



Map showing the River Wensum fish survey sites 2016.

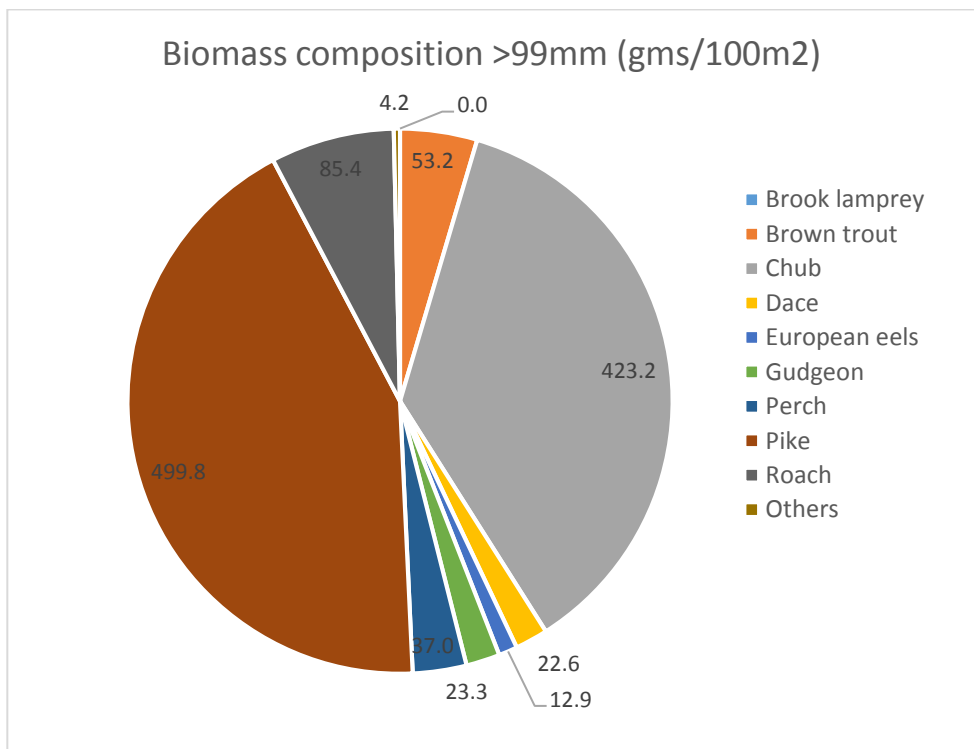
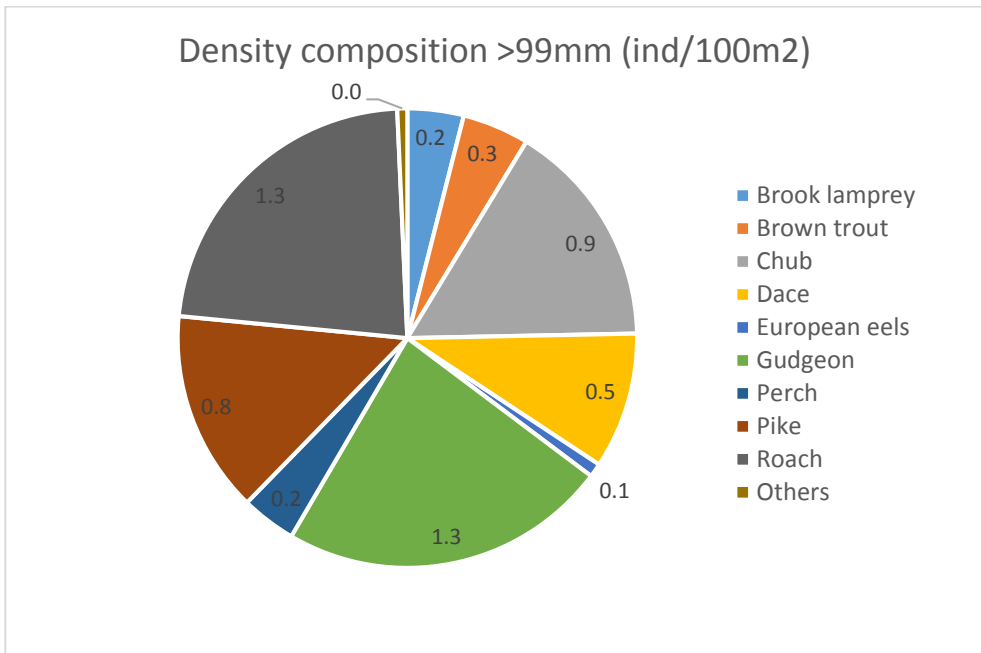


Five sites were surveyed using electric fishing gear between 7th September and 29th September 2016. The results are reported here using fish greater than (>) 99mm as electro-fishing has been shown to be inefficient below this band.

