

**ESW Drought Plan 2027
Strategic Environmental
Assessment (SEA)
Environmental Report:
Appendix D –
Environmental Baseline**

April 2026

ESW DROUGHT PLAN 2027

SEA ENVIRONMENTAL REPORT: APPENDIX D – ENVIRONMENTAL BASELINE

DOCUMENT CONTROL SHEET

Report Title:	ESW Drought Plan 2027 Strategic Environmental Assessment (SEA) Environmental Report: Appendix D – Environmental Baseline
Report Author:	Jacobs UK Limited on behalf of NWG Water Resources Team
Distribution List:	Internal: Water Resources & Supply Strategy Manager Water Resources Project File External: Environment Agency, Natural England and Historic England
Filename:	<u>ESW Draft Drought Plan 2027 – SEA Environmental Report – Appendix D – April 2026.docx</u>

REVISIONS

Version	Report Status	Signed off by	Issue Date
1	Final (for issue with Draft Drought Plan)	William Robinson	29/04/2026

CITATION

This report should be cited as:

Essex & Suffolk Water (ESW) (2026). ESW Drought Plan 2027 Strategic Environmental Assessment (SEA) Environmental Report: Appendix D – Environmental Baseline.

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Registered in England & Wales No. 2366703

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1 ENVIRONMENTAL BASELINE

The SEA Regulations requires consideration of:

'the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme'

'the environmental characteristics of areas likely to be significantly affected'

SEA Regulations Schedule 2 (2) and (3).

1.1 Introduction

An essential part of the Strategic Environmental Assessment (SEA) for our Drought Plan is to establish the current baseline environmental and socio-economic conditions and consider these may change over the lifetime of the plan (the next five years: 2027-2032). Our baseline data has been drawn from a variety of sources, including plans and programmes reviewed as part of the SEA process and other published sources referenced in this appendix. Information is presented under the SEA Regulation topics:

- Biodiversity, flora, and fauna
- Water
- Soil
- Air
- Climatic factors
- Population and human health
- Historic environment
- Landscape
- Material assets

1.1.1 Geographical scope

Our baseline covers a broad geographical area, recognising that water is sourced both within and outside our Essex and Suffolk (ESW) supply areas, with transfers from the wider Water Resources East (WRE) region. To reflect this interconnected context and ensure that all potential pathways are considered, we have defined three geographical areas:

- **WRE boundary** – representing the regional context, used where environmental data is only available at this broader scale or where a wider-scale dataset is more suitable.
 - **Drought Plan SEA study area** – comprising the ESW supply area, which forms the study area for demand-side drought actions, as well as the wider operational
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catchments where supply-side drought actions could give rise to potential direct or indirect effects beyond the ESW supply area.

- **ESW supply area** - representing the area where drinking water is supplied to our customers.

This tiered approach enables us to consider potential effects both within and outside our supply areas, reflecting how drought actions may influence the wider water resource network. These three geographical areas, along with the operational catchments, are shown in Figure 1.1.

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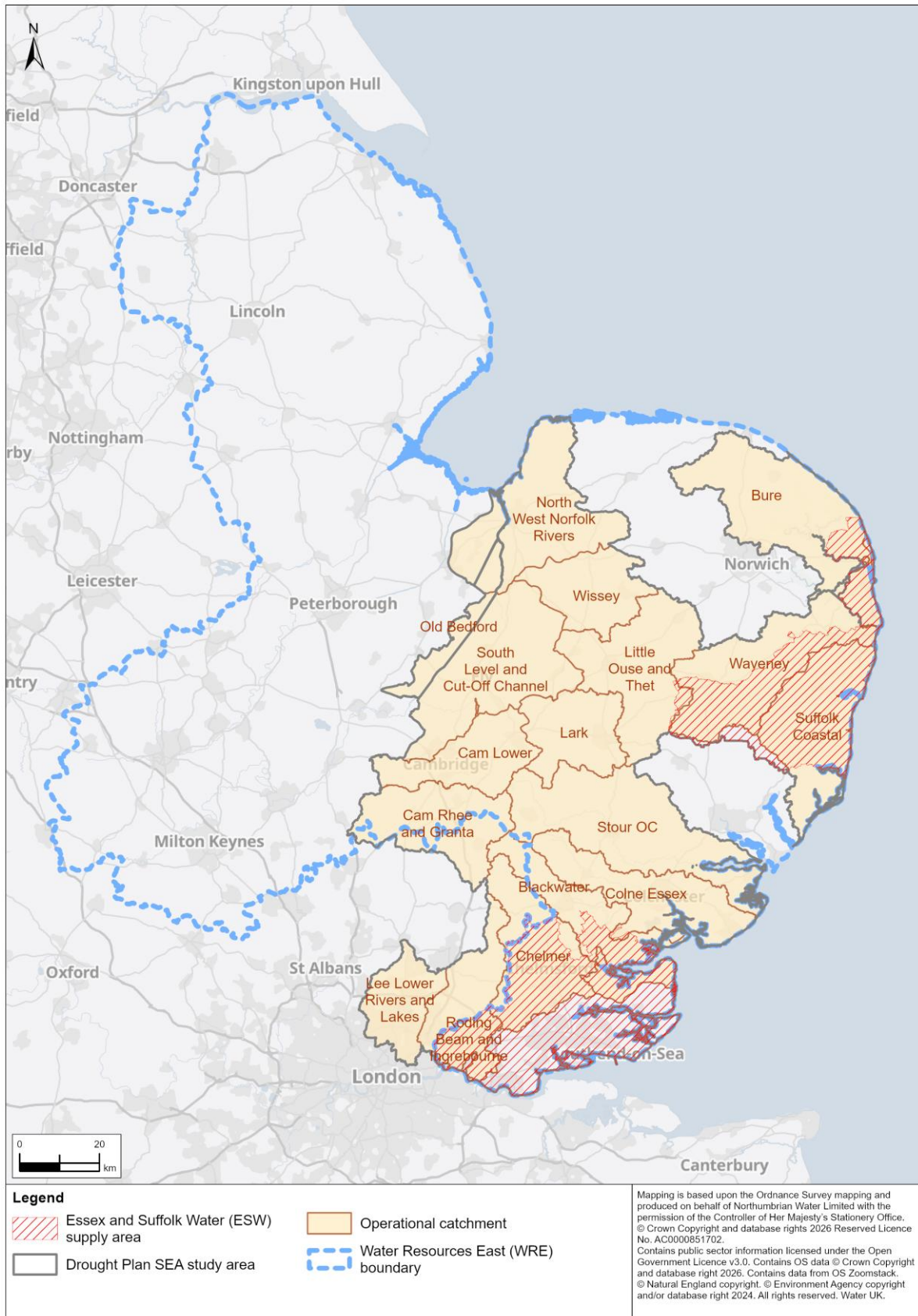


Figure 1.1 Geographical areas used to collect baseline data

1.1.2 Future baseline

The SEA Regulations require that "*the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the Plan or Programme*" are identified. Predicting future trends is inherently challenging, as they are influenced by a wide range of global, national and regional drivers, as well as policy and operational decision-making. However, based on the baseline information reviewed for this SEA, a number of key environmental and socio-economic trends have been identified in this appendix. Our initial assessment indicates that the main patterns of change outlined below are likely to continue in the absence of the Drought Plan.

1.2 Biodiversity, Flora and Fauna

Biodiversity comprises the variety of plants (flora) and animals (fauna) in an area, and their associated habitats. The importance of protecting and enhancing biodiversity is recognised from an international to a local level. Biodiversity has importance in its own right and has value in terms of quality of life and amenity.

1.2.1 Designated sites

The study and supply areas contain numerous Special Areas of Conservation, Special Protection Areas, Ramsar sites, Sites of Special Scientific Interest, National Nature Reserves, Local Nature Reserves, Marine Protected Areas and Marine Conservation Zones. The number and type of designated ecological sites across these areas are presented in Table 1.1 and Figure 1.2.

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Table 1.1 Designated ecological sites in the study and supply areas

Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
Special Areas of Conservation	25	Alde-Ore & Butley Estuaries	10	Alde-Ore & Butley Estuaries
		Benacre to Easton Bavents Lagoons		Benacre to Easton Bavents Lagoons
		Breckland		
		Devils Dyke		
		Dew's Ponds		Dew's Ponds
		Epping Forest		
		Essex Estuaries		Essex Estuaries
		Eversden and Wimpole Woods		
		Fenland		
		Hamford Water		
		Minsmere to Walberswick Heaths & Marshes		Minsmere to Walberswick Heaths & Marshes
		Norfolk Valley Fens		
		North Norfolk Coast		
		Orfordness-Shingle Street		Orfordness-Shingle Street
		Ouse Washes		
		Paston Great Barn		
		Rex Graham Reserve		
		Roydon Common & Dersingham Bog		
		Southern North Sea		Southern North Sea
		Staverton Park & The Thicks, Wantisden		
		The Broads		The Broads
		The Wash & North Norfolk Coast		
		Waveney & Little Ouse Valley Fens		Waveney & Little Ouse Valley Fens

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
Special Protection Areas	24	Winterton-Horsey Dunes	15	Winterton-Horsey Dunes
		Wormley-Hoddesdonpark Woods		
		Abberton Reservoir		Alde-Ore Estuary
		Alde-Ore Estuary		Benacre to Easton Bavents
		Benacre to Easton Bavents		Benfleet and Southend Marshes
		Benfleet and Southend Marshes		Blackwater Estuary (Mid-Essex Coast Phase 4)
		Blackwater Estuary (Mid-Essex Coast Phase 4)		Breckland
		Breckland		Breydon Water
		Breydon Water		Broadland
		Broadland		Colne Estuary (Mid-Essex Coast Phase 2)
		Colne Estuary (Mid-Essex Coast Phase 2)		Crouch & Roach Estuaries (Mid-Essex Coast Phase 3)
		Crouch & Roach Estuaries (Mid-Essex Coast Phase 3)		Dengie (Mid-Essex Coast Phase 1)
		Dengie (Mid-Essex Coast Phase 1)		Foulness (Mid-Essex Coast Phase 5)
		Foulness (Mid-Essex Coast Phase 5)		Great Yarmouth North Denes
		Great Yarmouth North Denes		Greater Wash
		Greater Wash		Hamford Water
		Hamford Water		Lee Valley
		Lee Valley		Minsmere-Walberswick
		Minsmere-Walberswick		N Norfolk Coast
		N Norfolk Coast		Ouse Washes
		Ouse Washes		Outer Thames Estuary
		Outer Thames Estuary		Sandlings
		Sandlings		Stour and Orwell Estuaries
		Stour and Orwell Estuaries		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Thames Estuary & Marshes		Thames Estuary & Marshes
		The Wash		
Ramsar sites	23	Abberton Reservoir	11	
		Alde-Ore Estuary		Alde-Ore Estuary
		Benfleet and Southend Marshes		Benfleet and Southend Marshes
		Blackwater Estuary (Mid-Essex Coast Phase 4)		Blackwater Estuary (Mid-Essex Coast Phase 4)
		Breydon Water		Breydon Water
		Broadland		Broadland
		Chippenham Fen		
		Colne Estuary (Mid-Essex Coast Phase 2)		
		Crouch & Roach Estuaries (Mid-Essex Coast Phase 3)		Crouch & Roach Estuaries (Mid-Essex Coast Phase 3)
		Dengie (Mid-Essex Coast Phase 1)		Dengie (Mid-Essex Coast Phase 1)
		Dersingham Bog		
		Foulness (Mid-Essex Coast Phase 5)		Foulness (Mid-Essex Coast Phase 5)
		Hamford Water		
		Lee Valley		
		Minsmere-Walberswick		Minsmere-Walberswick
		North Norfolk Coast		
		Ouse Washes		
		Redgrave & South Lopham Fens		Redgrave & South Lopham Fens
		Roydon Common		
		Stour and Orwell Estuaries		
		Thames Estuary & Marshes		Thames Estuary & Marshes
		The Wash		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Wicken Fen		
Sites of Special Scientific Interest	354	Abberton Reservoir SSSI	79	
		Abbey Wood, Flixton SSSI		Abbey Wood, Flixton SSSI
		Alde-Ore Estuary SSSI		Alde-Ore Estuary SSSI
		Aldeburgh Brick Pit SSSI		Aldeburgh Brick Pit SSSI
		Aldeburgh Hall Pit SSSI		Aldeburgh Hall Pit SSSI
		Alder Carr SSSI		
		Alderfen Broad SSSI		
		Ant Broads and Marshes SSSI		
		Ardleigh Gravel Pit SSSI		
		Arger Fen SSSI		
		Ashdon Meadows SSSI		
		Ashwell Springs SSSI		
		Balsham Wood SSSI		
		Bangrove Wood, Ixworth SSSI		
		Barnby Broad & Marshes SSSI		Barnby Broad & Marshes SSSI
		Barnham Heath SSSI		
		Barnhamcross Common SSSI		
		Barrington Chalk Pit SSSI		
		Barrington Pit SSSI		
		Bawdsey Cliff SSSI		
		Bawsey SSSI		
		Belcher's & Broadfield Woods SSSI		
		Benfleet and Southend Marshes SSSI		Benfleet and Southend Marshes SSSI

