MOTT MACDONALD

# Affinity Water Drought Plan

## Strategic Environmental Assessment Environmental Report Appendix D - Baseline Review and Baseline Maps

June 2022

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# Affinity Water Drought Plan

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# Issue and Revision Record

| Revision | Date | Originator | Checker | Approver | Description |
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# Contents

# D. Baseline Review and Baseline Maps

## D.1 Introduction

Current baseline information for the environment and socio-economics was reviewed for the Affinity Water area as part of the WRMP24 SEA Scoping process. The baseline was collected from published sources as referenced in the text and is summarised in the sections below. The baseline information forms an evidence base against which environmental issues or opportunities can be predicted and assessed. The baseline information is presented under the SEA Regulations topics:

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

The Affinity Water covers a large geographical area. Therefore, the baseline is currently a high-level review of conditions within the region, rather than being location specific. Whilst reviewing and assessing the options, localised baseline was used to identify the issues and opportunities specific to that option.

## D.2 Baseline Review

### D.2.1 Biodiversity, Flora, and Fauna

The Affinity Water region contains numerous Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR). There is also Marine Conservation Zones (MCZ) adjacent to the Southeast region. The number and type of ecological sites across the region is presented in Table D.1 and shown in Figure B.1 in Section D.3.

**Table D.1: Ecological sites in the Affinity Water region**

| Designated Site | Total Number |
|---|---|
| SAC | 12 |
| SPA | 7 |
| Ramsar | 6 |
| SSSI | 139 |
| NNR | 9 |
| LNR | 113 |
| MCZ | 2 |

The Affinity Water region is rich in species and habitat diversity. Bird and butterfly surveys[1] carried out over a number of sites within the Affinity Water region identified a number of rare sightings, including Goldeneye *Bucephala clangula* at Springwell Lake. These birds usually breed in the Highlands of Scotland, but recently, a pair bred at Springwell, which was one of only a handful of records of Goldeneye breeding in England. The butterfly surveys also revealed 20 different species recorded over eight sites. These included declining species such as the Essex Skipper *Thymelicus lineola* and the Small Copper *Lycaena phlaeas*.

Under the Natural Environment and Rural Communities (NERC) Act 2006, Affinity Water has a duty to have regard to the conservation of biodiversity in exercising its function. The duties relate to habitats and species of principal importance, some which may be designed Local Wildlife Sites (LWS).

Priority habitats make up 11.90% of the Affinity Water region equating to a total of 53,702 ha[2]. Deciduous woodland accounts for the highest percentage of priority habitat in the region. The split of the priority habitat by type across the region is shown in Table D.2. The Affinity Water region also contains 8 to 9% of globally rare Chalk streams.

**Table D.2: Priority habitats in the Affinity Water region**

| Priority Habitat Type | Hectares (ha) | Percentage |
|---|---|---|
| Coastal and floodplain grazing marsh | 2,198 | 0.49% |
| Coastal saltmarsh | 1,066 | 0.24% |
| Coastal sand dunes | 131 | 0.03% |
| Coastal vegetated shingle | 2,212 | 0.49% |
| Deciduous woodland | 34,184 | 7.58% |
| Good quality semi-improved grassland | 1,953 | 0.43% |
| Lowland calcareous grassland | 1,450 | 0.32% |
| Lowland dry acid grassland | 131 | 0.03% |
| Lowland fens | 489 | 0.11% |
| Lowland heathland | 2,227 | 0.49% |
| Lowland meadows | 577 | 0.13% |
| Maritime cliff and slope | 181 | 0.04% |
| Mudflats | 1,562 | 0.35% |
| No main habitat but additional habitats present | 4,804 | 1.06% |
| Purple moor grass and rush pastures | 12 | 0.003% |
| Reedbeds | 64 | 0.01% |
| Saline lagoons | 2 | 0.0004% |
| Traditional orchard | 459 | 0.10% |

There are approximately 2,000 invasive non-native species (INNS) in the UK, and approximately 10-15% of them cause significant social, environmental, or economic impacts. Species of particular concern for Affinity Water highlighted in their biodiversity programme include:

- Quagga mussel *Dreissena bugensis*, which foul water intake pipes leading to increased pumping and cleaning costs.

[1] Affinity Water (2022). Birds and Butterflies Around Our Sites. Available online at: https://www.affinitywater.co.uk/corporate/environment/biodiversity

[2] Natural England (2020). Priority Habitat Inventory. Available at: https://data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitat-inventory-england

- Japanese knotweed *Fallopia japonica* which can do costly harm to built assets by breaking through tarmac and cement.
- Himalayan balsam *Impatiens glandulifera* which dies back in the winter leaving the river banks prone to erosion, reducing water quality.

### D.2.2 Water

The Affinity Water region is one of the driest areas in the UK and is classed as an area with serious water stress[3]. 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 Affinity Water region. The Affinity Water region also has a number of nationally and internationally important wetlands and other water-dependent habitats, Therefore, the management of water resources is particularly important.