Fourteen species were identified during the survey. A total of 509 fish >99mm were caught.

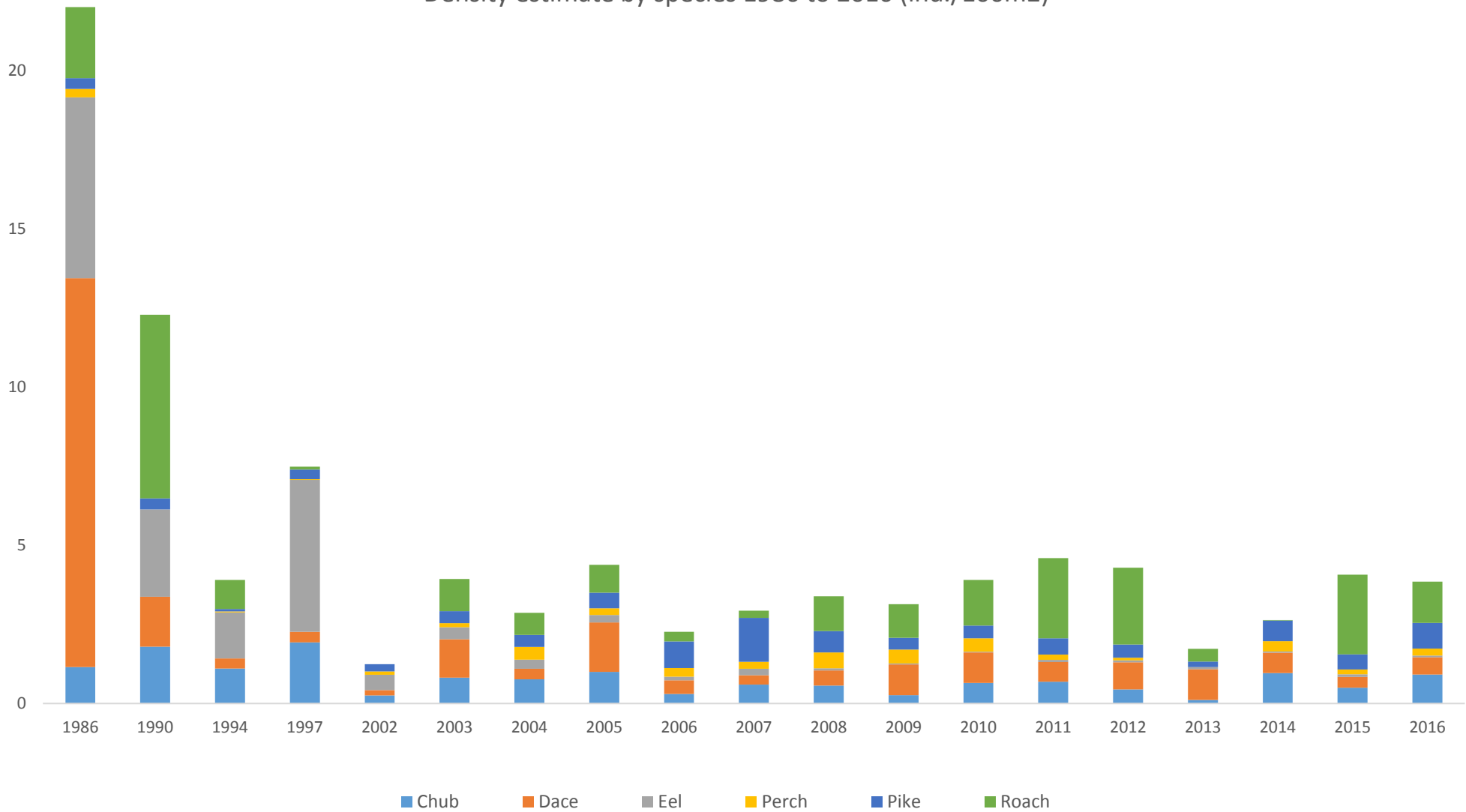
The average density (number of fish in a given area) of all species (>99mm) is 5.7 fish/100m².

The average standing crop (weight of fish in a given area) of all species (>99mm) is 1161.6 grams./100m².