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Berner's Heath, Icklingham SSSI		
		Black Ditches, Cavenham SSSI		
		Blackborough End Pit SSSI		
		Blackwater Estuary SSSI		Blackwater Estuary SSSI
		Blake's Wood & Lingwood Common SSSI		Blake's Wood & Lingwood Common SSSI
		Blaxhall Heath SSSI		
		Blo' Norton and Thelnetham Fens SSSI		
		Boughton Fen SSSI		
		Bovingdon Hall Woods SSSI		
		Brackland Rough SSSI		
		Bradfield Woods SSSI		
		Breckland Farmland SSSI		
		Breckland Forest SSSI		
		Brent Eleigh Woods SSSI		
		Breydon Water SSSI		Breydon Water SSSI
		Bridgham & Brettenham Heaths SSSI		
		Briton's Lane Gravel Pit SSSI		
		Broad Fen, Dilham SSSI		
		Broome Heath Pit SSSI		
		Bryant's Heath, Felmingham SSSI		
		Buckanay Farm Pit, Alderton SSSI		
		Buff Wood SSSI		
		Bugg's Hole Fen, Thelnetham SSSI		
		Bullock Wood SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Bure Broads and Marshes SSSI		
		Burgate Wood SSSI		Burgate Wood SSSI
		Burgh Common and Muckfleet Marshes SSSI		Burgh Common and Muckfleet Marshes SSSI
		Buxton Heath SSSI		
		Caldecote Meadows SSSI		
		Calthorpe Broad SSSI		
		Cam Washes SSSI		
		Canvey Wick SSSI		Canvey Wick SSSI
		Carlton Wood SSSI		
		Castle Acre Common SSSI		
		Cattawade Marshes SSSI		
		Cavendish Woods SSSI		
		Cavenham - Icklingham Heaths SSSI		
		Cawston and Marsham Heaths SSSI		
		Chalkney Wood SSSI		
		Cherry Hill and The Gallops, Barton Mills SSSI		
		Cherry Hinton Pit SSSI		
		Chettisham Meadow SSSI		
		Chillesford Church Pit SSSI		
		Chingford Reservoirs SSSI		
		Chippenhall Green SSSI		Chippenhall Green SSSI
		Chippenham Fen and Snailwell Poor's Fen SSSI		
		Clacton Cliffs & Foreshore SSSI		
		Colne Estuary SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Cornard Mere, Little Cornard SSSI		
		Cornmill Stream and Old River Lea SSSI		
		Corton Cliffs SSSI		Corton Cliffs SSSI
		Crag Farm Pit, Sudbourne SSSI		
		Crag Pit, Aldeburgh SSSI		Crag Pit, Aldeburgh SSSI
		Cranberry Rough Hockham SSSI		
		Cransford Meadow SSSI		Cransford Meadow SSSI
		Cranwich Camp SSSI		
		Crostwick Marsh SSSI		
		Crouch and Roach Estuaries SSSI		Crouch and Roach Estuaries SSSI
		Curtismill Green SSSI		
		Damgate Marshes, Acle SSSI		
		Danbury Common SSSI		Danbury Common SSSI
		Deadman's Grave, Icklingham SSSI		
		Debden Water SSSI		
		Decoy Carr, Acle SSSI		
		Delph Bridge Drain SSSI		
		Dengie SSSI		Dengie SSSI
		Dernford Fen SSSI		
		Dersingham Bog SSSI		
		Devil's Dyke SSSI		
		Dew's Ponds SSSI		Dew's Ponds SSSI
		Didlington Park Lakes SSSI		
		East Harling Common SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		East Ruston Common SSSI		
		East Walton and Adcock's Common SSSI		
		East Winch Common SSSI		
		East Wretham Heath SSSI		
		Edgefield Little Wood SSSI		
		Edwardstone Woods SSSI		
		Elm Road Field, Thetford SSSI		
		Elsenham Woods SSSI		
		Ely Pits and Meadows SSSI		
		Epping Forest SSSI		
		Eriswell Low Warren SSSI		
		Eversden and Wimpole Woods SSSI		
		Fakenham Wood and Sapiston Great Grove SSSI		
		Felbrigg Woods SSSI		
		Field Barn Heaths, Hilborough SSSI		
		Fleam Dyke SSSI		
		Flixton Quarry SSSI		Flixton Quarry SSSI
		Foulden Common SSSI		
		Foulness SSSI		Foulness SSSI
		Fowlmere Watercress Beds SSSI		
		Foxhole Heath, Eriswell SSSI		
		Freston and Cutler's Woods with Holbrook Park SSSI		
		Frithy and Chadacre Woods SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Fulbourn Fen SSSI		
		Furze Hill SSSI		
		Garnetts Wood / Barnston Lays SSSI		
		Garrold's Meadow SSSI		Garrold's Meadow SSSI
		Gawdyhall Big Wood, Harleston SSSI		
		Gedgrave Hall Pit SSSI		
		Geldeston Meadows SSSI		
		Glemsford Pits SSSI		
		Globe Pit SSSI		Globe Pit SSSI
		Gog Magog Golf Course SSSI		
		Goldsands Road Pit SSSI		Goldsands Road Pit SSSI
		Gooderstone Warren SSSI		
		Grays Thurrock Chalk Pit SSSI		Grays Thurrock Chalk Pit SSSI
		Great Cressingham Fen SSSI		
		Great Wilbraham Common SSSI		
		Great Wood & Dodd's Grove SSSI		Great Wood & Dodd's Grove SSSI
		Great Yarmouth North Denes SSSI		Great Yarmouth North Denes SSSI
		Grime's Graves SSSI		
		Grimston Warren Pit SSSI		
		Gromford Meadow SSSI		Gromford Meadow SSSI
		Groton Wood SSSI		
		Gunton Park Lake SSSI		
		Gypsy Camp Meadows, Thrandeston SSSI		Gypsy Camp Meadows, Thrandeston SSSI
		Hainault Forest SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Hales and Shadwell Woods SSSI		
		Hall Farm Fen, Hemsby SSSI		Hall Farm Fen, Hemsby SSSI
		Halvergate Marshes SSSI		
		Hamford Water SSSI		
		Hangman's Wood & Deneholes SSSI		Hangman's Wood & Deneholes SSSI
		Hanningfield Reservoir SSSI		Hanningfield Reservoir SSSI
		Happisburgh Cliffs SSSI		
		Hardley Flood SSSI		
		Hardwick Wood SSSI		
		Harlow Woods SSSI		
		Harwich Foreshore SSSI		
		Hay Wood, Wkepstead SSSI		
		Hayley Wood SSSI		
		Heacham Brick Pit SSSI		
		Hedenham Wood SSSI		
		Hertford Heath SSSI		
		High Wood, Dunmow SSSI		
		Hildersham Wood SSSI		
		Hilgay Heronry SSSI		
		Hintlesham Woods SSSI		
		Histon Road SSSI		
		Hockley Woods SSSI		Hockley Woods SSSI
		Holehaven Creek SSSI		Holehaven Creek SSSI
		Holland-on-Sea Cliff SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Holland Hall (Melbourn) Railway Cutting SSSI		
		Holland Haven Marshes SSSI		
		Holton Pit SSSI		Holton Pit SSSI
		Hooks Well Meadows, Great Cressingham SSSI		
		Hopton Fen SSSI		
		Hornchurch Cutting SSSI		Hornchurch Cutting SSSI
		Horringer Court Caves SSSI		
		Horse Wood, Mileham SSSI		
		How Hill Track SSSI		
		Hoxne Brick Pit SSSI		Hoxne Brick Pit SSSI
		Hunstanton Cliffs SSSI		
		Hunstanton Park Esker SSSI		
		Iken Wood SSSI		
		Ingrebourne Marshes SSSI		Ingrebourne Marshes SSSI
		Inner Thames Marshes SSSI		Inner Thames Marshes SSSI
		Islington Heronry SSSI		
		Kenninghall & Banham Fens with Quidenham Mere SSSI		
		Kentwell Woods SSSI		
		Kingston Wood and Outliers SSSI		
		Knettishall Heath SSSI		
		L-Moor, Shepreth SSSI		
		Lackford Lakes SSSI		
		Lakenheath Pools Fen SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Lakenheath Warren SSSI		
		Langdon Ridge SSSI		Langdon Ridge SSSI
		Langley Wood SSSI		
		Laurel Farm Meadow St. James South Elmham SSSI		Laurel Farm Meadow St. James South Elmham SSSI
		Leet Hill, Kirby Cane SSSI		
		Leiston - Aldeburgh SSSI		Leiston - Aldeburgh SSSI
		Leziate, Sugar and Derby Fens SSSI		
		Limpenhoe Meadows SSSI		
		Lineage Wood & Railway Track, Long Melford SSSI		
		Lion Pit SSSI		Lion Pit SSSI
		Little Heath, Barnham SSSI		
		Little Oakley Channel Deposit SSSI		
		Lofts Farm Pit SSSI		Lofts Farm Pit SSSI
		London Road Industrial Estate, Brandon SSSI		
		Lord's Well Field SSSI		
		Ludham - Potter Heigham Marshes SSSI		
		Madingley Wood SSSI		
		Maidscross Hill SSSI		
		Major Farm, Braiseworth SSSI		Major Farm, Braiseworth SSSI
		Maldon Cutting SSSI		Maldon Cutting SSSI
		Marks Tey Brickpit SSSI		
		Metfield Meadow SSSI		Metfield Meadow SSSI
		Middle Harling Fen SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Milden Thicks SSSI		
		Mill Meadows, Billericay SSSI		Mill Meadows, Billericay SSSI
		Minsmere-Walberswick Heaths and Marshes SSSI		Minsmere-Walberswick Heaths and Marshes SSSI
		Mucking Flats and Marshes SSSI		Mucking Flats and Marshes SSSI
		Mundesley Cliffs SSSI		
		Narborough Railway Embankment SSSI		
		Neutral Farm Pit, Butley SSSI		
		New Buckenham Common SSSI		
		Newmarket Heath SSSI		
		Newney Green Pit SSSI		Newney Green Pit SSSI
		Norsey Wood SSSI		Norsey Wood SSSI
		North Norfolk Coast SSSI		
		Northaw Great Wood SSSI		
		Norton Wood SSSI		
		Nunn Wood SSSI		
		Old Bodney Camp SSSI		
		Old Buckenham Fen SSSI		
		Orwell Clunch Pit SSSI		
		Orwell Estuary SSSI		
		Ouse Washes SSSI		
		Out and Plunder Woods SSSI		
		Over and Lawn Woods SSSI		
		Pakefield to Easton Bavents SSSI		Pakefield to Easton Bavents SSSI
		Pakenham Meadows SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Park Wood SSSI		
		Pashford Poor's Fen, Lakenheath SSSI		
		Paston Great Barn SSSI		
		Pitsea Marsh SSSI		Pitsea Marsh SSSI
		Potton Hall Fields, Westleton SSSI		Potton Hall Fields, Westleton SSSI
		Potton Wood SSSI		
		Priory Meadows, Hickling SSSI		
		Pulham Market Big Wood SSSI		
		Purfleet Chalk Pits SSSI		Purfleet Chalk Pits SSSI
		Purfleet Road, Aveley SSSI		Purfleet Road, Aveley SSSI
		Quendon Wood SSSI		
		RAF Lakenheath SSSI		
		Red House Farm Pit, Sudbourne SSSI		
		Red Lodge Heath SSSI		
		Redgrave and Lopham Fens SSSI		Redgrave and Lopham Fens SSSI
		Rex Graham Reserve SSSI		
		Richmond Farm Pit, Gedgrave SSSI		
		Riddles Wood SSSI		
		Ringstead Downs SSSI		
		River Nar SSSI		
		River Ter SSSI		River Ter SSSI
		Roding Valley Meadows SSSI		
		Roman River SSSI		
		Roman Road SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Round Hill Pit, Aldeburgh SSSI		Round Hill Pit, Aldeburgh SSSI
		Roydon Common SSSI		
		Sandbeach Meadows SSSI		Sandbeach Meadows SSSI
		Sandlings Forest SSSI		
		Sawston Hall Meadows SSSI		
		Scoulton Mere SSSI		
		Setchey SSSI		
		Sexton Wood SSSI		
		Shallam Dyke Marshes, Thurne SSSI		
		Shelfanger Meadows SSSI		
		Shippea Hill SSSI		
		Shotesham-Woodton Hornbeam Woods SSSI		
		Sizewell Marshes SSSI		Sizewell Marshes SSSI
		Smallburgh Fen SSSI		
		Snailwell Meadows SSSI		
		Snape Warren SSSI		Snape Warren SSSI
		Snettisham Carstone Quarry SSSI		
		Soham Wet Horse Fen SSSI		
		Sotterley Park SSSI		Sotterley Park SSSI
		Southrepps Common SSSI		
		Sprat's Water and Marshes, Carlton Colville SSSI		Sprat's Water and Marshes, Carlton Colville SSSI
		St. Osyth Pit SSSI		
		Stallode Wash, Lakenheath SSSI		
		Stanford Training Area SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Stanley and Alder Carrs, Aldeby SSSI		Stanley and Alder Carrs, Aldeby SSSI
		Stanton Woods SSSI		
		Staverton Park and The Thicks, Wantisden SSSI		
		Stour and Copperas Woods, Ramsey SSSI		
		Stour Estuary SSSI		
		Stow-cum-Quy Fen SSSI		
		Sudbourne Park Pit SSSI		
		Sutton and Hollesley Heaths SSSI		
		Swangey Fen, Attleborough SSSI		
		Ten Wood SSSI		
		The Brinks, Northwold SSSI		
		The Cliff, Burnham-On-Crouch SSSI		The Cliff, Burnham-On-Crouch SSSI
		The Coppice, Kelvedon Hatch SSSI		
		The Gardens, Great Ashfield SSSI		
		The Glen Chalk Caves, Bury St. Edmund's SSSI		
		The Naze SSSI		
		The Wash SSSI		
		Therfield Heath SSSI		
		Thetford Golf Course & Marsh SSSI		
		Thetford Heaths SSSI		
		Thompson Water, Carr and Common SSSI		
		Thorndon Park SSSI		Thorndon Park SSSI
		Thorpe Morieux Woods SSSI		
		Thrift Wood, Woodham Ferrers SSSI		Thrift Wood, Woodham Ferrers SSSI

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Thriplow Meadows SSSI		
		Thriplow Peat Holes SSSI		
		Thundersley Great Common SSSI		Thundersley Great Common SSSI
		Tindall Wood, Ditchingham SSSI		
		Tiptree Heath SSSI		Tiptree Heath SSSI
		Titsal Wood, Shadingfield SSSI		Titsal Wood, Shadingfield SSSI
		Traveller's Rest Pit SSSI		
		Trinity Broads SSSI		Trinity Broads SSSI
		Trundley and Wadgell's Woods, Great Thurlow SSSI		
		Tunstall Common SSSI		
		Turnford & Cheshunt Pits SSSI		
		Upper Colne Marshes SSSI		
		Upper Thurne Broads and Marshes SSSI		
		Upton Broad & Marshes SSSI		
		Upware Bridge Pit North SSSI		
		Upware North Pit SSSI		
		Upware South Pit SSSI		
		Valley Farm Pit, Sudbourne SSSI		
		Vange & Fobbing Marshes SSSI		Vange & Fobbing Marshes SSSI
		Waltham Abbey SSSI		
		Walthamstow Marshes SSSI		
		Walthamstow Reservoirs SSSI		
		Wangford Warren and Carr SSSI		
		Wayland Wood, Watton SSSI		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Weather and Horn Heaths, Eriswell SSSI		
		Weeleyhall Wood SSSI		
		Weeting Heath SSSI		
		West Stow Heath SSSI		
		West Thurrock Lagoon & Marshes SSSI		West Thurrock Lagoon & Marshes SSSI
		West Wood, Little Sampford SSSI		
		Westhall Wood and Meadow SSSI		
		Weston Fen, Suffolk SSSI		
		Westwick Lakes SSSI		
		Whittlesford-Thriplow Hummocky Fields SSSI		
		Wicken Fen SSSI		
		Wiggenhall St. Germans SSSI		
		Wilbraham Fens SSSI		
		Wilde Street Meadow SSSI		
		Winterton-Horsey Dunes SSSI		Winterton-Horsey Dunes SSSI
		Wivenhoe Gravel Pit SSSI		
		Woodham Walter Common SSSI		Woodham Walter Common SSSI
		Wormley-Hoddesdonpark Wood South SSSI		
		Wormley-Hoddesdonpark Woods North SSSI		
		Wortham Ling SSSI		Wortham Ling SSSI
Wretham Park Meres SSSI				
Wretton SSSI				
National Nature Reserves	32	Ant Broads and Marshes	9	
		Benacre		Benacre

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Blackwater Estuary		Blackwater Estuary
		Bradfield Woods		
		Brettenham Heath		
		Broxbourne Woods		
		Bure Marshes		
		Calthorpe Broad		
		Cavenham Heath		
		Chippenham Fen		
		Colne Estuary		
		Dengie		Dengie
		Dersingham Bog		
		Hales Wood		
		Hamford Water		
		Hickling Broad		
		Holme Dunes		
		How Hill		
		Leigh		Leigh
		Ludham & Potter Heigham Marshes		
		Martham Broad		
		Orfordness-Havergate		Orfordness-Havergate
		Paston Great Barn		
		Redgrave & Lopham Fen		Redgrave & Lopham Fen SSSI
		Roydon Common		
		Suffolk Coast		Suffolk Coast

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		The Wash		
		Thetford Heath		
		Weeting Heath		Westleton Heath
		Westleton Heath		
		Wicken Fen		
		Winterton Dunes		Winterton Dunes
Local Nature Reserves	137	Abney Park Cemetery	50	
		Ainslie Wood		
		Alexandra Palace & Park		
		Arger Fen		
		Aspal Close		
		Barnham Cross Common		
		Barnwell		
		Barnwell II		
		Barton Mills		
		Bath Hills		
		Beam Valley		Beam Valley
		Beam Valley (Environment Agency)		Beam Valley (Environment Agency)
		Beauchamps Meadow		Beauchamps Meadow
		Belfairs		Belfairs
		Belton Hills		Belton Hills
		Bocking Blackwater		
		Bramblefields		
		Breydon Water		Breydon Water

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Brickfield and Long Meadow		
		Brockwell Meadows		
		Broom Hill, Hadleigh		
		Broome Heath		
		Bull Meadows		
		Byron's Pool		
		Canvey Lake		Canvey Lake
		Chelmer Valley Riverside		Chelmer Valley Riverside
		Cheshunt Park		
		Chigwell Row Wood		
		Church Lane Flood Meadow		
		Claybury Park		
		Coldfall Wood		
		Coldham's Common		
		Colne		
		Colne Valley		
		Coppetts Wood and Glebelands		
		Covert Way		
		Cranes Farm Nature Zone		Cranes Farm Nature Zone
		Cranham Brickfields		Cranham Brickfields
		Cranham Marsh		Cranham Marsh
		Cuckoo Wood		
		Dagenham Village Churchyard		Dagenham Village Churchyard
		East Brookend Country Park		East Brookend Country Park

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		East Pit (Map to Be Verified)		
		Felm ingham Cutting		
		Fenn Washland		Fenn Washland
		Flitch Way		
		Galleywood Common		Galleywood Common
		Gidding Copse		Gidding Copse
		Gosfield Sandpits		
		Great Eastern Pingo Trail		
		Grove House Wood		Grove House Wood
		Gunton Warren and Corton Woods		Gunton Warren and Corton Woods
		Chelmer Valley Riverside		
		Cheshunt Park		
		Chigwell Row Wood		
		Church Lane Flood Meadow		
		Claybury Park		
		Coldfall Wood		
		Coldham's Common		
		Colne		
		Colne Valley		
		Coppetts Wood and Glebelands		
		Covert Way		
		Cranes Farm Nature Zone		
		Cranham Brickfields		
		Cranham Marsh		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Cuckoo Wood		
		Dagenham Village Churchyard		
		East Brookend Country Park		
		East Pit (Map to Be Verified)		
		Felm ingham Cutting		
		Fenn Washland		
		Flitch Way		
		Galleywood Common		
		Gidding Copse		
		Gosfield Sandpits		
		Great Eastern Pingo Trail		
		Grove House Wood		
		Gunton Warren and Corton Woods		
		Gunton Wood		Gunton Wood
		Hainault Forest		
		Hainault Lodge		Hainault Lodge
		Lexden Park		
		Limekiln Close (and West Pit) (Map to Be Verified)		
		Linders Field		
		Linford Wood		Linford Wood
		Litcham Common		
		Little Downham		
		Logan's Meadow		
		Magnolia Fields		Magnolia Fields

