

Introduction

The survey aimed to repeat a survey of key sites where sediment was found to enter the River Wensum catchment, undertaken in 2010 by APEM Aquatic Scientists for the Environment Agency, which included the River Wensum amongst other English rivers identified as the top failing salmon catchments in England where fine sediment is a known problem.

The APEM survey identified a large number of sites in three categories from grade 1 (most severe sediment) to grade 3 (least severe). Because of limitations of resources and access to watercourses, the current re-survey aimed to re-visit the 20 grade 1 sites to establish whether the situation had changed significantly in the ten years since the APEM survey. Not all of these were accessible to the surveyors in the re-survey because some were on private land, but 9 were re-visited and some additional information on other sites also recorded.

In this re-survey, grade 1 sites from the APEM report have the same number as in the APEM report, together with their grid reference, the nature of the siltation issue from the APEM report, a brief description of their location and the current situation, and photographs. Other sites included in this report have information on their location and the current situation, plus photographs.

The re-survey was undertaken by volunteers from the Wensum Working Group, identified by their initials with the relevant site information:

Tim Ellis (TE), Graham Gamble (GG), Colin Howlett (CH), Tim Venes (TV)

This re-survey is organised in the same order as the APEM survey i.e.

1 Lower Wensum (6 grade 1 sites, 4 re-surveyed):

- the main tributary flowing through Foulsham and its feeders, joining the main river below Guist bridge
- the tributary system around Reepham, joining the main river at Lenwade

2 Upper Wensum (9 grade 1 sites, 3 re-surveyed):

the main river and tributaries upstream of Pensthorpe

3 Dereham (5 grade 1 sites, 2 re-surveyed)

- River Blackwater and tributaries, joining the main river below Worthing Mill;
- Penny Spot Beck, joining the main river below Swanton Morley

The sites from the APEM survey relate to sediment arising from arable agriculture in many cases, often through road run-off on rural roads and tracks used by farm vehicles, and to maintenance and other operations on watercourses and their banks, often related to drainage.

For the road run-off sites, the situation appears largely unchanged in many cases.

For sites related to work on watercourses and their banks, the current situation has typically changed since the APEM survey but since this was effectively a 'snapshot' of issues at specific locations at the time, it may be that similar issues still exist, but at different locations within the catchment.

1 LOWER WENSUM

Reepham tributaries

76 Reepham TG0753523966 (*Road and arable runoff*) (TE)
Forwater Road, east of Reepham, north of Brick Kiln Farm

Physical site appears unchanged where road runoff enters beck near bridge, via channels cut for drainage.



Arable fields in immediate vicinity now have buffer strips.



However a field gateway a short distance to the north and uphill appears to be contributing significant amounts of sediment, which is being carried down to the bridge area.



381 Reepham TG1019520360 (Road runoff) (CH)
Location – nr Gt Witchingham church.

Plenty of runoff from both sides of the small valley, silt building up on road sides then washed down, flows into beck from both sides, several gateways in area with medium concentration.



Additional info on Reepham tributaries sites, Jan 2020 (TE):

Whilst looking at specific sites covered in the original APEM survey, I noticed two sites in the Gt Witchingham area where (admittedly after heavy rain) there was considerable water flowing onto lanes and thence into the Eastern Blackwater (not to be confused with the Western one which flows into the Wensum at Worthing). This water was very turbid and obviously carrying a high sediment load.

Lane near Blackwater Farm

Turbid water overflowing from end of ditch onto road. This includes run-off from fields and an extensive stableyard.



Then running down road towards small bridge over the Blackwater, before flowing off on either side and thence directly into the river.



Ketts Lane, Swannington

Section of road approaching bridge over a small stream, which appears to be a minor tributary of the Wensum. Silt, sand and gravel evident on road, with water travelling downhill from various gateways before entering the stream via gulleys in the verge.