The main rivers in the Affinity Water region are shown in Figure B.2 in Section D.3. There are three river basin districts (RBD) within the Affinity Water region; Thames, South East and Anglian. The Thames RBD covers an area of 16,200km$^2$ and includes 17 management catchments which range from chalk streams and aquifers to tidal and coastal marshes[4]. The South East RBD covers an area of 10,200km$^2$ and is made up of nine management catchments which range from chalk streams of the Test and Itchen catchments to the modified rivers of the Rother catchment[5]. The Anglian RBD covers an area of 27,900km$^2$ and extends from Lincolnshire in the north to Essex in the south and from Northamptonshire in the west to the east Anglian coast[6].

The number of water bodies in the Affinity Water region within the Thames, South East and Anglian RBDs is presented in Table D.3.

**Table D.3: Number of water bodies in the Affinity Water region**

| Water body categories | Thames RBD | South East RBD | Anglian RBD | Total |
|---|---|---|---|---|
| Rivers and surface water | 94 | 19 | 56 | 169 |
| Lake | 21 | 6 | 1 | 28 |
| Coastal | - | 2 | 4 | 6 |
| Transitional | - | - | 2 | 2 |
| Groundwater | 11 | 3 | 5 | 19 |
| Canal | 5 | 1 | - | 6 |
| Total | 131 | 31 | 68 | - |

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 waters and quantitative and chemical quality of groundwater. To achieve good ecological status or potential, good chemical status or good groundwater status

[3] Environment Agency (2013). Water Stressed Areas – Final Classification. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/244333/water-stressed-classification-2013.pdf

[4] Defra and Environment Agency (2015). Part 1: Thames River Basin District – River Basin Management Plan. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718342/Thames_RBD_Part_1_river_basin_management_plan.pdf

[5] Defra and Environment Agency (2015). Part 1: South East River Basin District – River Basin Management Plan. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718337/South_East_RBD_Part_1_river_basin_management_plan.pdf

[6] Defra, EA, December 2015 “Part 1: Anglian river basin district river basin management plan”, Page 9

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. Tables D.4 and D.5 summarise the current status of surface and groundwater water bodies in the Affinity Water region within the Thames, South East and Anglian RBDs[7].

**Table D.4: WFD Ecological and chemical 2019 classification for surface water bodies in the Affinity Water region**

| River basin district | Ecological status or potential | | | | | Chemical status | |
|---|---|---|---|---|---|---|---|
| | Bad | Poor | Moderate | Good | High | Fail | Good |
| Thames RBD | 2 | 31 | 84 | 2 | - | 119 | - |
| South East RBD | 1 | 3 | 16 | 4 | - | 24 | - |
| Anglian RBD | - | 7 | 48 | 1 | - | 56 | - |

**Table D.5: WFD quantitative and chemical 2019 classification for groundwater water bodies in the Affinity Water region**

| River basin district | Quantitative status | | Chemical status | |
|---|---|---|---|---|
| | Poor | Good | Poor | Good |
| Thames RBD | 5 | 6 | 4 | 7 |
| South East RBD | 2 | 1 | 3 | - |
| Anglian RBD | 4 | 1 | 4 | 1 |

The RBMPs for the Thames, South East 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 D.6. For each of the RBDs, physical modifications and pollution from wastewater affect the highest proportions of water bodies followed by pollution from rural areas.

**Table D.6: Water management issues**

| Water Management Issue | Percentage of water bodies affected | | |
|---|---|---|---|
| | Thames RBD | South East RBD | Anglian RBD |
| Physical modifications | 44% | 43% | 51% |
| Pollution from wastewater | 45% | 40% | 50% |
| Pollution from towns, cities and transport | 17% | 9% | 10% |
| Changes to the natural flow and level of water | 12% | 7% | 10% |
| Negative effects of invasive non-native species | 3% | 2% | 6% |
| Pollution from rural areas | 27% | 30% | 47% |

Flood risk across the Affinity Water region is diverse and can occur from a wide range of sources including rivers and the sea, groundwater, reservoir and surface water. Climate change, as covered in section D.1.5, is projected to result in more extreme weather events which alongside projected increases in sea level is likely to have an impact on the future flood risk of the region.

### D.2.3 Soil

The Affinity Water region has a strong agricultural presence, with the South East containing some of the best and most versatile agricultural land in England. Agricultural land is classified

[7] It should be noted that 'coastal' waterbodies outlined in Table D.3 within the Affinity Water region are not included within Tables D.4 and D.5, as WFD classifications for these water bodies were not available considering they are not part of a river water body catchment,

on a scale of 1 to 5 where 1 is the highest quality and 5 is the lowest. The agricultural land classification of the region is predominately of Grade 2 and Grade 3 with pockets of urban and non-agricultural land as shown in. There are some areas with Grade 1, particularly around the Brett zone and in Kent.

The southeast of England and London has the largest area of licensed landfill sites of anywhere else in the country[8]. Currently, there are 103 authorised landfill sites and 842 historic landfill sites across the Affinity Water region.