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Maids cross Hill		
		Marconi Ponds		Marconi Ponds
		Marylands		Marylands
		Mayesbrook Park, South		Mayesbrook Park, South
		Melwood		
		Mill Meadow		Mill Meadow
		Moreton Hall Community Woods		
		Nazeing Triangle		
		Nevendon Bushes		Nevendon Bushes
		Nine Wells		
		Noak Bridge		Noak Bridge
		Norsey Meadow		Norsey Meadow
		Norsey Wood		Norsey Wood
		Northaw Great Wood Country Park		
		Oak Hill Wood		
		Paradise		
		Parkland Walk		
		Parndon Woods & Common		
		Parsloe's Park Squatts		Parsloe's Park Squatts
		Pickers Ditch Meadow		
		Haverhill Railway Walks		
		Hilly Fields		
		Hockley Woods		
		Holland Haven		

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Home Mead		
		Hoppit Mead		
		Hutton Country Park		Hutton Country Park
		Ingrebourne Valley		Ingrebourne Valley
		Isleham		
		Kendall Park		Kendall Park
		Kingston Amenity Area		
		Knapton Cutting		
		Leathes Ham		Leathes Ham
		Pigney's Wood		
		Queen's Wood		
		Railway Fields		
		Railway Walk, Hadleigh		
		Rainham Marshes		Rainham Marshes
		Ripple		Ripple
		Riverside Walk, Hadleigh		
		Roding Valley Meadows		
		Roughtalleys Wood		
		Roydon Fen		
		Salary Brook		
		Scrattons Ecopark and Extension		Scrattons Ecopark and Extension
		Shawlands Wood		
		Sheep's Green and Coe Fen		
		Shoeburyness Old Ranges		Shoeburyness Old Ranges

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Somersham		
		South Walsham Fen		
		Southend on Sea Foreshore		Southend on Sea Foreshore
		Southrepps Common		
		Spring Lane Meadows		
		Springfield Park		
		St Nicholas Church Hills		St Nicholas Church Hills
		Sudbury Common Lands		
		The Beechwoods		
		The Chase – Barking		The Chase – Barking
		The Chase – Havering		The Chase – Havering
		The Haven, Aldeburgh		The Haven, Aldeburgh
		The Manor		The Manor
		The Pennings, Eye		The Pennings, Eye
		The Railway Walks		
		Therfield Heath		
		Thornwood Common Flood Meadow		
		Tiger Hill		
		Tiptree Parish Field		Tiptree Parish Field
		Top Field and Cozens Grove		
		Vange Hill		Vange Hill
		Weald Common Flood Meadow		
		Welsh Wood		
		Whet Mead		Whet Mead

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Designated ecological sites	Drought Plan SEA study area		ESW supply area	
	Total sites	Names	Total sites	Names
		Worts Meadow		
		Wrabness		
Marine Conservation Zones	2	Blackwater, Crouch, Roach and Colne Estuaries	2	Blackwater, Crouch, Roach and Colne Estuaries
		Swanscombe		Swanscombe

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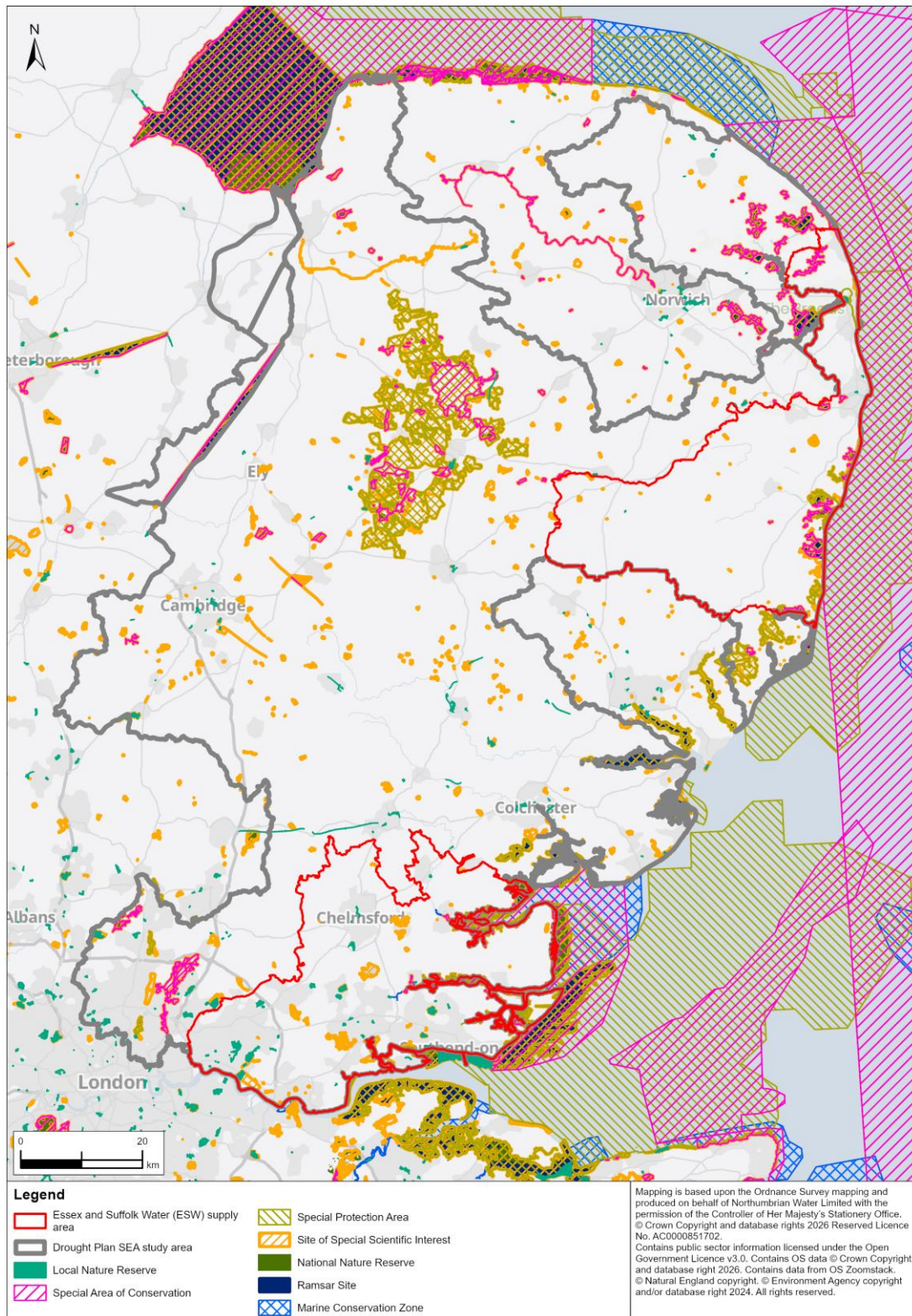


Figure 1.2 Designated sites across the Drought Plan SEA study area and ESW supply area

1.2.2 Species and habitats

Under the Natural Environment and Rural Communities (NERC) Act 2006, we have a statutory duty to have regard to the conservation of biodiversity when carrying out our functions. This duty applies to species and habitats of principal importance for biodiversity conservation, some of which may also be designated as Local Wildlife Sites. The species and habitats of principal importance in England are listed under Section 41 of the NERC Act 2006.

Drought actions have the potential to affect biodiversity, flora and fauna due to the operational abstraction of water during times of water stress as well as through any construction works required to implement drought actions. Water abstraction and associated infrastructure can, in some cases, result in adverse effects on water-dependent sites. Potential impacts on biodiversity include the drying of wetland habitats, reduced water levels and slower flows in watercourse, deterioration in water quality, changes in water temperature, and the transfer or proliferation of invasive non-native species (INNS).

The sensitivity of environmental receptors to drought actions is highly site-specific. As droughts are temporary events, and any associated drought action would be deployed only for limited duration, the extent and significance of effects depend on both the duration of the intervention and the degree to which affected features can recover once normal hydrological conditions return. Consequently, the potential for reversibility of effects following drought conditions is an important consideration when assessing environmental risk.

Priority habitats

Within the Drought Plan SEA study area, there are 35 designated priority habitats as listed in Table 1.2. Table 1.2 also provides the corresponding hectares and percentage breakdown for each priority habitat type across the study area. Priority habitats make up 9.95% of the Drought Plan SEA study area to a total of 120,165 ha. Deciduous woodland accounts for the highest percentage of priority habitat in the region.

Good Quality Semi-Improved Grassland is present within the study area, although this is not classified as a Priority Habitat, it nonetheless supports biodiversity and is considered to have potential conservation importance in England. This habitat type covers 3,515.70 ha (0.29%) of the Drought Plan SEA study area.

Another habitat category present within the study area is 'No main habitat but additional habitats present'. This classification applies to areas where no single priority habitat dominates, but where additional habitat features of ecological value occur. This category covers 11797.32 ha (0.98%) of the Drought Plan SEA study area.

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Table 1.2 Priority habitats in the Drought Plan SEA study area¹

Priority habitat type	Hectares (ha)	Percentage (%)
Coastal and floodplain grazing marsh	34533.71	2.86
Coastal and floodplain grazing marsh, Coastal saltmarsh	21.84	0.00
Coastal and floodplain grazing marsh, Lowland meadows	36.78	0.00
Coastal saltmarsh	5060.42	0.42
Coastal saltmarsh, Saline lagoons	4.33	0.00
Coastal sand dunes	654.97	0.05
Coastal sand dunes, Coastal vegetated shingle	2.11	0.00
Coastal sand dunes, Deciduous woodland	5.11	0.00
Coastal sand dunes, Reedbeds	0.16	0.00
Coastal vegetated shingle	652.79	0.05
Coastal vegetated shingle, Lowland heathland	0.02	0.00
Coastal vegetated shingle, Saline lagoons	2.63	0.00
Deciduous woodland	58481.71	4.84
Deciduous woodland, Maritime cliff and slope	0.10	0.00
Lakes	13.65	0.00
Lakes, Lowland fens, Reedbeds	3.95	0.00
Lowland calcareous grassland	3059.51	0.25
Lowland dry acid grassland	4092.26	0.34
Lowland dry acid grassland, Lowland heathland	3.28	0.00
Lowland fens	2384.48	0.20
Lowland fens, Reedbeds	1233.56	0.10
Lowland heathland	3842.29	0.32
Lowland heathland, Maritime cliff and slope	0.18	0.00
Lowland meadows	1049.94	0.09
Lowland raised bog	212.27	0.02
Maritime cliff and slope	154.00	0.01
Maritime cliff and slope, Coastal saltmarsh	0.24	0.00
Mudflats	1373.43	0.11
Ponds	43.86	0.00
Ponds, Reedbeds	0.36	0.00
Purple moor grass and rush pastures	838.53	0.07
Reedbeds	1034.00	0.09
Reedbeds, Coastal saltmarsh	92.29	0.01
Saline lagoons	166.51	0.01
Traditional orchard	1109.51	0.09

¹ Data source: Natural England (2025). Priority Habitats Inventory (England). Available at: <https://naturalengland-defra.opendata.arcgis.com/datasets/Defra:priority-habitats-inventory-england/about> [Accessed February 2026].

Priority species

Key water-related NERC species are outlined below:

- Otter (*Lutra lutra*)
- Water vole (*Arvicola amphibius*)
- Atlantic salmon (*Salmo salar*)
- European eel (*Anguilla anguilla*)
- Sea/Brown trout (*Salmo trutta*)
- River lamprey (*Lampetra fluviatilis*)
- White clawed crayfish (*Austropotamobius pallipes*)
- Snakeshead Fritillary (*Fritillaria meleagris*)
- Loddon Lilly (*Leucojum aestivum*)
- Creeping Marshwort (*Helosciadium repens*)
- Narrow-leaved water-dropwort (*Oenanthe silaifolia*)
- River water-dropwort (*Oenanthe fluviatilis*)
- Fine-lined Pea Mussel (*Pisidium tenuilineatum*)
- Freshwater Pea Mussel (*Margaritifera margaritifera*)
- Depressed River Mussel (*Pseudanodonta complanata*)
- Greater Water Parsnip (*Sium latifolium*)
- Club-tailed Dragonfly (*Gomphus vulgatissimus*)
- Tassel Stonewort (*Tolypella intricata*)
- Desmoulins Whorl Snail (*Vertigo moulinsiana*)
- Snipe (*Gallinago gallinago*)
- Lapwing (*Vanellus vanellus*)
- Natterer's Bat (*Myotis nattereri*)
- Daubenton's Bat (*Myotis daubentonii*)
- Pipistrelle Bat (*Pipistrellus pipistrellus*).

The Water Framework Directive (WFD) ecological status classification considers the condition of biological quality elements (e.g. aquatic invertebrates, plants and fish), as well as hydromorphological and supporting physico-chemical elements within each water body. This assessment provides an indication of the overall ecological functioning of a water body rather than a direct measure of the quality or condition of individual habitats or species.

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Drought actions have the potential to affect the biodiversity, flora and fauna associated with water-dependent ecosystems. While changes in abstraction or flow can influence the ecological status of a water body, effects on designated habitats and their qualifying species are assessed separately through consideration of site-specific sensitivities and potential impacts on the integrity of Habitats Sites. The SEA therefore draws on WFD information to understand environmental pressures at the water-body scale, while recognising that this operates alongside, rather than as a proxy for, designated-site assessments. Further details on water quality are provided Section 1.3.

Invasive non-native species (INNS)

There has been a dramatic increase in the number of non-native species arriving into the UK over recent decades, as well as in the number of non-native species becoming established. There are approximately 2,000 non-native species in the UK, of which approximately 10-15% are classed as INNS, causing significant social, environmental, or economic impacts, directly costing the UK an estimated £1.7 billion a year².

We are committed to tackling the challenges posed by INNS as part of our wider approach to building resilience in the face of drought. We are tackling INNS through our Branch Out INNS Fund, supporting local projects that protect rivers, reservoirs, and catchments. By reducing the spread of species like Japanese knotweed (*Reynoutria japonica*) and signal crayfish (*Pacifastacus leniusculus*), we help safeguard biodiversity, strengthen resilience, and ensure healthy water environments that can better withstand future droughts.

Species of particular concern for us highlighted in the Water Strategy for Essex³ and Local Nature Recovery Strategy for Suffolk⁴ includes:

- Killer shrimp (*Dikerogammarus villosus*)
- Demon shrimp (*Dikerogammarus haemobaphes*)
- Quagga mussel (*Dreissena rostriformis*)
- Zebra mussel (*Dreissena polymorpha*)
- North American Signal crayfish (*Pacifastacus leniusculus*)
- Chinese Mitten Crab (*Eriocheir sinensis*)
- Japanese Knotweed (*Reynoutria japonica*)

² Department for Environment, Food & Rural Affairs, The Scottish Government, and Welsh Government (2023). *The Great Britain Invasive Non-Native Species Strategy: 2023 to 2030*. Available at: https://www.nonnativespecies.org/about/gb-strategy/the-great-britain-invasive-non-native-species-strategy#_edn2 [Accessed Jul 2025]

³ Essex County Council (2024). *Water Strategy for Essex 2024*. Available at: <https://www.essex.gov.uk/sites/default/files/2024-03/Water%20Strategy%20for%20Essex%202024.pdf> [Accessed Aug 2025].

⁴ Suffolk County Council (2025). *Suffolk Local Nature Recovery Strategy: Public Consultation Draft*. Available at: <https://www.suffolk.gov.uk/asset-library/suffolk-lnrs-public-consultation-april-2025.pdf> [Accessed August 2025].

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- Himalayan Balsam (*Impatiens glandulifera*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Floating Pennywort (*Hydrocotyle ranunculoides*)
- New Zealand pigmy weed (*Crassula helmsii*)
- Parrot's Feather (*Myriophyllum aquaticum*)

1.2.3 Future baseline

Designated sites

It is not expected that many additional sites will be designated under international or national legislation, with the focus therefore on achieving the conservation objectives set for each of these sites. A range of measures are included in the management plans for each action to contribute to these objectives and, assuming sufficient resources are in place, it is likely that the condition of these sites will improve over the next two or three decades to reach the objectives. These timescales recognise the time required for environmental changes to arise following positive interventions. A similar trend is likely for achievement of objectives associated with the NERC priority habitats and species.

The number of locally designated sites may increase slightly in response to growing community activities and the development of local environmental initiatives. An improving trend in condition of these sites is also anticipated with greater resources (particularly voluntary resources) devoted to their protection and enhancement.

