

# Field Guide to Beaver Signs Recorded in South East England



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# Preface

In 2016 Bramley Associates were on a team building exercise, canoeing along a river in East Kent. On this trip it became apparent that some trees had been felled, but not by tree surgeons. On close inspection, we soon discovered that beavers were very active in this stretch of water.

Subsequently, we wanted to know the extent of beaver activity in this part of Kent. A proposal was sent to the county records centre, who funded Bramley Associates to carry out a small pilot survey on a 2km scale.

In 2018 our reconnaissance survey commenced. Beaver signs were found in every 2km square of the area being surveyed. Following this survey, two articles were published: one by The Mammal Society in 2018 and the other by Kent Field Club in 2020. This resulted in Bramley Associates being commissioned to conduct a very detailed survey of an East Kent area in 2021.

The book “The Eurasian Beaver Handbook” published in 2016 is an excellent guide to beaver activity in many parts of the UK and Europe. Several field signs shown in that publication are what is generally considered to be classical signs - felled trees and beaver dams for example. High beaver population numbers can be sustained in habitats often considered to be typical of this species - in areas found commonly in the west country, Wales and Scotland, where anthropogenic impact may be comparatively lower than the South East of England. In Kent and elsewhere, intense land-use pressures and habitat degradations, particularly occurring on flat grass and arable farmland, influence field signs, which are often more inconspicuous in partial response to those factors.

Bramley Associates have noted that the presence of beaver activity is being overlooked in some commercial riparian surveys being undertaken in South East England. This is due to the often-cryptic nature of these beaver populations, which is similar for several known otter and water vole populations. We have therefore produced this beaver field guide to demonstrate the characteristics of beaver activity we have observed in the South East. This guide shows positive signs of beaver activity but also signs that could be mistaken for beaver presence. We have in this guide given signs as they are found on survey works. The guides for many mammals show signs that are found in perfect condition, this can be very rare in field work. If in doubt of what is present, check around for other signs, as this may well support original findings.

This guide will be applicable to many other areas in the UK that are dominated by flat, farmland habitats with interwoven ditch, stream and river systems.

Bramley Associates are happy for people to download this document, but request that this field guide be referenced in all usage as a professional courtesy.

Please reference as:

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# Habitat Types Surveyed in SE England









# Beaver Feeding Signs – Wood Vegetation (True)



Branch feeding with wood chippings



Branch feeding showing debarking



Wood chip pile around a felled tree



Feeding activity here up to 2m above water level



Felled branch with tooth marks (higher lines showing gaps between incisors)



Tooth scraping marks (lines here showing gaps between incisors)



Beaver felling activity on stock fence post



Dried beaver scat (faeces)



Tree felled by beaver several months prior to this photo



Tree felled recently by beaver

Many thanks Ben Morris for the scats



Feeding station



Fallen tree with ongoing feeding activity



Chippings from tree felling

# Beaver Feeding Signs – Cryptic Wood Vegetation



There are two branches underwater here towards the top of this image. They could easily be overlooked.



Amongst this bramble patch are beaver feeding signs. Beavers will select a variety of vegetation types according to the environment in which they live.



Beaver feeding signs shown here collected by a sluice gate grabber.



Floating feeding signs

# Beaver Feeding Signs – Wood Vegetation (False)



Wind-blown hawthorn



Felled by axe



Horse foraging activity



Rabbit foraging activity



Dried horse dung (faeces) generally smoother on the outside and less coarse within than beaver



Chainsaw marks

# Beaver Feeding Signs – Aging Wood Vegetation

There is a national aging scale for wood feeding activity, ranging from 1-10: 1= very recent and 10= over 1 year old. We found that a sign's age depended on the species of wood eaten and the place it was located. Environmental factors were key to how different woods aged.



The branch on the left scores 2. The branch on the right scores 10. But age is debatable – the black branch was found underwater and the other branch found on land nearby.



These two feeding samples both scored 1 when first seen, being very bright white in colour. Here is the difference after a one-year experiment: the thin branch being kept in a drier area than the stump.



This feeding on the branch is very fresh but the red colouration (virus/fungi activity) makes it appear older.