### D.2.4 Air

Air quality in the Affinity Water region is varied and there are certain areas with higher concentrations of air pollutants likely to be associated with transport or business activities. Air Quality Management Areas (AQMAs) are declared where the national air quality objectives are not being met[9]. A high proportion of the local authorities which fall within the Affinity Water region contain at least one AQMA and are predominately designated for Nitrogen dioxide ($NO_2$) and Particulate Matter ($PM_{10}$)[10]. In total there are 54 AQMAs designated within the Affinity Water region as shown in Figure B.3 in Section D.3.

### D.2.5 Climatic Factors

1.1.1 Current observations indicate that the UK is continuing to warm. In 2019, four new temperature records were set, including a high of 38.7°C and a new winter record of 21.2°C[11]. The decade between 2010 and 2019 has been on average 0.3°C warmer than the 1981-2010 average and 0.9°C warmer than 1961-1990. Annual precipitation has increased across the UK in the last few decades with 2019 seeing 107% more rainfall than the 1981-2010 average[12]. Summers have been 11% wetter on average than 1981-2010 and 13% wetter than 1961-1990. Winters have been 4% and 12% wetter than 1981-2010 and 1961-1990 respectively. The region can be subject to dry periods, placing demands upon water supplies. If a period with below average rainfall includes winter months as well as the high-demand summer months, then conditions can become severe as the winter is the normal recharge time for both reservoirs and chalk aquifers, upon which much of the region relies for water supplies.

1.1.2 The Met Office UK Climate Projections (UKCP) were updated for the first time since 2009 in December 2018 (UKCP18)[13]. The UKCP18 are largely the same as the previous projections where all areas of the UK are projected to be warmer, particularly during summer months. Rainfall is projected to vary seasonally and at a regional scale, however the UK is projected to have wetter winters and drier summers. The projected changes in temperature and precipitation for the south east of England by the 2050s (2040-2069), under the RCP8.5 scenario (high emissions scenario) are detailed in Table D.7. The 1981-2010 baseline period and the central estimate, representing ‘as likely as not’ probability of change (50th percentile), was used for the following projections.

[8] Environment Agency (2002). Dealing with contaminated land in England. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/313967/dealing_with_contaminated_land_i.pdf

[9] Defra National Air Quality Objectives. Available at: https://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf

[10] Defra List of Local Authorities with AQMAs. Available at: https://uk-air.defra.gov.uk/aqma/list

[11] RMetS (2020). State of the UK Climate. Available at: https://rmets.onlinelibrary.wiley.com/doi/epdf/10.1002/joc.6726

[12] RMetS (2020). State of the UK Climate.

[13] Met Office UKCP18. Available at: https://ukclimateprojections-ui.metoffice.gov.uk/

**Table D.7: Future climate projects by the 2050s under the RCP8.5 scenario**

| Climatic Factor | Climate Projections |
|---|---|
| Temperature | Annual mean temperatures are projected to increase by 2.0°C. Summer temperatures are projected to see the largest increase by 2.6°C and winter temperatures by 1.7°C. Mean maximum summer temperatures are projected to increase by 2.9°C. |
| Precipitation | Annual mean precipitation is projected to decrease by 1.1%. Seasonal variability is projected with a 22.9% decrease in precipitation during summer months and an increase of 11.5% during winter months. |

Source: Met Office UKCP18 using the central probability estimate for a RCP8.5 scenario

Based on the local authorities which fall within the Affinity Water region[14], the total carbon dioxide ($CO_2$) emissions for 2018 across all sectors is estimated at 37,465 kilo tonnes ($ktCO_2$) (not including Land use, land-use change, and forestry (LULUCF))[15]. The transport sector contributed the highest proportion of emissions to the total in 2018 at 44% followed by the domestic and industrial sector at 32% and 26% respectively. The LULUCF sector is estimated to be responsible for the removal of 790 $ktCO_2$ equating to a 2% reduction in the total $CO_2$ emissions[16].

### D.2.6 Population and Human Health

Approximately 3.6 million people in parts of Bedfordshire, Berkshire, Buckinghamshire, Essex, Hertfordshire, Surrey, the London Boroughs of Harrow and Hillingdon, parts of the London Boroughs of Barnet, Brent, Ealing and Enfield, the Tendring peninsula in Essex and the Folkestone and Dover areas of Kent live within the Affinity Water region. The population is growing and is expected to increase by 12% by 2025, 27% by 2045 and 51% by 2080. This is equivalent to approximately 1.8 million more people in the Affinity Water region[17].

Life expectancy for both men and women in London, the East, and the Southeast of England (which covers the Affinity Water region), is higher than in England as a whole. The average life expectancy projections (2017-2019) for residents in the region is approximately 80.7 years for males and 84.3 years for females[18].

The Index of Multiple Deprivation (IMD) (2019) for the Lower Super Output Areas (LSOAs) within the region[19] are ranked from 1 to 10 with 1 being the most deprived and 10 being the least, as shown in Figure 3.1 below. Around 49% of the LSOAs in the region have an IMD ranking of 7 or over, 43% have a ranking between 3 and 6, and the remaining 8% are 2 or below[20].