Species and habitats

The Defra 25 Year Environment Plan includes a commitment to restore 75% of terrestrial and freshwater protected sites to favourable condition and to create or restore 500,00 ha of wildlife-rich habitat outside protected areas by 2042. These commitments have been reaffirmed and updated in the Environmental Improvement Plan (EIP) 2025, published in December 2025, which also sets revised interim targets for natural recovery. The previous interim target to achieve 250,00 0ha by 2030⁵ ⁶ remains aligned within the long-term 2042 goal. To support delivery, Defra and Natural England published updated definitions and guidance in early 2025, alongside announcing £25 million in funding through the Species Survival Fund for habitat restoration across heathland, grassland, wetlands and more. As of May

⁵ Department for Environment, Food & Rural Affairs (2023). 25 Year Environment Plan: at a glance – summary of targets. Available at: <https://www.gov.uk/government/publications/25-year-environment-plan/25-year-environment-plan-our-targets-at-a-glance> [Accessed December 2025].

⁶ GOV.UK (2023) Understanding biodiversity net gain. Available at: <https://www.gov.uk/guidance/understanding-biodiversity-net-gain> [Accessed December 2025].

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2025, approximately 38,900 ha of wildlife-rich habitat have already been created or restored, based on Defra-backed schemes monitored⁷_[OBJ].

This information is relevant to the future baseline because these initiatives are expected to increase the extent, condition and resilience of protected and wildlife-rich habitats over the plan period. As these national commitments progress, the overall area and quality of habitat within the Drought Plan SEA study area are likely to improve, resulting in a more favourable ecological baseline against which future drought actions will be assessed.

Given that no construction or operational land is required for the implementation of drought actions, and all drought actions are temporary, a Biodiversity Net Gain (BNG) assessment is not required for our current Drought Plan. However, if future revisions to our Drought Plan introduce development-based drought actions, all relevant regulatory BNG requirements will need to be followed.

In relation to wider development policy, Defra's plan introduces mandatory BNG, requiring a minimum 10% uplift in biodiversity uplift secured for at least 30 years. This was implemented in February 2024 under the Environment Act 2021 through the Biodiversity Gain (Habitat Enhancement) Regulations 2024 and associated secondary legislation, which set out the statutory processes for calculating, delivering and securing BNG. Rollout of BNG for Nationally Significant Infrastructure Projects (NSIPs) has been postponed from November 2025 to May 2026 to ensure it can be integrated effectively into project planning.

Climate change

Beyond habitat restoration, the Drought Plan supports landscape-scale and catchment-level land management to drive meaningful ecological recovery and climate resilience. It recognises climate change as a key stressor altering seasonal behaviours, exacerbating water scarcity, and indirectly shifting species' distributions through changes in invasive species pressures and ecological interactions.

Climate change is likely to have an impact on wildlife in the future by exacerbating existing pressures such as changes to the timing of seasonal activity, and water scarcity. We acknowledge that there is a need to allow wildlife to adapt to the impacts of climate change. Climate may limit species' distributions indirectly through the impact of INNS on native species along climatic gradients⁸. It will affect the abundance and diversity of

⁷ Department for Environment, Food & Rural Affairs and Natural England (2023) Putting nature on road to recovery with Species Survival Fund. Available at: <https://www.gov.uk/government/news/putting-nature-on-road-to-recovery-with-species-survival-fund> [Accessed December 2025].

⁸ Pateman, R. & Hodgson, J. (2015) Biodiversity: Climate Change Impacts Report Card Technical Paper. Available at: <http://www.nerc.ac.uk/research/partnerships/lwec/products/report-cards/biodiversity/papers/source06/> [Accessed December 2025].

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natural enemies, competitors and species that compete for resources, as well as a species' ability to compete for resources or resist natural enemies.

1.3 Water

The WRE region and therefore the ESW supply area within it, is one of the driest areas in the UK and is classed as an area with serious water stress⁹. The anticipated population and economic growth alongside the projected changes in climate will likely continue to place additional stress on water availability and the natural environment within the ESW supply area. The ESW supply area also has a number of nationally and internationally important wetlands and other water-dependent habitats, presented below in Table 1.3. Therefore, the management of water resources is particularly important. Effective water resource management is critical because drought conditions and associated drought actions can significantly alter river flows and water chemistry. Reduced flows can lead to habitat degradation, loss of connectivity, and reduced availability of freshwater for species that depend on these ecosystems. Lower flows often result in higher concentrations of pollutants and nutrients, which can cause changes in water chemistry such as increased salinity, reduced dissolved oxygen, and altered pH levels. These changes can negatively impact aquatic species, disrupt ecological processes, and threaten the integrity of designated sites.

Our Drought Plan should therefore avoid implementing drought actions that could adversely affect water quality or ecology. We should prioritise drought actions that reduce pressure on the water environment, supporting both environmental protection and long-term resilience.

The ESW supply area and SEA study area are shown in Figure 1.3. Surface water operational catchments within the Drought Plan SEA study area include:

- Blackwater
- Bure
- Cam Lower
- Cam Rhee and Granta
- Chelmer
- Colne Essex
- Lark
- Lee Lower Rivers and Lakes
- Little Ouse and Thet
- North West Norfolk Rivers

⁹ Environment Agency (2021). *Water Stressed Areas – Final Classification 2021*. Department for Environment, Food & Rural Affairs. Available at: <https://www.gov.uk/government/publications/water-stressed-areas-2021-classification> [Accessed Aug 2025].

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- Old Bedford
- Roding Beam and Ingrebourne
- South Level and Cut-Off Channel
- Stour OC
- Suffolk Coastal
- Waveney
- Wissey.

There are two River Basin Districts (RBDs) within the ESW supply area; Thames and Anglian. Most of the ESW supply area falls within the Anglian RBD, with a small area in the extreme west, predominantly the river Lee catchment, falling within the Thames RBD. The Anglian RBD covers an area of 27,900 km² and extends from Lincolnshire in the north to Essex in the south and from Northamptonshire in the west to the east Anglian coast¹⁰. The ESW supply area intersects with six of the management catchments in the Anglian river basin and four in the Thames river basin.

The Thames RBD covers an area of 16,200 km² and includes 17 management catchments which range from chalk streams and aquifers to tidal and coastal marshes.

Physical modifications are the most common pressure preventing the achievement of 'Good' status for Anglian and Thames RBD¹¹.

The number of water bodies in the ESW supply area within Thames River RBD and Anglian RBD is presented in Table 1.3.

Table 1.3 Number of water bodies in the ESW supply area

Water body categories	Anglian RBD	Thames RBD	Total
Rivers and surface water	71	11	82
Lake	7	0	7
Coastal	7	1	8
Transitional	5	3	8
Groundwater	4	3	7
Canal	0	0	0
Total	94	18	112

¹⁰ Defra (2025). *Anglian River Basin District*. Available at: <https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/5> [Accessed Aug 2025]

¹¹ Essex and Suffolk Water (ESW) (2026). Drought Plan 2027 Strategic Water Framework Directive Report. WN025_0000-JAC-ZZ-ZZ_000-DOC-W-0002.

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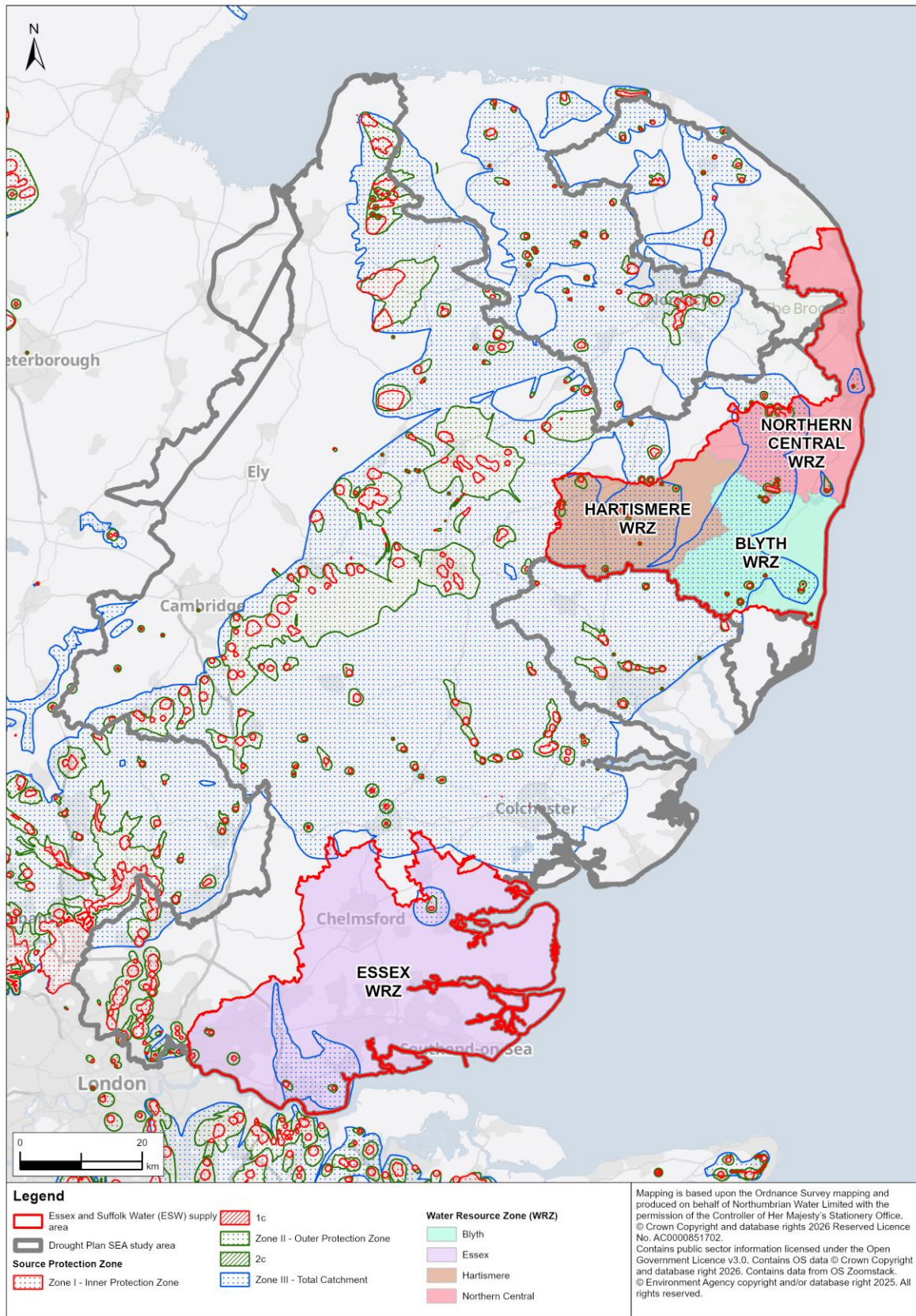


Figure 1.3 Source Protection Zones across the Drought Plan SEA study area and ESW supply area

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The WFD indicator of the health of the water environment is whether a water body is at good status or potential. This is an assessment of a range of quality elements relating to the biology and chemical quality of surface water and quantitative and chemical quality of groundwater. To achieve good ecological status or potential, good chemical status or good groundwater status every single element assessed must be at good status or better. If one element is marginally below its threshold for good status, then the whole water body's status is classed as less than good. Table 1.4 and Table 1.5 summarise the current status of surface and groundwater water bodies in the ESW supply area within the two RBDs¹².

Table 1.4 2019 classification for surface water bodies in the ESW supply area

River Basin District	Ecological status or potential					Chemical status	
	Bad	Poor	Moderate	Good	High	Fail	Good
Thames RBD	0	0	14	1	0	0	1
Anglian RBD	2	16	66	6	0	0	6

Table 1.5 WFD quantitative and chemical 2019 Cycle 3 classification for groundwater water bodies in the ESW supply area

River Basin District	Quantitative status		Chemical status	
	Poor	Good	Poor	Good
Thames RBD	2	1	2	1
Anglian RBD	3	1	4	0

The River Basin Management Plans for the Thames and Anglian RBDs highlight significant water management issues which prevent the sustainable management of water within the entirety of each river basin, as presented in Table 1.6. Within the Anglian RBD, pollution from rural areas, pollution from wastewater and physical modifications affect the highest proportions of water bodies¹³. Within the Thames RBD, physical modifications, pollution from wastewater and pollution from towns, cities and transport affect the highest proportions of water bodies¹⁴.

Table 1.6 Water management issues

Water management issue	Percentage of water bodies affected	
	Anglian RBD (%)	Thames RBD (%)
Pollution from rural areas	74	28
Pollution from towns, cities, and transport	41	61
Pollution from wastewater	59	39
Physical modifications	41	72

¹² It should be noted that 'coastal' water bodies outlined in **Error! Reference source not found.** within the ESW supply region are not included within Table 1.4 and Table 1.5, as WFD classifications for these water bodies were not available considering they are not part of a river water body catchment,

¹³ Defra. (2025). *Reasons for not achieving good status by business sector, Anglian River Basin District*. Available at: <https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/5/rnags> [Accessed Aug 2025].

¹⁴ Defra. (2025). *Reasons for not achieving good status by business sector, Thames River Basin District*. Available at: <https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/6/rnags> [Accessed Aug 2025].

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Water management issue	Percentage of water bodies affected	
	Anglian RBD (%)	Thames RBD (%)
Pollution from abandoned mines	0	6
Non-native invasive species	3	6
Changes to the natural flow and levels of water	16	11

1.3.1 Flood Risk

Within the WRE boundary, the risk of flooding comes from a variety of sources which include coastal waters, surface water, groundwater, and reservoirs. The projected changes in climate are presented in Section 1.6. Climatic factors are likely to increase the frequency of extreme weather events, which combined with projected increases in sea level will further impact flood risk across the region and subsequent changes in land use, with nearly 30% of the land mass already below sea level.

The Anglian RBD has over 530,000 residents who are at risk of flooding from rivers and the sea, with over 680,000 also at risk from surface water flooding¹⁵. There is one primary flood risk area within the RBD, South Essex flood risk area, which has been assessed as having a significant local flood risk. The whole Thames RBD has over 2.3 million people at risk of surface water flooding and over 1.7 million people are at risk of flooding from rivers and the sea¹⁶. There is one flood risk area, South Essex, which is partially within the WRE boundary.

1.3.2 Future baseline

Water bodies status

The WFD originally required all water bodies to reach at least “good status” by 2015. As this target was not reached for some of the water bodies two possible extensions have been allowed:

- Extension to 2021, where:
 - achieving good status by 2015 was technically impossible, or
 - doing so would have been disproportionately expensive, or
 - natural conditions prevented improvement within the timeframe.

¹⁵Environment Agency (2021). *Anglian River Basin District Flood Risk Management Plan 2021 to 2027*. Available at: <https://assets.publishing.service.gov.uk/media/6374f46ae90e07285214048f/Anglian-FRMP-2021-2027.pdf> [Accessed Aug 2025].

¹⁶ Environment Agency (2021). *Thames River Basin District Flood Risk Management Plan 2021 to 2027*. Available at: <https://assets.publishing.service.gov.uk/media/6380a45d8fa8f56ea9d462d8/Thames-FRMP-2021-2027.pdf> [Accessed Aug 2025].

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- Extension to 2027, where:
 - achieving good status by 2021 remains technically unachievable, disproportionately costly, or prevented by natural conditions, and
 - no further deterioration occurs.

The primary objective in the short-term is to ensure no deterioration in status between status classes: the 2015 water body classification is the baseline from which deterioration between classes is assessed; no deterioration between status classes is permitted unless certain and specific conditions apply.

Public water supply needs

Based on The National Framework for Water Resources 2025¹⁷, “*there could be an additional eight million people in England by 2055, with less water availability and increased water used due to climate change. If no continued and enhanced action is taken, around five billion extra litres of water per day may be needed by 2055 for public water supplies to address future pressures. A programme of £8 billion has been secured through the latest round of water company planning to invest in infrastructure and actions to improve water supply resilience and deliver environmental improvement.*” In the East, it is anticipated that between 2030 and 2055 an additional 679 megalitres per day (Ml/d) of public water supply will be required, which includes 114 Ml/d for drought resilience. Additionally, the East has the greatest demand from other users with 515 Ml/d, 51% of which is for agriculture (spray irrigation).

Climate change

The latest fully published UK Climate Change Risk Assessment Evidence Report - the CCRA3 Technical Report¹⁸ is synthesising the latest evidence on the risks and opportunities to the UK from climate change. The assessment identified a set of 61 specific risks and opportunities to the UK from climate change, out of which some are in connection with the water environment, for example:

- Risks to terrestrial species and habitats from changing climatic conditions and extreme events, including temperature change, water scarcity, wildfire, flooding, wind, and altered hydrology (including water scarcity, flooding and saline intrusion).
- Risks to and opportunities for agricultural and forestry productivity from extreme events and changing climatic conditions (including temperature change, water scarcity, wildfire, flooding, coastal erosion, wind and saline intrusion).