This aged at 10+ shown by the developed fungal growth.

# Beaver Feeding Signs – Herb Vegetation (True)



Foraged tuber



Foraged herbaceous stems



Underwater root stem pulled out and foraged on by beaver



A beaver feeding station dominated by herbs



A pile of submerged aquatic vegetation pulled out by beaver and foraged on



Trimmed brambles along a beaver path

# Beaver Feeding Signs – Herb Vegetation (False)



Grass grazed by swans



Water vole feeding



Strimmed vegetation



Riparian leaf foraged by wildfowl



Sweetcorn fed on by badger



Rabbit foraging

# Beaver Footprints (True)



Beaver casts showing Hind and Front footprints



Hind & Front footprints



Hind footprint



Hind footprint

# Beaver Footprints (False)



Otter footprint



Dog (top) and Fox (below) footprints



Wildfowl footprints



Badger footprints

# Beaver Trails (True)



Trail between two lakes



Entry/exit trail



Heavily used trail between ditches.



Trail leading into and through a reed bed

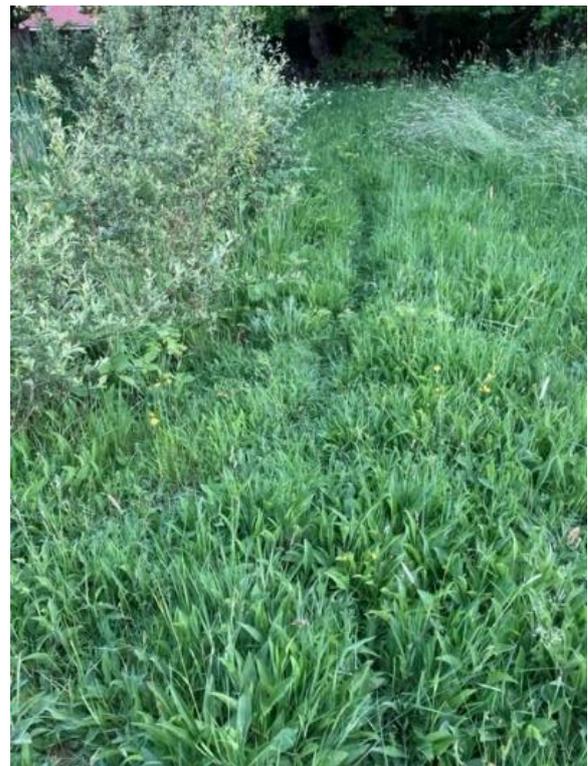


Beaver trail over chain link fencing



Very heavily used trail

# Beaver Trails (False)



Mixed rabbit, fox, badger and human trails along hedges and across land. These trails very much tend not to go directly from one waterbody to another.

# Beaver Burrows and Channels (True)



Three beaver tunnels



A large tunnel entrance



Entrance to a tunnel going under a railway fence to a ditch



Width of a channel dug by beavers



Channels through floating vegetation



A channel dug through the bank seen in centre of image

# Beaver Burrows and Channels (False)



Badger burrows either side of ditch



Badger burrows found at base of tree just above a ditch



Water vole burrows



Channels created by recent canoeing and water voles

# Beaver Lodges and Dams (True)



A lodge in winter



Same lodge in summer



A lodge located openly in a grazing field



Dam across ditch (these are rarely seen in grassland dominated areas, wood availability often very limited)

# Beaver Lodges and Dams (False)



Man-made brush pile



Swan nest



Man-made log pile



Man-made dam used by badgers for the nearby sett

# Beaver Anatomical Features



Beaver adult



Otter adult - size and shape comparison with beaver



Beaver skull (Ventral view)



Beaver skull (Dorsal view)



Sheep & beaver skull comparison (Ventral view)



Sheep & beaver skull comparison (Dorsal view)



Beaver skull



Badger skull - size and shape comparison with beaver



An adult beaver lower front tooth



An adult beaver rear foot



Surveying waterways has several hazards – take good care!

We are still unsure here which ecologist these boots belong to? If you recognise these boots found next to a ditch, please get in touch...

# References

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