

Legend										
Land use / pop change										
Modifications to channel										2011- present Wandle Park, Croydon river de-culverted and rehabilitated
Water quality issues		Water quality is slowly but steadily improving, though phosphate remains high	GQA assessment for water quality introduced		2009 WFD classification good but phosphate too high= eutrophic condition					
Pollution events	1973 spill from BSTW						1995 BSTW incident	Summer 2007 BSTW incident	Summer 2012 BSTW incident	
Fluvial flow / water inputs	Caterham Bourne possibly flowed						1995 Caterham bourne causes flooding	2000-2001 extensive winterbourne floods	2009 WFD classification good for Carshalton w b, not good for C-W w b.	2012-2013 v. high rainfall throughout summer/winter
	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015
Abstraction / pipe leakage situation					Chalk aquifer resources considered fully committed	Late 1990s abstractions begun under GARDIT	GARDIT abstraction reduced slightly		2011-2012 29% increase in actual abstraction	
Groundwater status		Gw levels continue to recover	Gw levels continue	1989-1992 very wet winters caused exceptionally high gw levels	Building foundations & tube tunnels at risk of flooding in London	Late 1990s winterbournes cease carrying large volumes of chalk gw	Gw rise halted (possibly stabilised) but dropping in some places	2002-2003 Thames Water pipe leakage peaks 2008-2009 pipe leakage reduced to meet targets	Bourne winter flow now only intermittent and irregular	2010-2011 6% increase in actual abstraction Winter 2012-2013 no bourne flowed despite v. high rainfall Winter 2013-2014 Caterham Bourne and upper Wandle springs all flowed
Land use / pop change								2001 census reveals almost 1 million people live in the Wandle catchment, with highest population density of the four London Boroughs being Sutton with >300,000 residents. Population is also very diverse, like central London, with notable populations of Black Caribbean, Black African, Asian and Eastern European communities. Today land use is overwhelmingly urban and residents are not engaged with working on the river for commerce or in factories. Those that do work on the river have a conservation and social engagement interest to rehabilitate it as a natural resource. Green spaces are valued for recreational, aesthetic and educational benefits.		

			to re co ve r					strongly		
Key documents					1990s EA Chalk status reports begin	1999 LEAP report		2009 Thames C. Flood Management Plan	2013 Thames Water NEP report	2015 S&ESW NEP report
Key activity/policy					1992 GARDIT established			2006 EA CAMS report	2012 EA chalk aquifer report	
					1991 Water Resources Act		2003 WFD adopted	2009 1 st cycle of WFD RBMP	2013 EA new CAMS report	2015 2 nd cycle of WFD RBMP
									2012 Catchment Plan pilots	

	Georgian	Regency / Victorian	Victorian	Victorian / Edwardian	Edwardian						
Land use / pop change	Vegetable crops & hay traded with London for manure to improve gravel soils for produce	1750s Industrial Revolution begins which attracts workers and in turn increased need for housing, factories, warehousing, foreign influx and new techniques, industries etc Wealthy entrepreneurs, gentry, merchants etc build grand houses as peaceful country retreats from London	1803-1846 Surrey Iron Railway operated to help deal with rising trade supply to London	Pop increases, especially in Croydon, as part of burgeoning industry, which increases water demand and sewage. Local villages and towns become engulfed in expanding suburbs of south London, aided by improved transport connections	1865 steam railway comes to the area which in turn creates a housing boom and rapid transformation from rural to urban char	1860s on rapid population rise in south London and ever-increasing demands for food and other supplies in which the Wandle valley plays a key part.					
Modifications to channel	Milling along the river, mainly for flour	Milling increases and expands into new industries of paper and parchment-making, leather, gunpowder, oil, snuff, metal and copper	1805 Wandle said to be 'the hardest worked river for its size in the world'	1831 90 mills said to operate along the river 1840s much of the river through Croydon is culverted and many ponds filled in as a response to cholera and typhoid outbreaks.	Mid-1800s on mill industries decline	Further culverting of the river in Merton, Wimbledon and Wandsworth has taken place throughout the 19 th C and lowering of it into concrete channels to make it safer and easier to clean, if much less aesthetically pleasing or natural.					
	Grotto created in Carshalton Park over a natural spring	Throughout 18 th & 19 th C river used as ornamental feature for large houses	Ditches created on low-lying flat land for calico bleaching	Bleaching & calico printing decline as chlorine bleaching and steam-powered machinery grow	1830s on new industries develop along the river including papermaking, chemical works, and matchmakers. Some industries are less dependent on water from the river itself e.g. gas manufacture (company founded in 1834) and expanded to several sites especially near the Thames clearing away lots of historic buildings. Operated until 1971 when North Sea gas took over.	Industry becomes increasingly heavy.					
Flora and fauna	Throughout 18 th C huge fish catches recorded				1817 excellent angling noted	19 th C huge fish catches recorded	1852 trout disappear from lower reaches	Mid-1800s accounts of worsening river conditions begin		1905 brown trout catch recorded	
Water quality issues	Water quality good – supports trout and industries that require clean water		Mid-1700s onwards: calico industry booms, thanks to plentiful pure water supply			Water quality declines as pop growth leads to increases in sewage and refuse and reduced flows cannot cope with demand. Water becomes a major factor in the spread of disease. 1849, 1854 cholera outbreaks in Wandsworth Typhoid outbreaks in 1840s.	Mid-1800s on calico industry declines due to loss of pure water supply.	1890 Anglers appalled by pollution cleared the river (though they believed Wandsworth was already beyond redemption)	Industry increasingly pollutes river with harsh chemicals going. Low flows reduce dilution. But demand for potable water outstrips supply and inadequate waste disposal and refuse collection abounded, resulting in the ponds and channels being little better than open sewers.		
							1850s potable water supply still largely taken directly from the river despite it being diluted sewage	1866 cholera outbreak			
Pollution events							Privies overhang the river and cesspools leach into wells	1860 Beddington Sewage Farm built which helped situation in Croydon but made lower reaches the			