¹⁷Environment Agency (2025). The National Framework for Water Resources 2025 – Water for growth, water for nature, water for a resilient future. Available at: https://assets.publishing.service.gov.uk/media/685d4a2ac2633bd820a92a99/2025_EA_National_Framework_Water_Resources_-_summary_document.pdf [Accessed January 2026].

¹⁸Climate Change Committee (2021). Third UK Climate Change Risk Assessment Technical Report. Available at <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/Technical-Report-The-Third-Climate-Change-Risk-Assessment.pdf> [Accessed January 2026].

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- Risks to freshwater species and habitats from changing climatic conditions and extreme events, including higher water temperatures, flooding, water scarcity and phenological shifts.
- Risks to infrastructure services from river, surface water and groundwater flooding.
- Risks to public water supplies from reduced water availability.
- Risks to energy generation from reduced water availability.
- Risks to water quality and household water supplies.
- Risks to business from water scarcity.

Flood risk

The National Planning Policy Framework (NPPF)¹⁹ states that inappropriate development in areas at risk of flooding (in Flood Zone 1²⁰, Flood Zone 2²¹, Flood Zone 3a²² or Flood Zone 3b - the functional floodplain); should be avoided by directing development away from areas at highest risk. The NPPF requires that where development is necessary, it should be made safe without increasing flood risk elsewhere, as defined in the Technical Guidance to the NPPF²³.

1.4 Soil

1.4.1 Land use and soils

Our drought actions should avoid, as far as possible, impacts on higher-grade agricultural land, and include appropriate mitigation where such impacts cannot be fully avoided. The WRE boundary contains some of England's most fertile soils and supports a long-established tradition of agriculture and horticulture²⁴. Farmers manage over 75% of the land, with cereal production and livestock grazing forming the predominant farming practices across the area.

¹⁹Ministry of Housing, Communities & Local Government (2024). National Planning Policy Framework. Available at:

https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf [Accessed January 2026]

²⁰Low probability of river or sea flooding (<0.1%) which has critical drainage problems

²¹Medium probability of river (1%-0.1%) or sea flooding (0.5%-0.1%)

²²High probability of river (>1%) or sea flooding (>0.5%)

²³ Ministry of Housing, Communities & Local Government (revised 2025). National Planning Policy Framework: technical guidance. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework-technical-guidance> [Accessed January 2026]

²⁴ Water Resources East (2025). Water Resources East – Safeguarding a sustainable supply of water. Available at: <https://wre.org.uk/> [Accessed December 2025].

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Agricultural Land Classification (ALC)²⁵ is a system used in England and Wales to grade the quality of land for agricultural use, according to the extent by which physical or chemical characteristics impose long-term limitations. The system classifies land into five grades where grades 1, 2 and 3 are considered the best and most versatile land. Figure 1.4 illustrates that the region is predominantly of Grade 2 and Grade 3 with pockets of urban and non-agricultural land.

Contaminated land refers to areas where substances present pose a risk of significant harm to human health or protected species or cause significant pollution of surface or groundwater. Certain contaminated sites may be designated as special sites under regulatory criteria, for example where contamination seriously impacts drinking water supplies, surface waters (such as rivers and lakes), or important groundwater resources. Data on contaminated land are compiled by the British Geological Survey. Within the WRE boundary, legacy contamination is associated with former industrial facilities, chemical works, and historic landfills, particularly in urban and coastal areas. Currently, there are approximately 314 authorised landfill sites across the WRE boundary and 136 sites within the Drought Plan SEA study area, which are relevant in terms of potential land contamination and its implications for surface and groundwater quality.

²⁵ The [Agricultural Land Classification](#) (ALC) for England and Wales was developed by the [Ministry of Agriculture, Fisheries and Food](#) (MAFF), with assistance from the [Soil Survey of England and Wales](#) and the [Welsh Office Agriculture Department](#), introducing the system in the 1960s. The national ALC methodology was further developed and tested by [ADAS](#) (a part of MAFF at the time) in the 1980s, and its guidelines remain in use today by Natural England.

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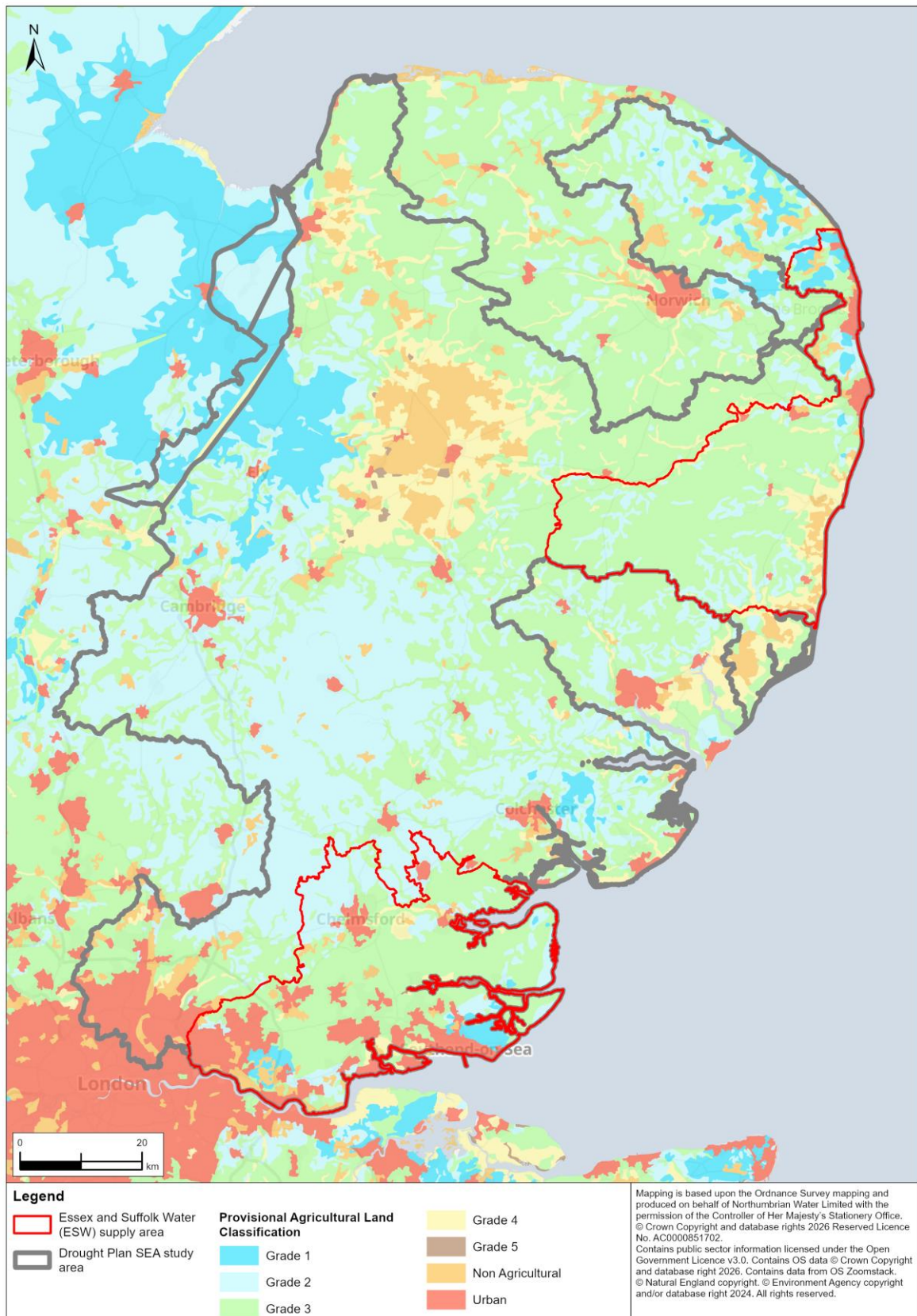


Figure 1.4 Agricultural Land Classification across the Drought Plan SEA study area and ESW supply area

1.4.2 Geology

Geological sites can be sensitive to changes in water quality, water levels (e.g. waterlogged deposits), pollution and land use practices. Geological Conservation Review (GCR)²⁶ sites have been identified for their scientific importance and contribution to understanding Earth sciences at both national and international levels. There are 79 GCR sites with unique site codes within the Drought Plan SEA study area. Some GCR sites are also designated as SSSIs. Geological citations for SSSIs typically relate to disused quarries and other significant geological features, such as gravel deposits used to reconstruct past climate conditions.

1.4.3 Future baseline

Drought actions within our Drought Plan have the potential to reduce water availability for agricultural processes, which may affect crop production and livestock management, particularly during prolonged dry periods. There are also opportunities for drought action related mitigation measures to deliver beneficial outcomes for agriculture, for example by supporting more efficient water use, enhancing soil moisture retention, or improving on-farm water storage and drought preparedness.

Policy developments reinforce the importance of sustainable soil and land management. Defra's Soils Strategy for England set out a vision for all soils to be managed sustainably and for degradation threats to be addressed by 2030²⁷. Agricultural policy reforms, including the Environmental Land Management²⁸ schemes and Sustainable Farming Incentive, promote farming as a custodian of the natural environment, focusing on soil health and water quality.

Despite these ambitions, population growth and development pressures risk further loss of agricultural land and soil degradation, highlighting the need for integrated land-use planning through the new Land Use Framework. The Land Use Framework for England is currently in development following the completion of a public consultation in April 2025. The framework aims to provide a non-prescriptive, spatial decision-support tool to guide integrated land-use planning across sectors, including housing, agriculture, biodiversity, and climate resilience. It is intended to help optimise land allocation while supporting soil

²⁶ JNCC (n.d.). Geological Conservation. Available at: <https://jncc.defra.gov.uk/our-work/geological-conservation/> [Accessed December 2025].

²⁷ Defra (2011). Safeguarding our soils: A strategy for England. Available at: <https://www.gov.uk/government/publications/safeguarding-our-soils-a-strategy-for-england> [Accessed December 2025].

²⁸ Defra (2023). Environmental Land Management (ELM) update: how government will pay for land-based environment and climate goods and services. Available at: <https://www.gov.uk/government/publications/environmental-land-management-update-how-government-will-pay-for-land-based-environment-and-climate-goods-and-services/environmental-land-management-elm-update-how-government-will-pay-for-land-based-environment-and-climate-goods-and-services> [Accessed December 2025].

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health and sustainable land management. The final version was expected to be published in summer 2025 but is still not available.

1.5 Air

Air quality in the Drought Plan SEA study area and therefore the ESW supply area within it is varied and there are certain areas with higher concentrations of air pollutants likely to be associated with urbanisation, transport or business activities. Air Quality Management Areas (AQMA) are declared where the national air quality objectives are not being met²⁹. A high proportion of the local authorities which fall within the ESW supply area contain at least one AQMA and are predominately designated for Nitrogen dioxide (NO₂) and Particulate Matter (PM₁₀)³⁰. There is a total of 29 AQMAs in the ESW supply area.

Consideration of potential impacts on air quality formed part of our action selection, development and mitigation processes, to ensure that drought actions do not inadvertently contribute to local air quality pressures or conflict with existing local air quality obligations.

1.5.1 Future baseline

The UK is currently meeting all statutory air quality limits, except for NO₂³¹, where roadside NO₂ concentrations in particular have been identified as being above legal limits. The UK has consistently failed to meet the annual mean NO₂ limit value of 40 µg/m³ since 2008, a period of 17 consecutive years (2008–2024 inclusive). In response, the government's 2017 plan³² and 2021 Clean Air Act³³ set out comprehensive policies and legally binding PM_{2.5} reduction targets (10µg/m³ and 30% population exposure reduction by 2030, tightening to 2040 levels). NO₂ and PM_{2.5} are projected to decrease overall, with 2028 interim targets likely to be met³⁴.

²⁹ Defra (n.d.). *National Air Quality Objectives*. Available at: https://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf [Accessed December 2025].

³⁰ Defra (n.d.). *List of Local Authorities with Air Quality Management Areas (AQMAs)*. Available at: <https://uk-air.defra.gov.uk/aqma/list> [Accessed December 2025].

³¹ Defra (2024). *Air Pollution in the UK 2023 - Compliance Assessment Summary*. Available at: https://uk-air.defra.gov.uk/library/annualreport/assets/documents/annualreport/air_pollution_uk_2023_Compliance_Assessment_Summary_Issue1.pdf [Accessed December 2025]

³² Defra and Department for Transport (2017). *Air quality plan for nitrogen dioxide (NO₂) in UK*. Available at: <https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017> [Accessed December 2025].

³³ Department for Environment, Food & Rural Affairs (2021) *Development of the Environment Act Targets*. UK-AIR. Available at: <https://uk-air.defra.gov.uk/pm25targets/targets-development> [Accessed December 2025].

³⁴ Defra (2025). *Air quality Environment Act target delivery plan*. Available at: <https://www.gov.uk/government/publications/air-quality-environment-act-target-delivery-plan/air-quality-environment-act-target-delivery-plan>. [Accessed March 2026].

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Essex and Suffolk are implementing forward-looking air quality strategies. Essex's Air Quality Strategy 2025–2029³⁵ includes a live action framework, expanded monitoring, and statutory directions for priority districts. Suffolk's Air Quality Action Plan 2025–26³⁶ integrates air quality measures into transport, climate, and health policies, with quarterly reviews and targeted measures in AQMAs.

1.6 Climatic Factors

Our supply areas are projected to experience hotter and drier summers, and wetter and warmer winters. These shifts are likely to increase the frequency and severity of drought conditions, potentially reducing water availability across the region.

Current observations indicate that the UK is continuing to warm. In 2024 and into 2025, multiple seasonal temperature and sunshine records were broken:

- Summer 2025 was the warmest on record, with a mean temperature of 16.10°C, 1.51°C above the 1991-2020 average, surpassing the previous high of 15.76°C in 2018³⁷
- Spring 2025 was both the warmest and sunniest in UK history, averaging 9.5 °C (+1.4 °C anomaly) and breaking sunshine records for March, April, and May³⁸
- By mid-December 2025, the UK had already logged 1,622 hours of sunshine, eclipsing the previous annual record (1,587 hours in 2003), making 2025 the sunniest year since 1910³⁹

A new winter daytime high of 19.9 °C was recorded in January 2024. The decade 2015–2024 was 1.24 °C warmer than the 1961–1990 baseline, with warming rates of ~0.25 °C per decade since the 1980s. The frequency of extreme temperature anomalies has also surged: days with +5 °C anomalies doubled, those with +8 °C tripled, and +10 °C quadrupled relative to mid-20th-century levels⁴⁰.

³⁵ Essex County Council (2025). *Essex Wide Air Quality Strategy 2025–2029*. Available at: <https://consultations.essex.gov.uk/essex-highways/essex-air-quality-strategy/>. [Accessed December 2025]

³⁶ Suffolk County Council (2025). *Air Quality Action Plan 2025–26*. Available at: <https://www.healthysuffolk.org.uk/asset-library/Suffolk-Air-Quality-Action-Plan-2025-26.pdf> [Accessed Dec 2025].

³⁷ Met Office (2025). Summer 2025 is the warmest on record for the UK. Available at: <https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2025/summer-2025-is-the-warmest-on-record-for-the-uk> [Accessed December 2025].

³⁸ Met Office (2025). Double record breaker: Spring 2025 is warmest and sunniest on UK record. Available at: <https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2025/double-record-breaker-spring-2025-is-warmest-and-sunniest-on-uk-record> [Accessed December 2025].

³⁹ Met Office (2025). 2025 is already the UK's sunniest year on record. Available at: <https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2025/2025-is-already-the-uks-sunniest-year-on-record> [Accessed December 2025].

⁴⁰ Met Office (2025) Annual climate stocktake shows weather records and extremes now the norm in UK climate. Available at: <https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2025/annual-climate-stocktake-shows-weather-records-and-extremes-now-the-norm-in-uk-climate> [Accessed December 2025].

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Regarding precipitation, the winter half-year of October 2023 to March 2024 was the wettest on record for England and Wales. Since 1994, UK annual rainfall has risen by ~25 mm/decade, with winters increasing by 31 mm/decade and summers by 11.6 mm/decade. Reflecting this trend, 2024 was the eighth wettest winter and sixth wettest spring on record⁴¹.

Figure 1.5 and Figure 1.6 provides rainfall information for Essex and Suffolk regions from January 2023 to December 2025 compared with the Long-Term Average rainfall for 1991 – 2020. For both regions Essex and Suffolk, March and October 2023 and February 2024 stood out to be an excessively wet month.