99 Main River Wensum, Caddes Hill, Lyng (CH)
(not grade 1 site in APEM survey, but included as possible site for silt trap)

Lyng Caddes Hill and surrounding area, all silt from pig farm and Caddes Hill filters to main picture which is in Back Lane. Then into drain and ditch which connects to IDB drains which connect to main river.
Other roads feed to same ditch system in rectory road.



Foulsham tributary 28 December 2019 (TV)

Rises at Swanton Novers, running S to pass W of Hindolveston, E of Foulsham, through Pockthorpe then W under A1067 to join R Wensum downstream of Guist bridge

307 Foulsham TG0221230583 (*Arable runoff*)
Road bridge on Hindolveston-Foulsham Rd, S of Hindolveston

2010 survey photo is looking downstream from bridge at L bank – photo (left) from same position:



L bank downstream is still arable, stubble at present but will be ploughed at some time. Rough margin next to river will help to prevent some direct silt run-off (photo, right).

R bank downstream is hedge/scrub and permanent pasture – no significant silting issues at present:

L bank upstream is rough vegetation / derelict woodland, R bank upstream is rough uncultivated land. Vehicles / shacks / agricultural building upstream but unable to see these or their surroundings clearly – possible run-off from yards?

Gullies in road verge run directly into stream or via short ditch:



Potential silting issues still likely.

(Description of vegetation / land use in 2010 survey appear to be reversed for L and R banks).

324 Foulsham 6 TG0367727145 (Road runoff and poaching)

Where stream crosses under Fulmodeston Rd, E of Hindolveston

Permanent pasture on both banks upstream and downstream of road.

2010 survey photo is on N side of road (left, below), W of where stream crosses.



There are other gullies off the road on both sides, deeper on N side but it appears that most run-off from road will occur on S side because of camber, where gullies run into field, not a ditch:



Cattle drink area immediately downstream of road but little poaching at present and no sign of vehicles crossing. No sign of poaching upstream from road (photo above) but some cattle in field next to river further upstream.

Looks unlikely to generate significant sediment at present, but could do if road drainage gullies and ditches re-excavated.

329 Foulsham 7 TG0235629619 (Earth mound, field runoff and ford)
E off B1110, S of Swanton Novers

Unable to access this site – appears to be on private land, not accessible via rights of way.
Looked at where track to Tipples Farm crosses stream. Permanent pasture both sides of bridge. Cattle drink area just downstream of bridge, some poaching and silt generation but not serious at present, no sign of vehicles crossing.

Stream culverted under B1110 S of Swanton Novers, then runs parallel to road for short distance with gullies on E side of road running directly into it (phot, left).
Gullies on W side of road run into ditch, which presumably also joins stream. Farm track joins road nearby – potential silt source.
After stream leaves road, it runs past outdoor pigs on L bank – lot of bare ground, with small grass margin (about 5m?) separating it from stream (photo, right).



Site 329 in 2010 survey appears to be just downstream from here.
Still looks likely to be significant silting issues in this location.

Visited accessible road and public footpath crossing points on tributary and feeders on 15 January 2020 after heavy overnight rain. Upper parts of system looked carrying noticeable sediment but not severe.