	1720	1740	1760	1780	1800	1820	1840	1860	1880	1900	1910
Fluvial flow / water inputs								most polluted river in London 1861 river flow recorded as 84 million gallons/day	1860s on river flow declines steadily due to rapid pop rise	Mitcham suffering from failing water supply	1912 river flowed alongside Carshalton High St
Abstraction / pipe leakage situation					Abstraction begins to rise to match rise in population	Abstraction increasing	Mid-1800s river level being affected by abstraction	Mid-1800s on falling water levels affect mill industry	Abstraction increasing	1905 railway well caused dramatic river drop	Abstraction increasing
Groundwater status								New boreholes sunk into the Chalk helped improve water supply.	Gw table falling as more abstraction for expanding suburbs of London		

Legend	Palaeolithic occupation Pre-7,000 BC	Mesolithic occupation 7,000-4,000 BC	Neolithic (4-2,700 BC) Bronze (2,700-800 BC) & Iron Ages (800BC-AD 43)	Romans AD 43-410	Anglo-Saxons 550-1066	Normans & Angevins (early Mediaeval period) 1066- 1399	Lancastrians, Yorkists & Tudors (late Mediaeval and Renaissance period) 1399-1603	Stuarts (early Modern period)		
Land use / pop change	Population is thought to have remained fairly consistent from Iron Age to early Medieval period. Landscape rural and only lightly worked for agriculture.	Landscape remains rural and with agricultural focus. Growth of manors and ecclesiastical institutions	Population spurt occurs but plague outbreaks temper growth 1603-3, 1625, 1636-48, 1665-6							
	Large numbers of Old Stone Age implements particularly in Wandsworth	Middle Stone Age implements at Waddon, Beddington & Carshalton	New Stone Age farming (around Mitcham) but occupation was possibly only intermittent Bronze Age implements found in Beddington & Carshalton	Villa bathhouse, settlements and burial sites, roads, wayside market at several sites Water-powered corn mill recorded	Mercenary settlements, cemeteries and civilian villages at several sites. Domesday Book records at least 13 mills on the river	12 th C first proper settlements around the river for agriculture 12 th C extensive watercress beds exist, and mills for cloth-making	Large mansions and pleasure grounds appear along the river 14 th C on records show attempts to keep channel clear of obstructions and maintain banks			Many canals, cuts and sluices begin to appear in the post-Medieval period 1600 24 corn mills recorded (some existed from Norman Conquest to late 19 th C)
			Iron Age fortified enclosures at Beddington, Wallington, Carshalton & Wimbledon		Ponds along the river from Croydon to Carshalton used as mill ponds	Merton Priory (1114-1538) managed the river locally for milling & calico-printing				16 th C more records show attempts to manage flow to prevent flooding
Flora and fauna										1606 Wandle Valley declared a royal hunting & fishing preserve
Water quality issues										
Pollution events										
Fluvial flow / water inputs										15 th C -19 th C records show high river levels and riparian flooding occur 1610 plan to pipe water to London strongly opposed, showing need for flow for mills
	Pre-history			AD 50	500	1000	1200	1400	1500	1600