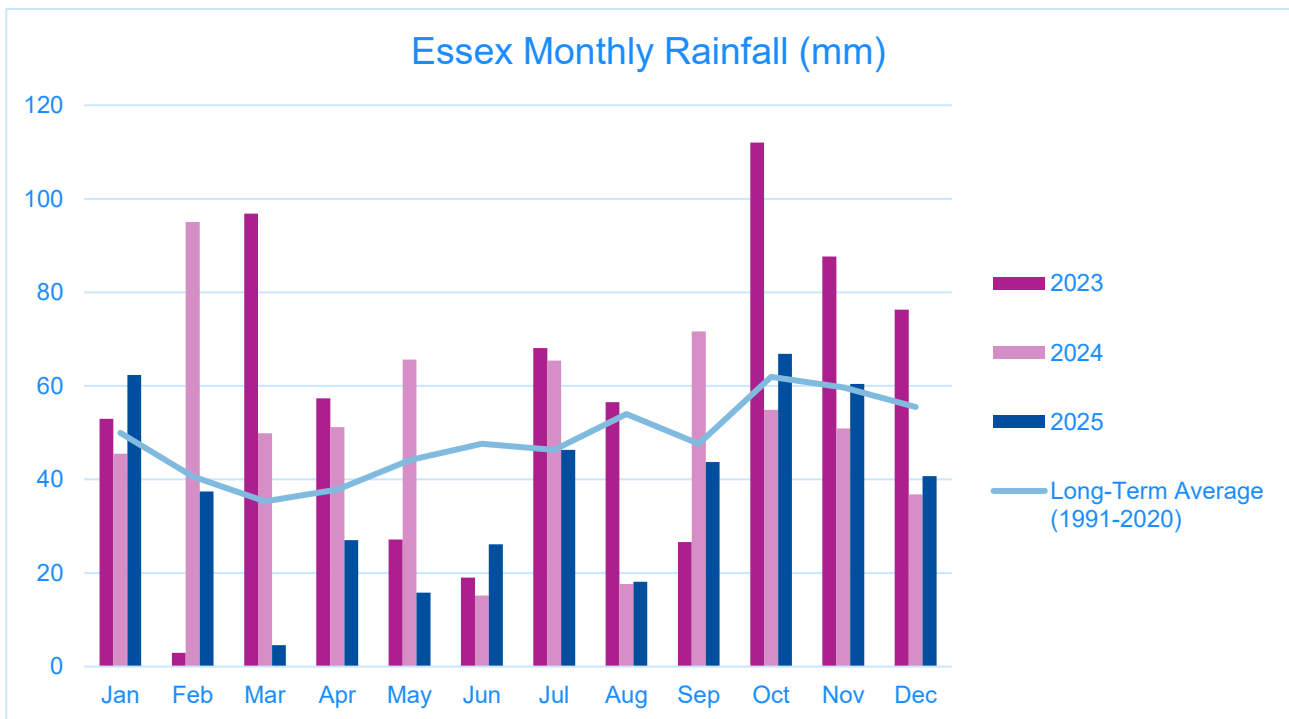


Figure 1.5 Essex Monthly Rainfall Chart (2023 – 2025), based on Northumbrian Water regional rainfall database

⁴¹ Met Office (2025) Annual climate stocktake shows weather records and extremes now the norm in UK climate. Available at: <https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2025/annual-climate-stocktake-shows-weather-records-and-extremes-now-the-norm-in-uk-climate> [Accessed December 2025].

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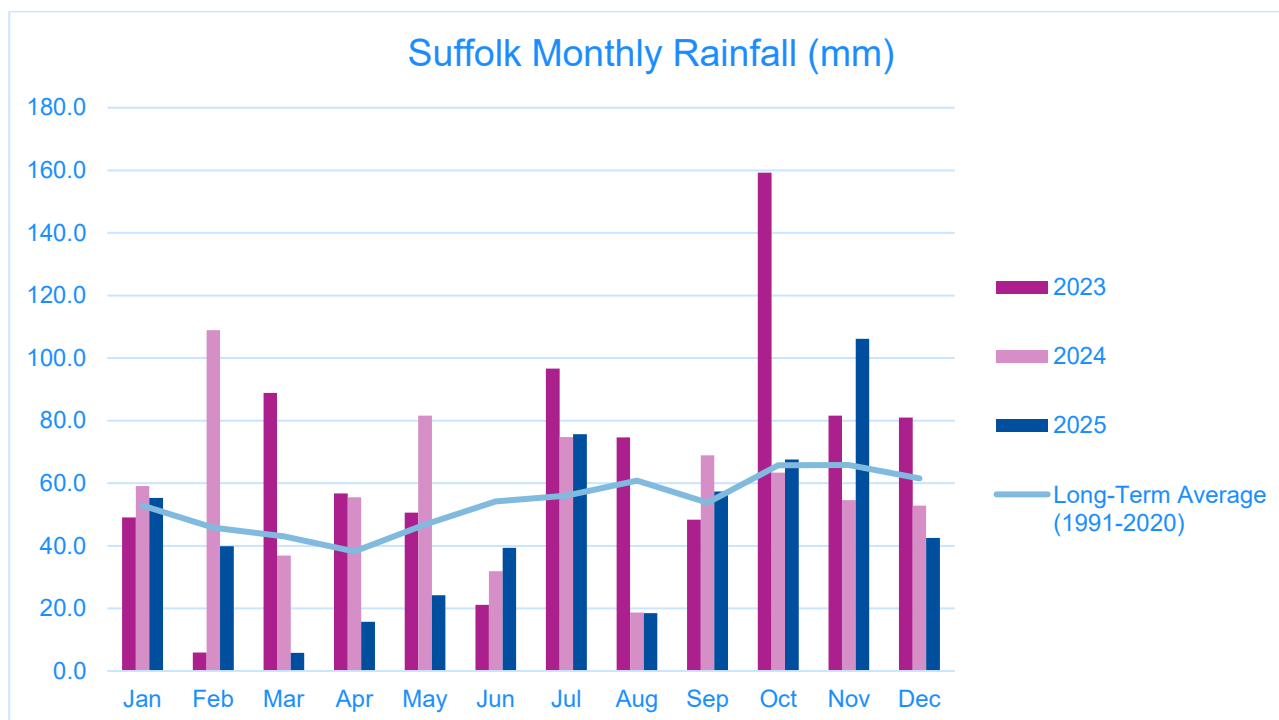


Figure 1.6 Suffolk Monthly Rainfall Chart (2023 – 2025), based on Northumbrian Water regional rainfall database

The projected changes in temperature and precipitation in Table 1.7 for the south-east of England by the 2050s reflect the broader national patterns presented in the UK Climate Projections 2018 (UKCP18)⁴². Under the high-emissions scenario (RCP8.5), UKCP18 indicates that all regions of the UK are expected to experience warmer conditions throughout the year, with the greatest increases projected in southern and eastern England. Summers are projected to become increasingly hot and dry, while winters are expected to become warmer and wetter. These projections are based on UKCP18 probabilistic and regional climate model outputs published by the UK Met Office.

Table 1.7 Climate projections for 2050s (RCP8.5) – South-East England^{43,44}

Climatic factor	Climate projection
Temperature	UKCP18 projects continued warming across the UK, with greater warming in the south and east. Summers are expected to become hotter, and winters

⁴² Met Office (2018) UK Climate Projections 2018 (UKCP18) – Overview and Guidance. Available at: <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index> [Accessed February 2026].

⁴³ Met Office (2018) *UKCP18 Factsheet: Temperature*. Available at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-fact-sheet-temperature.pdf> [Accessed February 2026].

⁴⁴ Met Office (2018) *UKCP18 Factsheet: Precipitation*. Available at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-factsheet-precipitation.pdf> [Accessed February 2026].

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Climatic factor	Climate projection
	warmer, with the South-East showing some of the highest seasonal temperature increases nationally.
Precipitation	UKCP18 indicates that summers will likely become drier and winters wetter across the UK. The South-East is projected to experience more pronounced summer drying than northern regions and increases in winter rainfall consistent with wider national trends.

1.6.1 Greenhouse Gas Emissions

Based on the latest UK local authority greenhouse gas emissions statistics (2005–2023), which include all local authorities within the WRE boundary, territorial greenhouse gas emissions for 2023 show that the transport sector contributed the highest proportion of emissions at 32%, followed by the domestic sector at 22%, and the industry sector at 15%, with agriculture contributing 14% and the commercial sector 8%. The remaining 9% of emissions were associated with the waste sector, the public sector, and the Land Use, Land-Use Change and Forestry (LULUCF) sector combined.

Based on information from the local authorities which fall within the WRE boundary, the total territorial greenhouse gas emissions (carbon dioxide, methane and nitrous oxide) for 2023 across all sectors is estimated at 38,963 kilo tonnes (ktCO₂).

1.6.2 Future baseline

The climate is expected to continue to change with annual average temperatures projected to increase, particularly in summer. Winters are projected to be wetter and summers drier. Carbon and other Green House Gases (GHG) emissions will continue to be emitted; however, regulations and legislation will likely continue to promote the reduction in emissions through commitments to net zero. The water industry in the UK is aiming to become net zero by 2030.

The Department for Energy Security and Net Zero (DESNZ) publishes annual projections of UK energy demand and greenhouse gas emissions (EEP)⁴⁵. The Energy and Emissions Projections 2023 to 2050 Report is referred to as EEP 2023-2050⁴⁶. Projected emissions are lower than EEP 2022-2040 for each of the five-year periods for which the UK has set carbon budget targets under the Climate Change Act 2008. Under EEP-ready policies, the DESNZ project that the UK will meet its next two legislated domestic targets (Carbon Budget 4 2023-2027 and Carbon Budget 5 2028-2032). In addition, compared to EEP

⁴⁵ Department Energy Security and Net Zero (last updated 2024). Energy and emissions projections. Available at: <https://www.gov.uk/government/collections/energy-and-emissions-projections> [Accessed January 2026]

⁴⁶ Department Energy Security and Net Zero (2024). Energy and emissions projections 2023 to 2050. Available at: <https://assets.publishing.service.gov.uk/media/675c0ca798302e574b915336/eep-report-2023-2050.pdf> [Accessed January 2026].

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2022-2040, the latest projections show a smaller gap between projected performance and emissions target for Carbon Budget 6 (2033-2037).

The Energy and Emissions Projections are produced to meet the UK's international reporting obligations under the United Nations Framework Convention on Climate Change and to provide essential assumptions for government modelling of energy and climate change policies. The Climate Change Act 2008 (CCA) introduced carbon budgets⁴⁷. These are legally binding limits on the total amount of greenhouse gas (GHG) emissions the UK can emit over five-year periods. Carbon budgets have been set out to 2037, with Carbon Budget 6 (2033-2037) being the latest target set.

UK emissions projections:

- Under EEP-ready policies only, emissions are projected to fall by 23% between 2022 and 2050.
- Under EEP-ready policies only, the projections show headroom of 104 MtCO_{2e} against the fourth Carbon Budget and headroom of 83 million tonnes of carbon dioxide equivalent (MtCO_{2e}) for the fifth Carbon Budget period.
- The scope of emissions included in Carbon Budget 6 (CB6) projections widens to include International Aviation and Shipping. For CB6 the projected shortfall is 779 MtCO_{2e}.

Our latest Annual Report⁴⁸ recognise that climate risks and opportunities will continue to evolve over time, and they remain committed to refining the approach based on emerging best practices, regulatory developments, and stakeholder expectations. By proactively managing climate related risks and integrating sustainability into the strategic decision making, we aim to enhance the resilience.

1.7 Population and Health

1.7.1 Population

Our Drought Plan provides an opportunity to ensure a resilient and reliable water supply for current and future customers, helping to meet the needs of a growing population and support continued economic growth. As pressure on water resources increases, the economic value of water may rise, potentially requiring higher charges or seasonal tariffs. When operating drought actions and implementing mitigation measures, it will be important to prevent disturbance to local communities, avoid disproportionate impacts on vulnerable groups, and use demand-side actions to raise awareness of the value of water resources.

⁴⁷ Department for Energy Security and Net Zero and Department for Business, Energy and Industrial Strategy (last updated 2021). Guidance Carbon Budgets, Available at: <https://www.gov.uk/guidance/carbon-budgets> [Accessed January 2025]

⁴⁸ Northumbrian Water Group Limited (2025). Annual Report and Financial Statements for the Year Ended 31 March 2025. Available at: <https://www.nwg.co.uk/globalassets/corporate/apr/2025/nwg-12-months-to-31-march-2025-final-signed.pdf> [Accessed January 2026]

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Demographic patterns across Essex and Suffolk highlight the importance of understanding community needs. According to the 2021 census, 18.5% of the Essex population are aged 0-15 years (Children & Young People), 60.9% of the population are aged 16-64 (working age group) and 20.7% are aged 65 and over⁴⁹. Compared to the average for England, the Working Age group is 2% lower than the national average, whilst the 65+ age group is 2.1% higher..

For Suffolk, the 2021 census indicates that 17% of the population are aged 0-15 years, 59% of the population are aged 16-64 and 24% are aged 65 and over. Compared to the England average, the working-age group is 3.9% lower, while the 65+ age group is 5.4% higher.

Settlements within the WRE boundary are diverse and range from large population centres such as Colchester, Peterborough, Cambridge and Norwich to small rural hamlets and seaside towns. Ethnicity in the region is predominately White. There are larger proportions of Black, Asian and Mixed ethnicities in the urban areas of the region compared to rural areas.

1.7.2 Health

Our Drought Plan has the potential to influence quality of life, including human health, well-being, amenity and community, through actions to maintain essential water supplies during drought conditions. There could be beneficial (e.g. actions to provide additional supply of water will help safeguard public health) or adverse impacts (e.g. noise and disruption from temporary infrastructure required to pump water). Our Drought Plan also sets out measures to ensure that essential water supplies can be maintained to all of our customers, thereby protecting public health in drought conditions.

An overview of general health is provided in Table 1.8, using information collected as part of the 2021 census. The health profile of Essex and Suffolk is broadly positive and compares well with regional and national averages. In Essex, 48.6% of residents reported “very good” health and 34.3% “good” health, giving a combined total of 82.9%. Suffolk shows a similar pattern, with 45.6% reporting “very good” health and 35.8% “good” health, totalling 81.4%. These figures are broadly aligned with the East of England average (82.9%) and slightly above the England and Wales average (82.0%). Conversely, the proportion of residents reporting “bad” or “very bad” health is marginally lower in Essex (4.7%) and Suffolk (4.9%) compared to England and Wales (5.2%).

⁴⁹ Essex & Suffolk Water (2023). Revised Draft Water Resources Management Plan 2024. Available at: <https://www.eswater.co.uk/globalassets/wrmp/esw/revised/esw-revised-draft-wrmp24--customer-summary.pdf> [Accessed September 2025].

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Table 1.8 General Health by region (2021)

	Essex (%) ⁵⁰	Suffolk (%) ⁵¹	East of England (%) ⁵²	England & Wales (%)
Very bad health	1.1	1.0	1.0	1.2
Bad health	3.6	3.9	3.6	4.0
Fair health	12.4	13.6	12.5	12.7
Good health	34.3	35.8	34.6	33.6
Very good health	48.6	45.6	48.3	48.4

Essex and Suffolk both exceed national averages for life expectancy at birth (Table 1.9). Essex males live on average at 80.2 years, slightly above Suffolk (79.9) and the East of England (80.0), and higher than England (79.1). For females, Suffolk leads at 84.1 years, ahead of Essex (83.7), the regional average (83.6), and England (83.0). Overall, both counties show strong longevity compared to national figures.

Table 1.9 Life expectancy by region⁵³

Life expectancy at birth (2021 to 2023)	Essex	Suffolk	East of England	England
Male	80.2	79.9	80.0	79.1
Female	83.7	84.1	83.6	83.0

1.7.3 Future baseline

Population

Based on WRMP24 forecasts⁵⁴, population is expected to increase across all WRZs. By 2049/50, Essex is projected to see approximately a 22% increase in total population, while Suffolk is projected to see around a 13% increase, further intensifying demand on water supplies. The population growth is driven by housing development and demographic trends. This growth is a key factor in increasing water demand. Based on WRMP24 data⁵⁵, we currently supply approximately 1.8 million people in Essex, with forecasts indicating an

⁵⁰ Essex Open Data (2021). Essex Census 2021. Plumplot. Available at:

<https://www.plumplot.co.uk/Essex-census-2021.html> [Accessed December 2025].

⁵¹ Plumplot (2021). Suffolk Census 2021. Available at: <https://www.plumplot.co.uk/Suffolk-census-2021.html> [Accessed December 2025].

⁵² Plumplot (2021). East-of-England Census 2021. Available at: <https://www.plumplot.co.uk/East-of-England-census-2021.html> [Accessed December 2025].