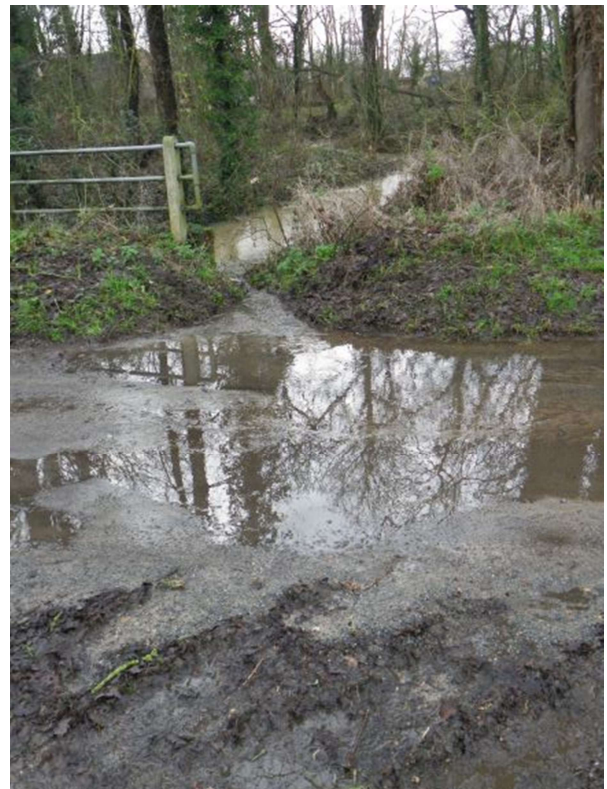


Potential road run-off point identified on minor road crossing feeder west of Wood Norton (photo, left)

Slope on both sides of crossing, road with mud from farm vehicles, run-off directly into feeder via pipe on both sides of road.

Lower parts of system, from Foulsham downstream, carrying heavy sediment load.

Photo (right) shows mud on minor road where it crosses feeder at Pockthorpe, south-east of Foulsham, and run-off into heavily coloured feeder.





Minor road crossing east of Foulsham, on Foulsham-Themelthorpe road – flooded road with mud from agricultural vehicles, sediment-rich water entering river via gulleys

At Bates Moor Farm, next minor road crossing upstream, stream runs alongside road for a short stretch and was flooding across muddy road.



2 UPPER WENSUM 2 January 2020 (TV)

112 Wensum West TF8821022770 (*Arable runoff*)
Minor tributary nr Wellingham

Unable to access site – private land – but some visibility from minor road running parallel.

Unable to see if ditch has been re-excavated recently, but still arable fields both sides with potential for sediment run-off.

Photo (left) from adjacent minor road off A1065 shows bare arable field on R bank, arable short crop on L bank, beck in break between two.



Photo (right) is downstream where beck goes under minor road from West Raynham to Whissonsett. Some steeply cut areas of unvegetated bank but bed is mainly gravel.



101 Wensum West TF8803124056 (*Bank clearance and straightening*)

Minor tributary, S Raynham

Site appears to be where footpath running S from near South Raynham church crosses beck:



Poor photo in report but appears to have been taken nearby.

L bank is wet pasture then woodland, R bank is reedmarsh and willow carr.

Channel recently dredged and widened, with steep and unconsolidated banks, dredged material on banks likely to wash back in, sediment in channel. New fencing recently erected.

265 Wensum TF8752025985 (*Bank clearance*)

Grid ref appears to be where public footpath crosses main river at Raynham Park, at N end of lake - photo from report shows parkland on R of channel and building associated with Raynham Hall in background, so presumably looking downstream from S of hall, but couldn't access location that matched this view.

Photo u/s from footpath bridge:



Significant silt in channel u/s of footpath bridge, but no sign of any recent work on banks from here or bridge on minor road near church to S. Report also mentions "Bare unconsolidated silty topsoil is found periodically on both banks for approximately 750m upstream of the start NGR. These fine sediment sources are a product of recent hay cutting." Hard to see how hay cutting would generate significant sediment!

257 Wensum (upper) TF8723627252 (*Bank clearance*)

Main river downstream of Helhoughton.

Unable to access site to which grid ref in report appears to refer – private land.

No sign of any work on banks at Helhoughton road bridge, on River Tatt where minor road from Helhoughton to Tatterford crossed it on Tatterford Common, or at Southmill Farm where minor road crosses main river to N of report site.

Report again mentions hay cutting as additional source of fine sediment.

Fakenham racecourse tributary - eastern arm

283 Great Ryburgh TF9376626018 (*Resectioned bank*)

Just off B1146 Fakenham to Dereham road, S of Testerton Hall. No public access but very close to road.

L bank is rough grassland, R bank arable with narrow uncultivated margin. Ditch overgrown, no sign of recent work.