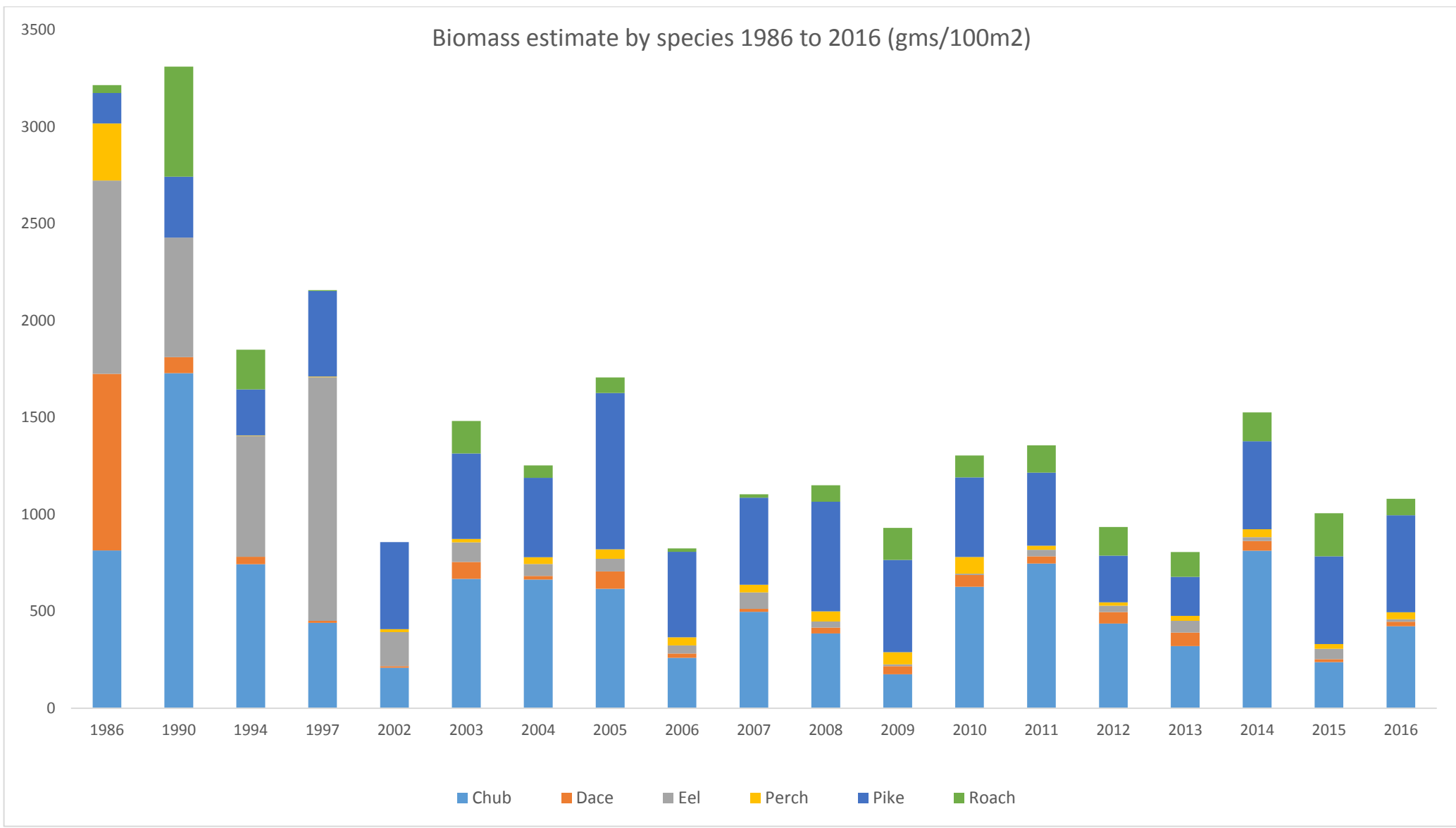
Pie charts showing density and standing crop of fish in the River Wensum from 7th to 29th September 2016. (Other species are 3 Spined Stickleback, bullhead, minnow and stoneloach).

Density estimate by species 1986 to 2016 (ind./100m2)



Graph showing density of fish (Individuals/100m2) species in the River Wensum during electrofishing surveys from 1986 to 2016 (n=5).

Biomass estimate by species 1986 to 2016 (gms/100m2)



Graph showing biomass of fish (grams/100m2) in the River Wensum during electrofishing surveys from 1986 to 2016 (n=5)

Density

During the 2016 surveys the most common species present (>99mm) were roach reaching 1.3 fish./100m², or a 23 % share of the population sampled.