⁵³ Office for National Statistics (2024). Life expectancy for local areas of the UK: between 2001 to 2003 and 2021 to 2023. Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/lifeexpectancyforlocalareasoftheuk/between2001to2003and2021to2023#period-life-expectancy-at-local-level> [Accessed December 2025].

⁵⁴ Essex & Suffolk Water (2023). Revised Draft Water Resources Management Plan 2024.

Available at: <https://www.eswater.co.uk/globalassets/wrmp/esw/revised/esw-revised-draft-wrmp24--customer-summary.pdf> [Accessed March 2026].

⁵⁵ Essex & Suffolk Water (2023). Revised Draft Water Resources Management Plan 2024.

Available at: <https://www.eswater.co.uk/globalassets/wrmp/esw/revised/esw-revised-draft-wrmp24--customer-summary.pdf> [Accessed September 2025].

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increase to around 2.17 million by 2050. For Suffolk, we currently serve a population of approximately 288,906 people, with projections rising to around 325,630 by 2050 (Table 1.10).

Table 1.10 Population projections all ages 2024 – 2050

Total population (all ages)	2024/25 reported population	2049/50 WRMP24 forecast
Essex	1,800,000	2.170,000
Suffolk	288,906	325,630

Health

The general health projections are for each region as following:

- Essex: 1 in 4 adults will be aged 65+ by 2035⁵⁶
- Suffolk: 1 in 3 people will be aged 65+ within 20 years⁵⁷
- East of England: population to grow by 8.7% by 2043, with 25.6% aged 65+⁵⁸
- England: 1 in 5 adults projected to live with major illness by 2040⁵⁹.

Growing studies emphasise the growing importance of access to recreational green and blue spaces and the historic environment in future planning. For example, the UK National Ecosystem Assessment and the Marmot Review (Fair Society, Healthy Lives) demonstrate nature's benefits for mental and physical health. In response, the Government has published the 25 Year Environment Plan (2018, revised 2023)⁶⁰, the EIP 2023⁶¹ and EIP 2025⁶², which set a strategic direction for improving green infrastructure across England. These plans are supported by Natural England's Green Infrastructure Framework and standards for accessible green and blue spaces, aimed at promoting health, climate resilience, water quality, and biodiversity. Evidence of health and wellbeing gains from engagement with nature is tracked in Defra's Outcome Indicator Framework (Theme

⁵⁶ Essex County Council. Demography Forecast. Available at: [Demography Forecast | Provider Hub | Essex](#). [Accessed March 2026].

⁵⁷ Suffolk County Council (2024). Ageing Well in Suffolk. Suffolk Annual Public Health Report 2024. Available at: [Suffolk Annual Public Health Report 2024 - Ageing Well](#) [Accessed March 2026].

⁵⁸ House of Commons (2024). Available at: [CDP-2024-0113.pdf](#). [Accessed March 2026].

⁵⁹ The Health Foundation (2024). Health in 2040 results updated for new population projections. Available at: <https://www.health.org.uk/sites/default/files/2024-04/Health%20in%202040%20addendum.pdf>. [Accessed March 2026].

⁶⁰ Defra (2023). A Green Future: Our 25 Year Environment Plan. Available at: https://assets.publishing.service.gov.uk/media/65fd713d65ca2f00117da89e/CD1.H_HM_Government_A_Green_Future_Our_25_Year_Plan_to_Improve_the_Environment.pdf [Accessed December 2025]

⁶¹ Defra (2023). Environmental Improvement Plan 2023. Available at: <https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb000c64ffa/environmental-improvement-plan-2023.pdf> [Accessed December 2025].

⁶² Defra (2025). Environmental Improvement Plan 2025. Available at: [Environmental Improvement Plan 2025](#) [Accessed March 2026]

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G7)⁶³. Enhancing water quality and addressing climate-related effects also present opportunities for sustainable tourism growth, reflecting commitments in EIP 2025 to improve the natural environment and public health through economic development.

1.8 Historic Environment

The WRE boundary and the ESW supply area are rich in heritage, with listed buildings, scheduled monuments, registered parks and gardens and registered battlefields. The total number of each of these assets within the ESW supply area is presented in Table 1.11. Scheduled monuments, registered parks and gardens, conservation areas and registered battlefields are shown in Figure 1.5.

It is likely that most of the Local Authorities in the ESW supply area will hold a Historic Environment Record (HER), which is a database of archaeological sites, listed buildings and other historic buildings, and finds of historic objects. There are hundreds of entries on the HERs from churches and houses to roman coin finds and medieval finds. There is also potential for unidentified heritage assets and archaeological remains to be present within the region including non-designated heritage assets of archaeological interest, in line with NPPF footnote 75, which recognises that such assets may merit consideration in planning decisions due to their heritage significance.

The drought actions within our Drought Plan should fully consider the historic environment and seek to minimise adverse effects. In doing so, we should protect archaeological and cultural heritage assets.

Table 1.11 Heritage assets within the ESW supply area

Asset	Description	Total number
Listed Buildings	The statutory responsibility for listed buildings control lies with the individual Local Authorities. The Department for Digital, Culture, Media and Sport is responsible for compiling the statutory list of buildings of special architectural or historic interest and each building or structure of interest is classified under one of three Grades; I, II* and II depending on their significance (Grade I assessed as highest significance).	Grade I 218
		Grade II* 497
		Grade II 7,458
Registered Parks and Gardens	Historic England maintains a register of historic parks and gardens of special interest in England; these parks and gardens are as equally important	Grade I 0

⁶³ Defra (2023). Outcome Indicator Framework: Theme G7 – Health and wellbeing benefits. Available at: <https://oifdata.defra.gov.uk/themes/natural-beauty-and-engagement/G7/> [Accessed December 2025].

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Asset	Description	Total number
	as buildings and settlements and form part of an area's cultural heritage. However, unlike listed buildings and conservation areas, historical parks and gardens are not afforded legal protection within the UK. The registration of these historic parks and gardens is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the landscapes' special character.	Grade II* 5
		Grade II 20
Scheduled Monuments	Scheduled monuments are protected under the Ancient Monuments and Archaeological Areas Act 1979. The monuments are scheduled and recorded through Historic England, based on national importance and covering a diverse range of archaeological sites. Scheduled monuments are often in a ruinous or semi-ruinous condition or take on the form of earthworks. More complete structures of national significance are usually protected as listed buildings.	194
Conservation Areas	Conservation areas are designated by local planning authorities under their powers. The areas are protected to preserve special areas of historical and architectural importance and can range from small villages, town centres and residential areas. Each conservation area will have its own conservation area appraisal, which sets out how it should be protected.	175
Registered Battlefields	Historic England holds a Register of Historic Battlefields. Its purpose is to offer battlefields protection through the planning system, and to promote a better understanding of their significance and public enjoyment.	1

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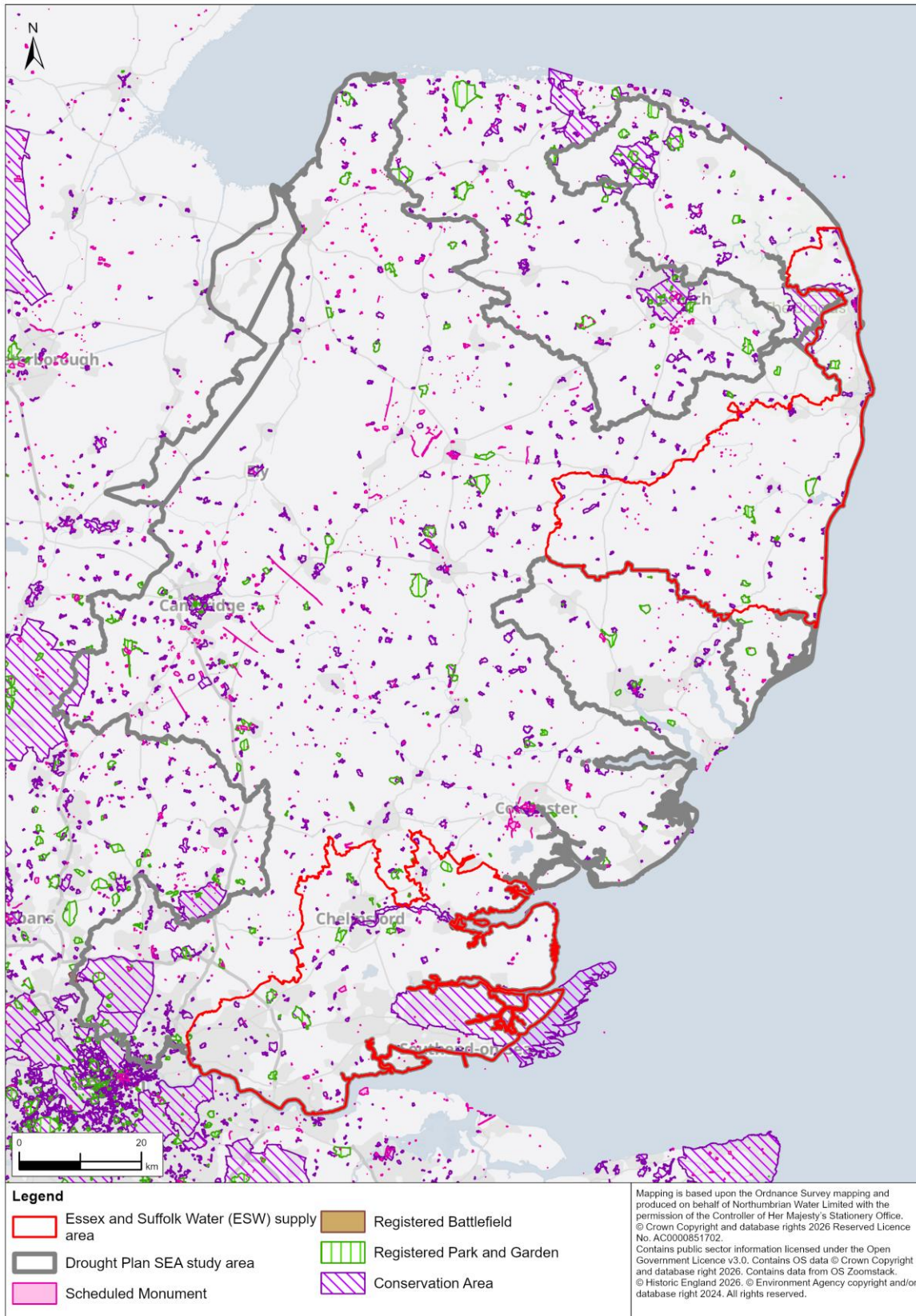


Figure 1.7 Heritage assets across the Drought Plan SEA study area and ESW supply area

1.8.1 Future baseline

Recent and ongoing national economic pressures may affect the future condition of the historic environment. Reduced or uncertain funding for heritage-related activities could limit the capacity of organisations and local authorities to remove assets from the heritage at risk register, potentially resulting in a slower pace of repair, restoration or management interventions.

Climate change is also expected to influence the future baseline for the historic environment. While some types of heritage assets and landscapes have demonstrated resilience, having already survived significant climatic shifts in the past, many others are potentially vulnerable to the direct impacts of future climate change. Increased rainfall intensity, more frequent flooding, prolonged dry periods, higher temperatures and coastal change all have the potential to accelerate deterioration, damage historic fabric, or affect the setting and significance of heritage features.

These factors highlight the importance of ensuring that our Drought Plan considers the potential future pressures facing the historic environment, so that drought actions do not exacerbate existing vulnerabilities and are designed to minimise risks to archaeological sites, historic buildings, conservation areas and other cultural heritage assets.

1.9 Landscape

The landscape across the WRE boundary is reasonably diverse and is made up of a mixture of lowlands and small hills. The region also includes a striking stretch of coastline, particularly along the Norfolk and Suffolk coasts, as well as a number of picturesque seaside villages. Agriculture plays an important role in shaping the character of the landscape; however, the area also contains several densely populated settlements such as Norwich, Cambridge and Ipswich. This diversity means that any changes to land use, water levels, or the visibility of infrastructure associated with drought actions could influence both landscape character and people's visual amenity.

Consideration of potential impacts on the landscape and visual amenity should therefore form an integral part of our action selection process and the operation of drought actions. Where adverse effects cannot be fully avoided, we should identify and implement appropriate mitigation measures.

1.9.1 National Character Areas

National Character Areas (NCAs) divide England's landscape into 159 distinct areas and are defined by a unique combination of aspects such as landscape, biodiversity, geodiversity and economic activity⁶⁴. There are eight NCAs within the ESW supply area presented in Table 1.12 and Figure 1.8.

⁶⁴ Natural England (2014). *National Character Areas (NCAs)*. Available at: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making> [Accessed Aug 2025].

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Table 1.12 Natural England National Character Areas within the ESW supply area

National Character Areas Name	Key Characteristics
The Broads	<p>The Broads NCA follows the flood plains of three major tidal rivers and their tributaries which dissect the surrounding landscape. The landscape is low-lying with some areas below sea level and has characteristic open, extensive views over slow meandering rivers, drained marshland and coastal plain in the lower valley flood plain. Views inland are framed by the tree-lined valley ridge lines. The middle, upper and narrow incised side valley tributaries are small-scale, low and enclosed, often supporting woodland. Rivers dominate the landscape with the middle and lower river reaches flowing between flood banks, above the level of the surrounding land which is drained by dykes, ditches and pumps. The broads, which are former flooded peat workings, form naturally nutrient-rich shallow lakes of various sizes surrounded by fens, wet woodland and large expanses of reedbed, rich in biodiversity. Woodland cover is generally sparse, especially in the marshland area. Small areas of mainly deciduous woodland occur around the broads. Carr woodland and willow pollards are typical of the wetter areas, while broadleaved woodland is present as copses and plantations on higher land.</p>
North East Norfolk and Flegg	<p>The North East Norfolk and Flegg NCA is intimately linked with The Broads NCA, which wraps around and between the three distinct parts of this NCA, occupying the flood plains of the five major rivers that form the core of the Broads. Two of the distinct areas of the NCA abut the coast, the other lies entirely inland. A generally flat, low-lying landscape, compared to adjacent areas, which has limited topographic variation and slopes gently from west to east, becoming flatter as it merges with the Broads. Soils are deep, loamy and free draining. They are very fertile and support productive arable farming. Horticultural crops are grown on the lighter soils towards the coast. Copses and large woodland blocks around Blofield Heath, East Rushdon and North Walsham, such as Bacton Woods, are important features of inland areas. They lend an intricate, enclosed character to the mix of pastures and arable land on the Broads margin, contrasting with the scarcity of woodland elsewhere. High hedgerows with prominent hedgerow oaks are notable features. The River Yare, which provides a distinctive riverine landscape and flows out through the tidal lake of Breydon Water to the North Sea.</p>
Suffolk Coast and Heaths	<p>The Suffolk Coast and Heaths NCA shares the underlying bedrock of late Cretaceous Chalk and overlying glacial tills (boulder clay) with the surrounding NCAs. It also shares early Tertiary mudstones (mainly London Clay) and late Tertiary Crag deposits. A predominantly low-lying landscape with some</p>

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National Character Areas Name	Key Characteristics
	<p>areas along the coastal plain below or at sea level. Changes in relief are slight, but enough to distinguish the Sandlings, sandy rolling 'upland' between estuaries. Rivers flow west – east forming intimate, twisting alluvial valleys. Estuaries support internationally important salt marshes and intertidal flats with large numbers of waders and wildfowl, while their open waters are busy with pleasure and commercial craft. Expansive coastal level grazing marshes divided by drainage dykes contain internationally important reedbeds and fens. Many are managed as nature reserves owing to their rich biodiversity, which includes a nationally important concentration of breeding bittern. Fragments of internationally important lowland heathland support nightjar, woodlark, adder and silver-studded blue butterfly. Views across the dry farmland and heathlands are open and extensive, except where enclosed by woodland.</p>
<p>South Norfolk and High Suffolk Claylands</p>	<p>The South Norfolk and High Suffolk Claylands NCA shares a boundary with five other NCAs. They all share a relatively flat topography, incised by stream and river valley corridors, with underlying bedrock geology of Late Cretaceous Chalk, overlain by glacial tills as well as sand and gravel deposits from the ice age. The underlying chalk forms the principal aquifer which supplies East Anglia, functionally linking these areas. To the east also share underlying bedrock geology of Neogene/Quaternary shallow marine deposits locally known as Crag. Large plateau area of chalky glacial till that is generally flat or only gently undulating but can be locally concave. The edges of the plateau have been dissected by watercourses that form greater slopes, especially along the tributaries of the Waveney. Views are frequently open, only sometimes confined by hedges and trees, with some woodland present. The small valleys support quite confined landscapes with intimate views. Chalk bedrock overlain by glacial till, gravels and sands. Heavy, seasonally waterlogged chalky clay soils occur on the plateau, with small areas of better soils at the edges. The valley bottoms contain areas of glacial outwash deposits as well as some areas of deep peat.</p>
<p>South Suffolk and North Essex Clayland</p>	<p>The South Suffolk and North Essex Clayland NCA shares a boundary with six other NCAs. They all share a generally flat topography, with underlying bedrock geology of Late Cretaceous Chalk overlain by sand and gravel deposits as well as glacial tills. The underlying chalk aquifer supplies the population of East Anglia, functionally linking these areas. An undulating chalky boulder clay plateau is dissected by numerous river valleys, giving a topography of gentle slopes in the lower, wider valleys and steeper slopes in the narrower upper parts. South-east-flowing streams and rivers drain the</p>