[14] $CO_2$ emissions data covers the entirety of each local authority; however, it is acknowledged that not all of the relevant local authorities are located entirely within the Affinity Water region boundary. Therefore, at this stage of the SEA process the $ktCO_2$ values indicated in the baseline are to be taken as an approximation.

[15] BEIS (2020). UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018. Available at: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018

[16] BEIS (2020). UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018.

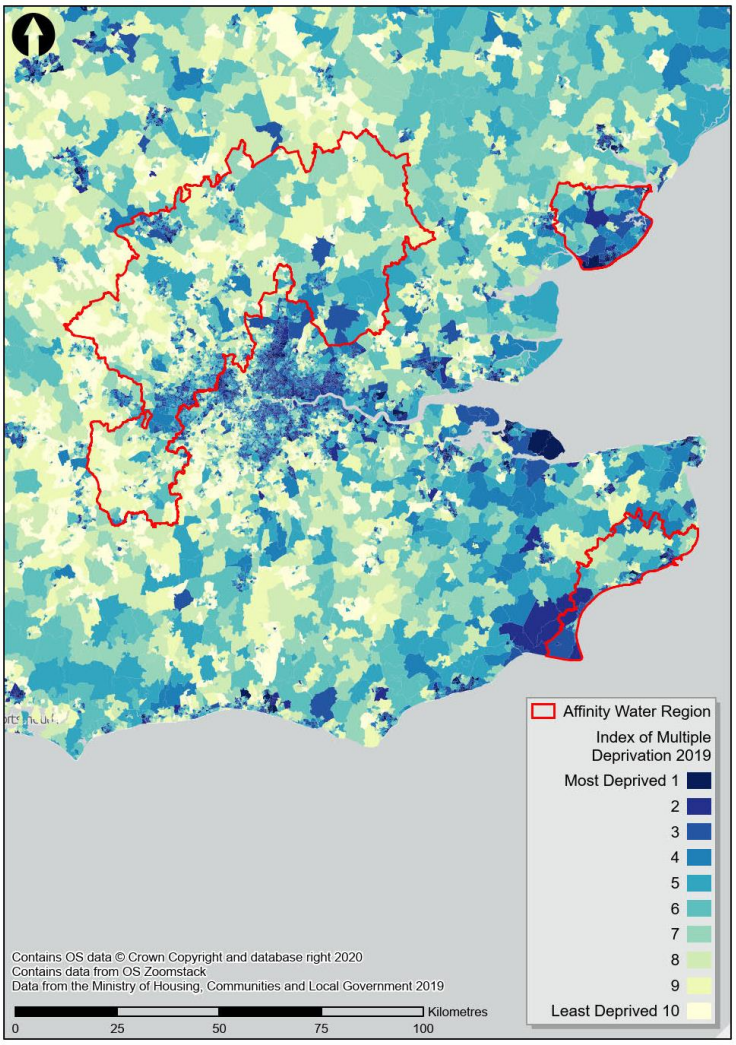
[17] https://www.affinitywater.co.uk/docs/Final_WRMP19_Non-technical_summary.pdf

[18] Office for National Statistics (2020) Life Expectancy for local areas of the UK: between 2001 to 2003 and 2017 to 2019. Available online at: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/lifeexpectancyforlocalareasoftheuk/between2001to2003and2017to2019

[19] At this stage, IMD data covers the entirety of each local authority; however, it is acknowledged that not all of the relevant local authorities are located entirely within the Affinity Water region boundary. Therefore, at this stage of the SEA process the percentages indicated are to be taken as an approximation.

[20] Ministry of Housing, Communities & Local Government (2019). English indices of deprivation 2019. Available at: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019

**Figure D.1: Distribution of the Index of Multiple Deprivation 2019**




Source: The English Indices of Deprivation 2019 (DCLG, September 2019)

## D.2.7 Historic Environment

The Affinity Water region is 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 Affinity Water region is presented in Table D.8. Scheduled monuments, registered parks and gardens, and registered battlefield are shown in Figure B.4 in Section D.3.

**Table D.8: Historic environment assets in the Affinity Water region**

| Asset | Description | 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 | 323 |
| | | Grade II* | 1,046 |
| | | Grade II | 18,124 |

| Asset | Description | Number | |
|---|---|---|---|
| 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 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 I | 11 |
| | | Grade II* | 27 |
| | | Grade II | 77 |
| 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. | 499 | |
| 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 | |

It is likely that most of the Local Authorities in the Affinity Water region will have designated conservation areas to preserve special areas of historical and architectural importance and 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.

### D.2.8 Landscape

The landscape across the Affinity Water region is diverse and is made up of a mixture of lowlands and small hills. The region also has a striking stretch of coastline including the cliffs of Dover, and several picturesque villages and hamlets. Agriculture plays an important role in the landscape, however the region also has densely populated areas. The Green Belt around London is an important aspect of the regional landscape which exists to prevent urban sprawl.