The highest density of roach (>99mm) were recorded in the 1990 and 1991 surveys reaching 5.7 and 5.8 fish./100m² respectively, with the lowest density recorded in 2002. The fluctuating levels are possibly indicative of the variability in recruitment success of the species often determined by biotic factors such as temperature and food availability.

Chub, dace and pike density have remained stable throughout the survey period. Exceptional numbers of dace were captured during the 1986 survey, numbers that have not been repeated since.

Eel have experienced the most significant decline, with mean density in 2016 (0.06 fish./100m²) reduced by 99% of their former 1986 levels of 5.7 fish./100m²).

Smaller fish under 99mm are not included in these graphs as they are not sampled efficiently, however the most abundant species caught below 99mm was minnow.

Biomass

As with density, standing crop of eels has declined alarmingly so from the levels observed in 1986 (997.9 g./100m²) to current 2016 levels of 13.0 g./100m².

Standing crop of chub has fluctuated throughout the period revealing that whilst the number has remained fairly consistent, the size of individuals captured is variable.

The standing crop of dace and perch have remained fairly consistent throughout the survey period.

For both density and standing crop, roach and pike appear to follow similar trends, perhaps reflective of the predator – prey relationship.

The largest individual and species population estimate (>99mm) are recorded for chub, dace, roach, perch and pike at site level in the table below.

Size (mm)	Chub		Dace		Roach		Perch		Pike	
	No	Largest	No	Largest	No	Largest	No	Largest	No	Largest
D/S Gt Ryburgh Bridge	4	160	33	153	10	151	0	0	17	850 (12lb9oz)
Swanton Morley	26	342	37	224	59	178	14	303 (1lb2oz)	23	705 (7lb1oz)
D/S Elsing Mill	28	384	10	186	52	247	9	198	16	568
Alders Spinney	25	508 (3lb7oz)	21	156	8	87	15	268	4	593
Hellesdon Road (Albert's)	5	128	15	203	39	247	10	264	11	654

The largest fish from the surveys were:

A 850 mm (12 lb 9 oz) pike from Great Ryburgh and a 705 mm (7lb 1oz) pike from Swanton Morley.

A 508 mm (3 lb 7 oz) chub from Alders Spinney.

A perch of 303 mm (1lb 2 oz) from Swanton Morley.

Swanton Morley was an encouraging survey holding large numbers of roach and pike.

Preliminary assessment: The sites surveyed over the last 30 years show considerable fluctuation in coarse fish populations within the River Wensum. There is a clear predator – prey relationship between roach and pike over the survey period whereby as density and standing crop of roach increases so too does that of pike, therefore benefiting from the increase in prey availability. The rise and fall of roach populations appear to follow a 6 -7 year cycle that is likely to be attributable to good and bad growth years associated with flow conditions, temperature, food and habitat availability. When all these factors are optimum it results in the peaks observed in the density and standing crop figures.

Chub and roach also appear to display an interesting relationship following a similar pattern of increase and decline. However in years when roach don't do so well, chub appear to benefit. This may be due to both species having similar spawning seasons with juveniles often occupying similar habitats, therefore resulting in competition between the species.

Both dace and eel have declined significantly throughout the survey period to their current low levels. Ageing data from scales taken during the survey have revealed Wensum dace to have a slow growth rate in comparison to the species standard in southern waters. Eel have been experiencing a Europe-wide decline with barriers to migration, flow regulation and climate change thought to be causal factors.

Where to fish? The survey site upstream of Costessey weir at Alder's Spinney held large numbers of roach and dace as well as some specimen sized chub. Fishing here is possible through Norwich City Angling Club on the left bank and Norwich and District Angling Club on the right bank. Free fishing is also available at Hellesdon Road on the right bank where large roach shoals and barbel are often present.

Biosecurity

When fishing in the River Wensum biosecurity should be a top consideration. American signal crayfish are widespread within the catchment, being particularly prevalent in the middle reaches. This non-native species carries the fungal disease 'crayfish plague' which they are not susceptible to but that proves fatal to our native white-clawed species. Up until recently the upper River Wensum had a healthy population of white-clawed crayfish. Plague outbreaks in 2015 and 2016 killed thousands of the natives and are thought to have occurred through introduction of plague spores surviving on damp equipment entering the river.

Anglers can help prevent the spread of crayfish plague by thoroughly cleaning and drying equipment that has been in contact with the Wensum before being used elsewhere where natives might be present.

Contact us – General Information 08708 506 506 (8am – 6pm) or www.environment-agency.gov.uk

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