286 Great Ryburgh TF9337426736 (*Resectioned bank*)

Grid ref from report is near copse to N of corner of B1146 Fakenham to Dereham road, near Testerton Hall, on private land – unable to access.

128 Racecourse tributary TF9314627793 (*Arable field drain*)

Site appears to be E of Pudding Norton Hall, on private land – unable to access (downstream of site 286).

Racecourse tributary - western arm

136 Racecourse tributary TF9259927024 (*Arable field drain*)

Site is drain running alongside minor road off B1146 Fakenham to Dereham road into Colkirk, almost opposite minor road to Gt Ryburgh.

Ditch is now completely vegetated and barely visible (photo, left).



Ditch is culverted under B1146 and this road and Gt Ryburgh road, photo (right) below shows it to N of latter – again vegetated, no recent maintenance but with only narrow margins to arable fields on both banks:

135 Racecourse tributary TF9247727526 (*Dredging*)

Site appears to be S of Pudding Norton Hall, on private land – unable to access (downstream of site 136).

Additional information:

Also looked at where, after E and W arms join S of Fakenham racecourse, the racecourse tributary joins another tributary running parallel to main river alongside Fakenham golf course ('golf course tributary'). Photo (left) shows the racecourse tributary (u/s) just before the junction.



Photo (right) shows the golf course tributary looking d/s from the access road to Fakenham Sports Centre / racecourse.

Golf course tributary is widened and very silty but no sign of recent maintenance. Racecourse tributary was rather murky, although no rain for last few days, with silt in the channel.

3 BLACKWATER / DEREHAM TRIBUTARIES

30 Blackwater main stem TF9898618419
Track east off Hoe Road, south of Worthing

(Track runoff)

(TE)

The bridge area is now much less affected by sediment, sand, gravel etc since the gravel workings are no longer in operation (photo, left).



Back up the track across the road there is sediment, sand and gravel running down from beneath a railway bridge (phot, right).

This is ending up in a minor watercourse where the track crosses and may be finding its way to the river.



348 Pennyspot E 1 TG0402215902 (Road runoff) (CH)
Pennyspot Beck, nr Elsing Hall

Complicated small beck with weirs and mini sluices, lots of field run off into the beck.
Long hill, silt from farm gateways and verges.



Further information on Penny Spot Beck and River Blackwater / tributaries (GG)

19/12/19 I looked at the IDB drains and watercourses from Lyng Bridge upstream when the River Wensum was high and coloured and took photos. Pennyspot Beck was very coloured. The other watercourses up to Swanton Morley were OK.

20/12/19 I found a very coloured tributary of the River Whitewater upstream of Worthing Mill which I think is called the Blackwater river or as I know it Spong Beck. It was very sandy and I have a good picture showing the contrast as it joined the River Whitewater upstream of the railway bridge. At Beetley Bridge the River was very coloured but the marshes were flooded downstream and it was less coloured at the Spong Beck confluence. I have pictures of the Beetley Bridge and Spong Bridge. At Spong Bridge the Beck was very coloured as well as the IDB drain piped under the road draining what looked like several acres of flooded marshes upstream.

I looked at Lyng Mill Pools and the main river was very coloured but the IDB on the Lyng side was only a little coloured, I could see down a foot deep. The Sparham Hall IDB was a bit coloured but I didn't have time to investigate but I photographed the marshes which were flooded. If anyone is interested in seeing the pictures on my phone I think I can work out how to email them.

14/1/20 I took these pictures when we had the last flooding event on the River Wensum. The plume of coloured water flowing into the River Whitewater is from the Blackwater River at the confluence just upstream of the Mid Norfolk Railway Bridge above Worthing Mill. The other two pictures are of Penny Spot Beck upstream and downstream of the road bridge again showing that it is carrying a lot of silt. I'm waiting for another flood and then I will be able to check these again and also look for more examples further upstream.

