and the presence of mink.

Much of Little Wilbraham River is potentially of excellent habitat for water voles. There is plenty of unshaded watercourse available for the growth of a good mixture of emergent and riparian vegetation to provide a good food source and cover from predators. Although there are some stretches of watercourse that are overshadowed by scrub and thus not optimal for water voles, they are viable habitats in the landscape within their own right and could be important for other wildlife. They also provide an alternative food source for water voles during winter, when they are more likely to feed on berries, fruits and bark of shrubs and trees present in hedgerows and scrub.

However, it is important to manage the river and linking ditches in a manner that follows good practice guidelines to maintain good quality habitat. This would not only be sympathetic to water voles but to wildlife in general. During the summer work was done on the Little Wilbraham River to clear vegetation from both the bankside and in-

channel. Unfortunately both banks and the bottom of the channel were scraped clear of vegetation. This removes both food, and cover from predators and makes the river unsuitable for water voles, especially with mink present on the river. Also, if water vole burrows were present, this action would have destroyed them. The water vole is a protected species included under Schedule 5, Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). It is an offence intentionally or recklessly to

- damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection
- disturb a water vole while it is using such a place.

Although no signs of water voles were found in the section before it was dredged, such destructive management will not allow them to recolonise Little Wilbraham River.

Recommendations for Habitat Management

To suitably maintain the river and linking ditches for water voles and other wildlife the following points are recommended:

1. Bank vegetation should be cut on one side only.

2. Retain vegetation on the toe of the bank to provide cover for water vole and other species.

3. Vegetation should not be cut until mid-late September.

4. Work from one side of the channel only, progressing upstream.

5. Leave at least a third of the in-channel vegetation, preferably two thirds with just the central third removed.

6. All cut / dredged material should be removed from the site to avoid enriching the banks which will encourage rank growth such as nettles with a subsequent loss of floral diversity.

Mink Control

As mink are territorial, once one is caught, several may then be caught as they seek to move into the empty territory. However, if the designated area can be kept relatively clear of mink (especially during the breeding season) this will certainly benefit water voles whether already present in the area or nearby. They will have a much better chance to breed successfully, increase in number and recolonise suitable habitat.

Average mink territories along linear waterways may be 5 kms (male) and 3 kms (female), so a wider area for a control program will be needed to keep a central core area relatively free of mink.

Mink trapping should be thought of as an on-going process, as they will readily recolonise from adjacent territories. Thus it is important to have clear aims and objectives when setting up a mink control program. For control to be effective it needs to be intensive and continual. Before commencing a program of mink control, it is necessary to have agreement between all landowners in the area; to have sufficient resources to set up the traps and then to continually check them every day. Monitoring should be carried out so that the project can be reviewed and altered if necessary in light of the results.

Although it takes time to dig in a trap, once set it doesn't take long to check. So, if they can all be checked properly, the more traps there are the more successful the project will be (one every 50 – 100m). If trapping cannot be carried out throughout the year then efforts can be focussed to certain times of the year (see below). If trapping has to cease for a time they can be left in situ but *pegged open*. They can then be easily reset. Whoever is responsible for setting and checking the traps needs to be confident in their ability to deal with any animal caught, whether it be mink or a non-target species that should be released.

Mink tend to breed earlier than water vole. To feed her kits, a female mink will prey upon the winter-surviving water voles before they have a chance to breed. Female mink (smaller than the males) are very effective predators of water voles as they can hunt them in the water and are small enough to follow them into their burrows. Therefore the most effective period for trapping is during the breeding season (February to March). A secondary period for maximising the return of trapping would be November when juveniles start to disperse.

Mink are naturally inquisitive and can be readily trapped, though judicious siting of traps will help to make them most effective (see below). Mink traps are made of 14 gauge welded mesh with dimensions of 600 x 180 x180 mm and cost in the region of £30 each.

Best practise guidelines for mink trapping

- Only recognised live capture traps should be used. This allows for the release of non-target species. All equipment should be used and maintained so as to avoid injury to captured animals.

- Traps should be constructed to exclude otters.

- Traps must be set away from known otter holt sites.

- Traps should be set away from open areas and areas of public access.

- Traps should be placed above any normal rise in water level and secured to prevent them being rolled into the water by a captive animal.

- Traps should be checked twice a day, usually dusk and dawn. Once a mink has been trapped it is illegal to release it back into the wild under the Wildlife and Countryside Act 1981.

- To despatch mink humanely, the only recommended method is shooting with a powerful air rifle or .410 shotgun. They must not be drowned and there are no approved methods of killing them by gassing.

- A successful trapping site will be where mink are especially likely to encounter them such as junctions between watercourse/hedges and beside or on beside riverside features such as old pollards or weirs or under bridges. Other good positions are near the water where an obstruction such as a fallen tree or large stone directs the mink towards the trap entrance.

- Although tending to follow the water's edge, mink will also hunt along dry habitats, using hedges, ditches and any other linking habitats to avoid going out into the open.

- Traps should be covered with hay or similar material with which a trapped animal can pull into the cage as bedding material to reduce the stress of capture. The hay should be covered with sticks/branches or similar material. This will make it more likely that the mink will investigate the trap and also help to disguise the trap. Traps can be baited, making them more attractive to an animal and provide a trapped animal with food.

Further Action

- MAINTAIN SUITABLE HABITAT MANAGEMENT

The various bodies that are involved in managing the river and linking ditches should be made aware of and follow suitable management techniques that will maximise the chances of water vole recovery in the area and also benefit wildlife in general.

- MINK CONTROL PROGRAM

If all landowners are in agreement and sufficient resources/funds are available a mink control program should be considered. Trapping should be considered as only part of an overall strategy to help water voles locally, including positive habitat management. If mink trapping is commenced it must be carried out in accordance with best practise guidelines, as listed above.

- CONTINUE SURVEYING

Future surveys for water voles should be carried out in March and April if possible. These are excellent months for water vole surveying when field signs are numerous and before bank side vegetation is too vigorous. If carried out before any bankside mowing is done then old feeding stations are also more obvious.

Surveying for otter and mink will be made easier if suitable 'sign posts' could be left for mink and otter to leave droppings on. There is a lack of such obvious log and stones near to the water's edge that both animals will use to mark their presence. The log where many mink droppings were found in Little Wilbraham River was removed during the dredging. If some were placed along the river, especially under any footbridges, they can then be easily monitored.