

Lesson five: Catchments table

Table 2: Physical and socio-economic character of the seven case-study catchments (* 1961-2012; bold = main drought periods)

Catchment	Social/ Demographic/ economic	Topography, Geology, main Land Covers	Hydrology & Water management (All catchments have monitored flow data since the 1960s)	Drought experience *
River Fowey at Restormel	Rural villages; 50% summer population increase (local economy heavily dependent on tourism)	Moderate relief - Bodmin Moor granite, Devonian slates and grits 64% grassland; 18% woodland; 11% arable/horticultural; <1% settlements	River flows dominated by rapid surface runoff Heavily affected by public water supply abstraction including surface water reservoirs Water demand highly seasonal	1976 1984 1992, 1997 2004 2011
River Frome (Bristol) at Frenchay	Spans urban, suburban and rural, city (Bristol), town (Yate), villages; ethnically diverse; large business parks and hospital	Moderate relief; Sandstones, Mudstones and Clays Superficial gravels 48% grassland; 5% woodland; 21% arable/horticultural; 11% urban	River flows dominated by rapid surface runoff	1976 - 1991-92 2005 2011
River Pang at Pang- bourne	Rural; town (Pangbourne) - villages; agriculture	Chalk downland; 28% grassland; 18% woodland; 45% arable/horticultural; 1% settlements	River flows dominated by slowly responding groundwater Chalk aquifer recharge and abstraction West Berkshire Groundwater Scheme operated by Thames Water /EA at times of extreme drought to augment river flows with abstracted groundwater	1975-76 - 1991-92, 1997, 2005-06 2011-12
Bevills Leam at Tebbits Bridge	Rural villages; Agriculture Tourism (boating and nature reserves); up to 37 km ² of wetland restoration - two national nature reserves (Holme /Woodwalton Fens)	Low relief with significant areas of catchment below sea level Peat soils underlain by Clay 5% grassland; 5% woodland; 85% arable/horticultural; 2% settlements. The Great Fen Project	Highly managed pumped drainage system with high/low level drains Water level management balances winter flood relief, water storage for irrigation and water levels for boating navigation. Significant abstraction (2 million m ³) for agricultural spray irrigation Imported public water supply	1965 1972-73, 1976 - 1990-91, 1995-96, 2006 2011-12
Afon Ebbw	Spans urban and rural: Ebbw	Upland valleys; mainly Coal	Small water supply reservoirs in uplands.	1964

at Rhiwderin	Vale and Brynmawr conurbation, plus other towns (e.g. Abertillery, Blackwood, Risca). Welsh stakeholders	Measures. 41% grassland, 21% upland heath; 17% forest. Significant urban development (>7%) in valleys.	Some groundwater abstractions in valley. Drainage water from old coalmines can also influence flows.	1976 - 1997 2005-06 2011
Don at Hadfields Weir	Spans urban and rural: city (Sheffield), towns (Stocksbridge; Penistone), villages; ethnically diverse; SMEs dominate Sheffield, plus manufacturing base; rural agriculture /tourism	Mixed geology 36% grassland; 16% woodland; 6% arable/horticultural; 19% moorland; 13% urban	Upper catchment considerably reservoirised with substantial impact on flow regime Runoff significantly reduced by public water supply and industrial and/or agricultural abstraction Runoff influenced by groundwater abstraction and/or recharge Runoff increased by effluent returns	1975-76 - 1991-92, 1995-96 2006 2011-12
Eden at Kemback	Rural: town (Cupar), villages; Scottish stakeholders: water supply; whisky distillery; market gardening	Gently sloping and low-lying Sandstone, Limestone and igneous 29% grassland; 12% woodland; 52% arable/horticultural	Abstractions for irrigation and public water supply (Sandstone aquifer) Groundwater abstractions, effluent returns and small reservoirs in the headwaters	1973-74 , 1976 1989 2003-04