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National Character Areas Name	Key Characteristics
	<p>clay plateau. Watercourses wind slowly across flood plains, supporting wet, fen-type habitats; grazing marsh; and blocks of cricket-bat willows, poplars and old willow pollards. Navigation locks are present on some rivers. Lowland wood pasture and ancient woodlands support the dormouse and a rich diversity of flowering plants on the clay plateau. Large, often ancient hedgerows link woods and copses, forming wooded skylines.</p>
Northern Thames Basin	<p>The Northern Thames Basin forms the rising land above the low-lying marshy landscapes adjoining the coast and estuaries of the Greater Thames Estuary and the Suffolk Coast and Heaths National Character Areas (NCAs) to its east and south-east extent and enjoys associated views of these areas. Chalk geology commonly underpins this NCA and the neighbouring Chilterns and South Suffolk and North Essex Claylands NCAs to the west and north; The Chilterns, a formation of chalk hills and plateaux with a prominent escarpment, offers views across to this similarly elevated NCA. To the south-west the Thames Valley NCA forms a wedge-shaped area containing the open Thames flood plain surrounded by rolling clay farmland. Directly south is the Inner London NCA on the banks of the Thames where the river valley widens out into a broad flood plain. The landform is varied with a wide plateau divided by river valleys. The prominent hills and ridges of the 'Bagshot Hills' are notable to the northwest and extensive tracts of flat land are found in the south. The water bearing underlying Chalk beds are a main source of recharge for the principal London Basin Chalk aquifer. A diverse landscape with a series of broad valleys containing the major rivers Ver, Colne and Lea, and slightly steeper valleys of the rivers Stour, Colne and Roman. Numerous springs rise at the base of the Bagshot Beds and several reservoirs are dotted throughout the area. The pattern of woodlands is varied across the area and includes considerable ancient semi-natural woodland. Hertfordshire is heavily wooded in some areas as are parts of Essex, while other areas within Essex are more open in character. Significant areas of wood pasture and pollarded veteran trees are also present.</p>
Greater Thames Estuary	<p>The Greater Thames Estuary NCA forms the eastern edge of the London Basin, and its extensive underlying geology of London Clay provides links with the Northern Thames Basin NCA and, further west, the Inner London NCA. Predominantly flat, low-lying coastal landscape where extensive open spaces are dominated by the sky, and the pervasive presence of water and numerous coastal estuaries extend the maritime influence far inland. Eastern edge of the London Basin with its underlying geology of the extensive London Clay, containing important</p>

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SEA ENVIRONMENTAL REPORT: APPENDIX D – ENVIRONMENTAL BASELINE

National Character Areas Name	Key Characteristics
	sites for geodiversity including fossiliferous deposits, and overlain by productive loamy soils derived from intertidal alluvial muds. Geological contrast and variety along the coastline provided by Sheppey, a long, low island rising from a stretch of very flat marsh along the Swale Estuary in Kent with low, steep clay cliffs facing towards Essex, and Mersea Island in the Blackwater Estuary in Essex. Coastline of major geomorphological interest for its coastal processes. Accretion of material carried by the sea from the north recharges intertidal coastal habitats, which are subject to coastal squeeze from rising sea levels.
Inner London	The Inner London NCA forms the central part of the London Basin and is characterised by a dense, highly urbanised landscape dominated by the River Thames and its broad flood plain. The area comprises a complex mix of historic and modern development, including commercial centres, residential neighbourhoods, major transport infrastructure, and internationally recognised cultural and civic landmarks. Open green spaces such as Royal Parks and urban squares provide important breaks in the built form, offering biodiversity value and recreation within an otherwise intensely developed setting. Underlying geology is predominantly London Clay, shared with the adjacent Greater Thames Estuary and Northern Thames Basin NCAs. The River Thames is the defining landscape feature, influencing settlement form, transportation routes, and flood risk management. Vegetation cover is limited but includes street trees, parkland, and riparian habitats along the Thames and its tributaries. Despite its urban nature, the NCA contains pockets of ecological interest, including designated sites, river corridors, and urban greenspaces that support a range of wildlife adapted to metropolitan environments.

1.9.2 National Parks

National Parks are designated to protect their outstanding landscape and countryside, wildlife and cultural heritage. There is one National Park located within the Eastern region (see Figure 1.8), which was designated in 1976. The Broads National Park is 303 km², most of which is in Norfolk, with over 200 km of navigable waterways. There are seven rivers and 63 broads, mostly less than 4 m deep. Thirteen broads are generally open to navigation, with a further three having navigable channels⁶⁵.

⁶⁵ Living Lakes Partnership (2006). *The Broads, England: Living Lakes Partnership 1998–2005*. Available at: <https://web.archive.org/web/20051023224442/http://www.livinglakes.org/broads/> [Accessed Aug 2025].

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1.9.3 National Landscapes

National Landscapes (NL) (formerly known as Areas of Outstanding Natural Beauty (AONB)) are protected to conserve and enhance their natural beauty and distinctiveness⁶⁶. There are three NLs within the ESW supply area and the Drought Plan SEA study area which are detailed in Table 1.13 and Figure 1.8.

Table 1.13 National Landscapes within ESW supply and Drought Plan SEA study area

National Landscape	Description
Dedham Vale	This characteristic lowland English landscape on the Suffolk-Essex border is home to picturesque villages, rolling farmland, rivers, meadows, ancient woodlands and a wide variety of local wildlife. The hedgerows and wildflower meadows of the Dedham Vale National Landscape are among some of England's most precious and vulnerable pastoral landscapes. The designated area is just 90 km ² and stretches upstream from Manningtree to within one mile of Bures. With a population in the National Landscape of fewer than 10,000 this is still essentially a farming area, although the National Landscape now has a significant and growing proportion of residents commuting to Ipswich, Colchester and London. Tourism is localised, but forms an important part of the economy, while the River Stour is an important boating and angling water.
Norfolk Coast	The Norfolk Coast NL is characterised by an expansive, ever-changing coastline comprising sweeping sandy beaches, tidal saltmarshes, mudflats, and distinctive dune systems that create a sense of openness and exposure. Inland, the landscape transitions into gently rolling farmland, coastal grazing marsh, and lowland heath, punctuated by small villages and traditional flint buildings that reflect the area's historic settlement pattern. The combination of broad skies, big horizons and dynamic coastal processes contributes to a strong sense of place and tranquillity. The coastline is also ecologically rich, supporting internationally important habitats and species associated with its intertidal areas, freshwater marshes, and coastal wetlands.
Suffolk Coast and Heaths	The Suffolk Coast and Heaths NL is a low-lying coastal landscape of astonishing variety, stretching from the Stour estuary in the South to Kessingland in the North, covering a total of 403km ² . It has a unique mixture of shingle beaches, crumbling cliffs, marshes, estuaries, heathland, forests and farmland. The NL is also one of the most important wildlife areas in Britain, encompassing three National Nature

⁶⁶ Natural England (n.d.). *Areas of Outstanding Natural Beauty (AONBs): Designation and Management*. Available at: <https://www.gov.uk/guidance/areas-of-outstanding-natural-beauty-aonbs-designation-and-management> [Accessed Aug 2025].

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National Landscape	Description
	Reserves, many Sites of Special Scientific Interest and the RSPB's Minsmere Reserve. The mudflats and creeks of the NL's estuaries contain wildlife wetland sites of national and international importance, whilst the wild, sandy stretches of ancient open heathland such as the Sandlings are a refuge for nightjar, woodlark, and rare heath butterflies.

1.9.4 Tranquillity

Tranquillity is recognised as a natural resource and one which is beneficial to health and wellbeing, however infrastructure and development is putting more pressure on this special quality. The Campaign for Rural England (CPRE) has developed a tranquillity map for England to show the range of undisturbed or disturbed tranquillity areas across the country. There are areas of high tranquillity (undisturbed areas) distributed throughout Eastern England, as well as pockets of urban areas.

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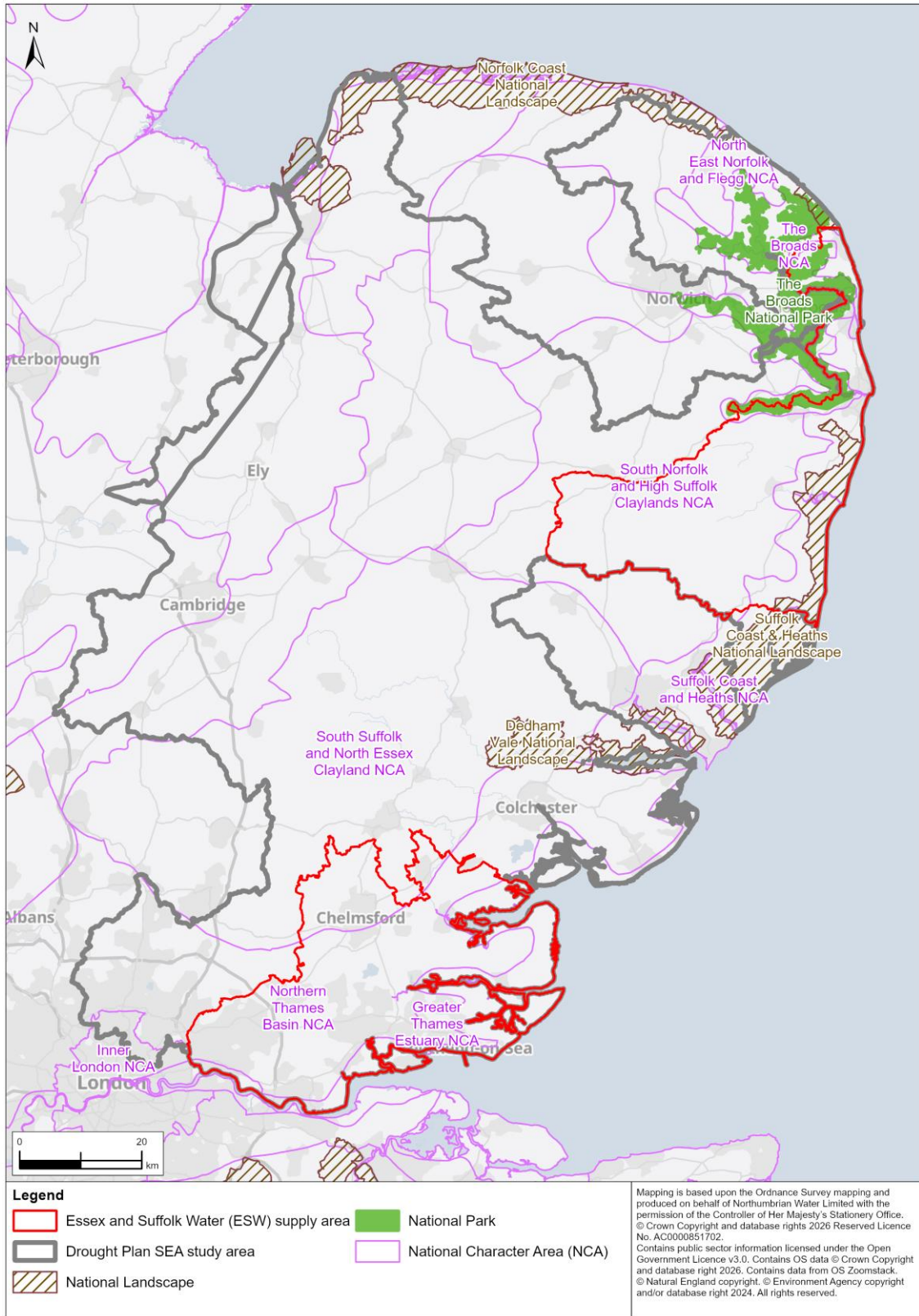


Figure 1.8 National landscapes and character areas across the Drought Plan SEA study area and ESW supply area

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SEA ENVIRONMENTAL REPORT: APPENDIX D – ENVIRONMENTAL BASELINE

1.9.5 Future baseline

It is anticipated that landscape and designated sites will be maintained and enhanced for the enjoyment of the public, although with the pressures for housing in many parts of the ESW supply area, there are likely to be some threats to visual amenity more broadly beyond designated landscape areas. Climate change and land use change may also, in the longer term, lead to changes to landscape character. Historic England encourage seeking opportunities to promote public engagement with cultural heritage and historic landscapes, perhaps in particular with regard to wetlands and past human use of water resources, to enhance public access and enjoyment.

1.10 Material Assets

Based on WRMP24⁶⁷, The ESW supply area has an extensive transport network which connects people, places and services both within the region and beyond to support the regional and national economy. It supports gateways for international trade with the UK's London Stansted Airport, and the UK's busiest container port, Felixstowe and the Ports of Ipswich and Harwich. The Port of Felixstowe is Britain's biggest and busiest container port, and one of the largest in Europe. Around 17 shipping lines operate from Felixstowe, offering 33 services to and from over 700 ports around the world.

In the wider WRE boundary the M1 passes through the west, starting just north of London and proceeding north toward Leicester. Two other small stretches of motorway run through East Anglia, with the end of the M11 south of Cambridge and sections of the A1 in Cambridgeshire and around Peterborough being classed as motorway. Main trunk routes maintained by Highways England in the region include the A1, A11, A12, A14 and A47. A variety of other major roads run through the region, maintained by county councils.

ESW supplies 797,302 households with potable water and operates 23 Water Treatment Works. Anglian Water operate over 1,000 Sewage Treatment Works (STW) within the wider WRE boundary. There are 51 authorised landfill sites within the ESW supply area.

Our Drought Plan provides an opportunity for us to consider the efficient use of resources as part of the drought action selection process, helping to reduce energy consumption, minimise the use of materials and prevent unnecessary waste generation.

1.10.1 Future baseline

Regeneration and future investment and demand are likely to increase the number and quality of material assets such as housing, transport infrastructure, waste facilities, and community facilities.

⁶⁷ Essex & Suffolk Water (2023). Revised Draft Water Resources Management Plan 2024. Available at: <https://www.eswater.co.uk/globalassets/wrmp/esw/revised/esw-revised-draft-wrmp24--customer-summary.pdf> [Accessed September 2025].

1.11 Resource Use and Waste

There is an ongoing need for society to reduce the amount of waste it generates, by using materials more efficiently, and improving the management of waste that is produced. In 2023/24 the total amount of local authority managed waste in the UK was 25.1 million tonnes. Eastern England managed 2.9 million tonnes of waste in 2018/2019, with nearly half (45.6%) of this collected waste sent for recycling, 35.2% sent to incineration, 15.1% sent to landfill and the remaining 4.1% fell within the 'other' category⁶⁸. While the South West still leads with the highest recycling rate in England at 46.8%, Eastern England remains among the top-performing regions.

Our Drought Plan is not expected to influence this baseline or future waste-generation trends. Drought actions are temporary operational measures that do not involve construction or other activities that would generate significant waste. The waste baseline is therefore included only for contextual completeness and to meet SEA regulatory requirements, rather than because the Drought Plan is expected to affect waste generation or management.

1.11.1 Future baseline

As regional population increases and standards of treatment are increased through regulatory requirements there is the potential for increase in operational waste from the water sector. The overall future trend is to continue to diminish landfill capacity, to increase recycling and recovery industry by increasing the proportion of waste sent to recovery rather than landfill.

The Circular Economy Package⁶⁹ includes a target to recycle 65% of municipal waste to be by 2035 and no more than 10% of municipal waste to be sent to landfill by 2035.

⁶⁸ Department for Environment, Food & Rural Affairs (2025) *Local authority collected waste management – Provisional annual results 2023/24*. Available at: <https://www.gov.uk/government/statistics/local-authority-collected-waste-management-annual-results/local-authority-collected-waste-management-provisional-annual-results-202324> [Accessed September 2025].

⁶⁹ Defra (2020). Circular economy measures drive forward ambitious plans for waste. Available at: [Circular economy measures drive forward ambitious plans for waste - GOV.UK](https://www.gov.uk/government/news/circular-economy-measures-drive-forward-ambitious-plans-for-waste). [Accessed March 2026].