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 activity[21]. There are 15 NCAs within the Affinity Water region.

There are no National Parks within the Affinity Water region.

Areas of Outstanding Natural Beauty (AONB) are protected to conserve and enhance their natural beauty and distinctiveness[22]. There are four AONBs within the Affinity Water region which are detailed in Table D.9 and shown in Figure B.5 in Section D.3.

[21] Natural England (2014). NCAs. Available at: https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making

[22] Natural England (AONBs): designation and management. Available at: https://www.gov.uk/guidance/areas-of-outstanding-natural-beauty-aonbs-designation-and-management

**Table D.9: AONB in the Affinity Water region**

| AONB | Description |
|---|---|
| Kent Downs | Kent Downs AONB consists of rolling rural land which meets the sea at the cliffs of Dover. The Kent Downs rise to over 240m and the river valleys of the Darent, Medway and Stour run through it. Rivers, streams, springs and ditches include a great variety of habitat and landscape types and are important features of the Kent Downs. The River Darent is a chalk stream that flows between Westerham and Dartford Marshes in West Kent. The Kent Downs supports a variety of wildlife in the unimproved chalk grassland and broadleaved woodlands. |
| Surrey Hills | Surrey Hills AONB spans Surrey from east to west which together with the Green Belt prevents the advancing London sprawl. The deciduous woodlands of the AONB have ecological importance alongside the chalk grassland and unimproved heath. The built environment, including villages such as Shere and Abinger, is also part of the quality of the AONB. |
| Chilterns | Chilterns AONB is made up of rounded hills which are part of the chalk ridge that crosses England from Dorset to Yorkshire. The characteristic scarp slope looks out north over the panorama of the Vale of Aylesbury and the dip slope curves gently down into the London Basin. The Chilterns AONB is heavily wooded and supports a diversity of habitats ranging from the country's most extensive areas of beech woodland to chalk grassland. Chalk streams are a characteristic and attractive feature of the Chilterns landscape, important habitats for wildlife and support a massive range of plants and animals. |
| Dedham Vale | Dedham Vale AONB is a lowland landscape which consists of villages, farmland, rivers, meadows, ancient woodlands and a variety of local wildlife. Because much of East Anglia's traditional grasslands have already been drained and ploughed for arable farming, the hedgerows and wildflower meadows of the Dedham Vale AONB are among some of England's most vulnerable pastoral landscapes. |

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[23]. The Campaign for Rural England (CPRE) developed a tranquillity map for England to show the range of undisturbed or disturbed tranquillity areas across the country[24]. There are areas of high tranquillity distributed throughout the Affinity Water region with the least tranquil areas surrounding areas with higher population, particularly London and the surrounding area.

### D.2.9 Material assets

The Affinity Water region 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 busiest airport, Heathrow, and the UK's busiest port, Dover, where one seventh of the UK's trade passes through and is Europe's busiest ferry port[25]. The rail link to Europe via the Channel Tunnel Rail Link is also located within the region.

[23] CPRE (2015). Give Peace a Chance. Available at: https://www.cpre.org.uk/wp-content/uploads/2019/11/CPRE_-_Give_peace_a_chance_-_May_2015.pdf

[24] CPRE (2007). Map of Tranquillity. Available at: https://www.cpre.org.uk/wp-content/uploads/2019/11/tranquillity_map_england_regional_boundaries_1.pdf

[25] Transport for the South East (2018). Economic Connectivity Review. Available at: https://transportforthesoutheast.org.uk/wp-content/uploads/2018/07/FINAL-Economic-Connectivity-Review.pdf

In 2019/20 the total amount of local authority managed waste was 25.6 million tonnes. The Southeast managed the largest tonnage of local authority collected waste in 2019/20 at 4.1 million tonnes, whilst London managed 3.6 million tonnes and the East managed 2.9 million tonnes in the same period[26]. Incineration accounts for the most common waste disposal method by local authorities in the region with the Southeast sending 44% of all waste for incineration, the East sending 30%, and London sending 63% which made it the highest out of all the regions across England. Recycling and composting are the second most common waste disposal method, accounting for 48% of total waste in the Southeast, 48% in the East, and 30% in London. Landfill waste is 6%, 15% and 3% in the Southeast, East and London respectively.

## D.3 Baseline Maps

The following maps have been included:

- Figure B.1 - International and Nationally Designated Wildlife Sites
- Figure B.2 - Main Rivers and Agricultural Classification
- Figure B.3 - Air Quality Management Areas
- Figure B.4 - Registered Parks and Gardens, Scheduled Monuments and Battlefields
- Figure B.5 - Areas of Outstanding Natural Beauty, National Parks and National Trails

[26] Defra (2021). Statistics on waste managed by local authorities in England in 2019/20. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/966114/Statistics_on_waste_managed_by_local_authorities_in_England_in_2019v3_accessible.pdf

St Albans
Chelmsford
London
Canterbury
Chichester
Brighton and Hove

Location Map


Key to Symbols

- Affinity Water Region
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)
- Special Areas of Conservation (SAC)
- National Nature Reserve (NNR)
- Ramsar
- Marine Conservation Zone

Notes



| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| 02 | 22/03/22 | NW | Additional designations | - | - |
| 01 | 17/06/21 | GT | For information | NL | JF |

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Client

Affinity Water

Title

# WRMP24
# Environmental Constraints - Figure B1 International and Nationally Designated Wildlife Sites

| | | | | | |
|---|---|---|---|---|---|
| Designed | - | | Eng Check | - | |
| Drawn | G Timms | | Coordination | N Levy | |
| GIS Check | N Waldron | | Approved | J Fookes | |

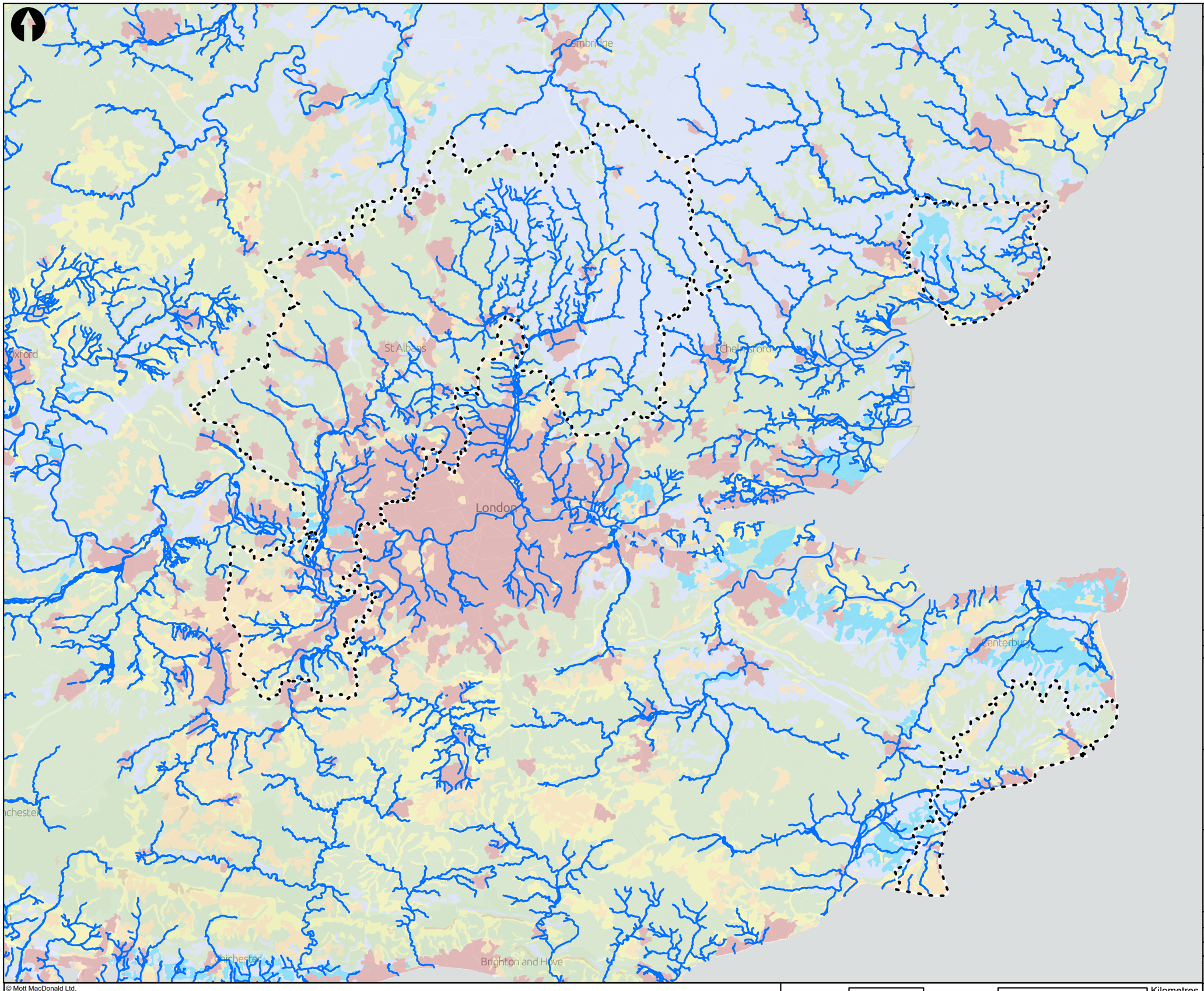
| Scale at A3 | Status | Rev | Security |
|---|---|---|---|
| 1:600,000 | PRE | P2 | STD |

Drawing Number
383187-MMD-XX-00-GIS-Y-0001



0 12.5 25 50 Kilometres

C:\Users\wal75415OLD\MottMac - OneDrive\Mott MacDonald\100420693 AFW WRMP24 Options Appraisal - GIS\MapDocuments\AffinityWRMP_General.aprx




Key to Symbols

- Affinity Water Region
- Main River

Agricultural Land Classification

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban
- Exclusion

Notes

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Client

Affinity Water

Title

WRMP24
Environmental Constraints - Figure B2
Main Rivers and Agricultural Classification

| | | | | | |
|---|---|---|---|---|---|
| Designed | - | | Eng Check | - | |
| Drawn | G Timms | | Coordination | N Levy | |
| GIS Check | N Waldron | | Approved | J Fookes | |

| Scale at A3 | Status | Rev | Security |
|---|---|---|---|
| 1:600,000 | PRE | P1 | STD |

Drawing Number
383187-MMD-XX-00-GIS-Y-0002



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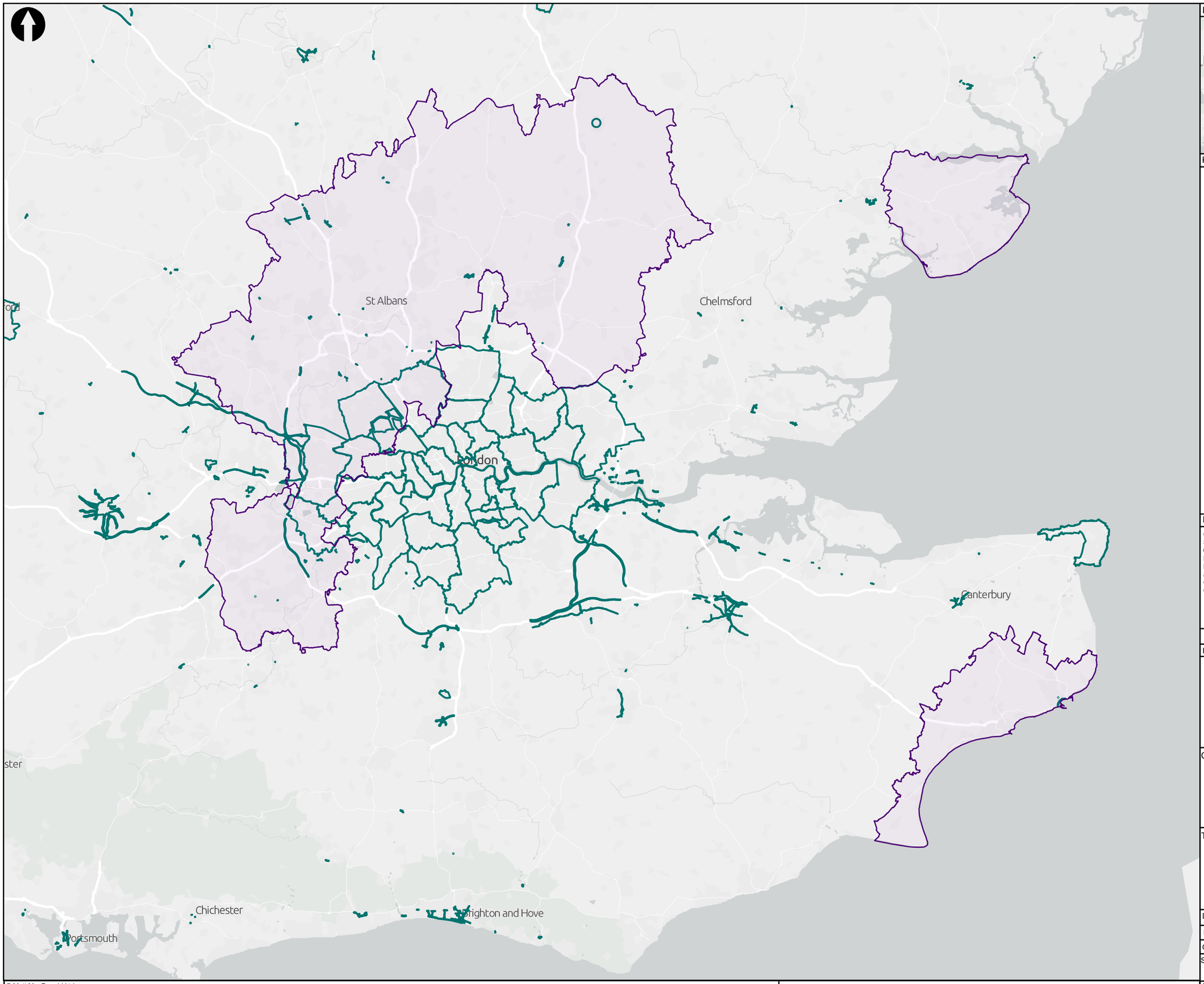


Location Map


Key to Symbols

- Affinity Water Region
- Air Quality Management Area (AQMA)

Notes



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WRMP24
Environmental Constraints - Figure B3
Air Quality Management Areas

| | | | | | |
|---|---|---|---|---|---|
| Designed | - | | Eng Check | - | |
| Drawn | G Timms | | Coordination | N Levy | |
| GIS Check | N Waldron | | Approved | J Fookes | |

| Scale at A3 | Status | Rev | Security |
|---|---|---|---|
| 1:600,000 | PRE | P1 | STD |

Drawing Number
383187-MMD-XX-00-GIS-Y-0003



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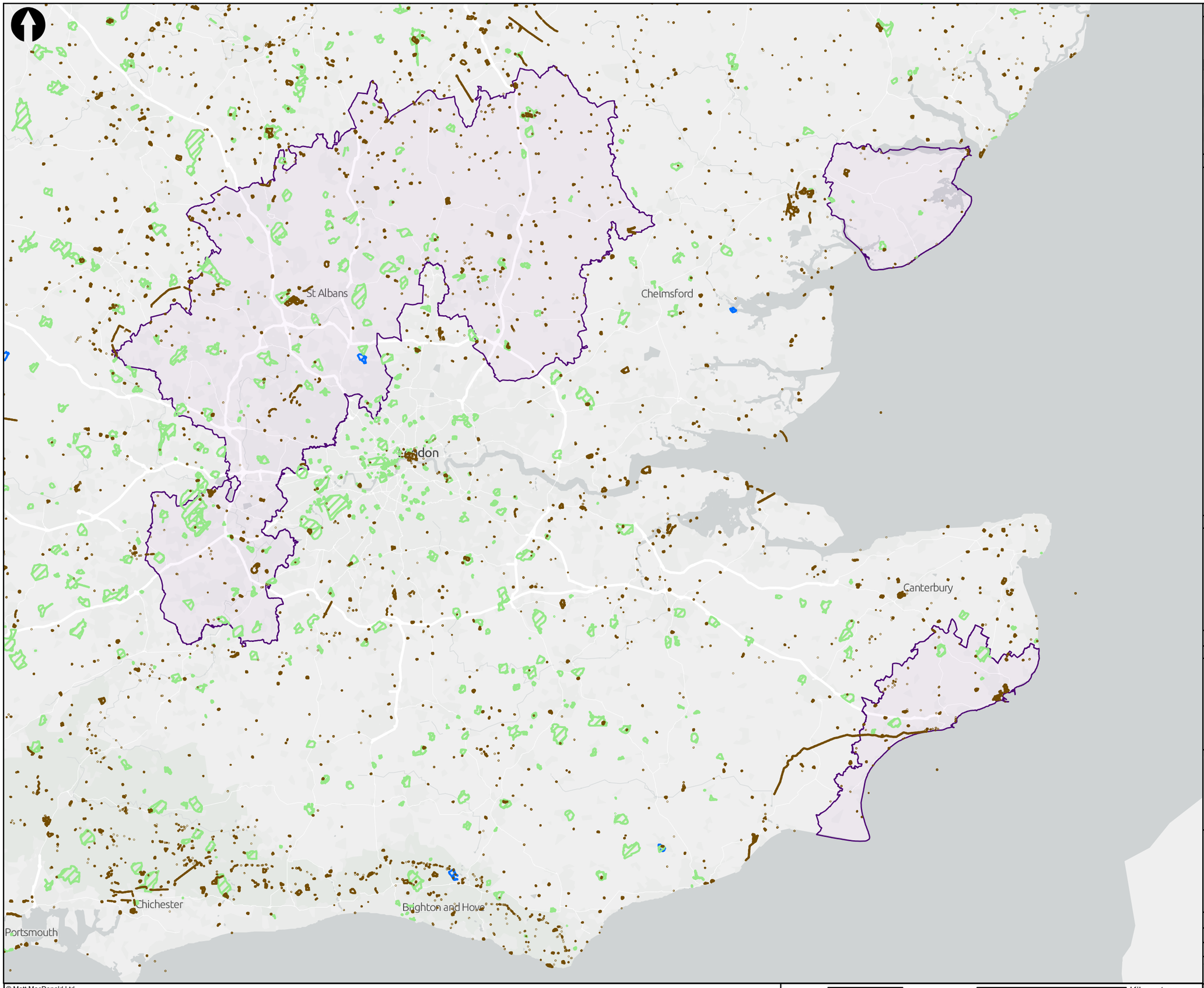


Location Map


Key to Symbols

- Affinity Water Region
- Scheduled Monument
- Registered Park or Garden
- Battlefield

Notes

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Affinity Water

Title

WRMP24
Environmental Constraints - Figure B4
Registered Parks and Gardens, Scheduled Monuments and Battlefields

| | | | | | |
|---|---|---|---|---|---|
| Designed | - | | Eng Check | - | |
| Drawn | G Timms | | Coordination | N Levy | |
| GIS Check | N Waldron | | Approved | J Fookes | |

| Scale at A3 | Status | Rev | Security |
|---|---|---|---|
| 1:600,000 | PRE | P1 | STD |

Drawing Number
383187-MMD-XX-00-GIS-Y-0004



0 12.5 25 50 Kilometres

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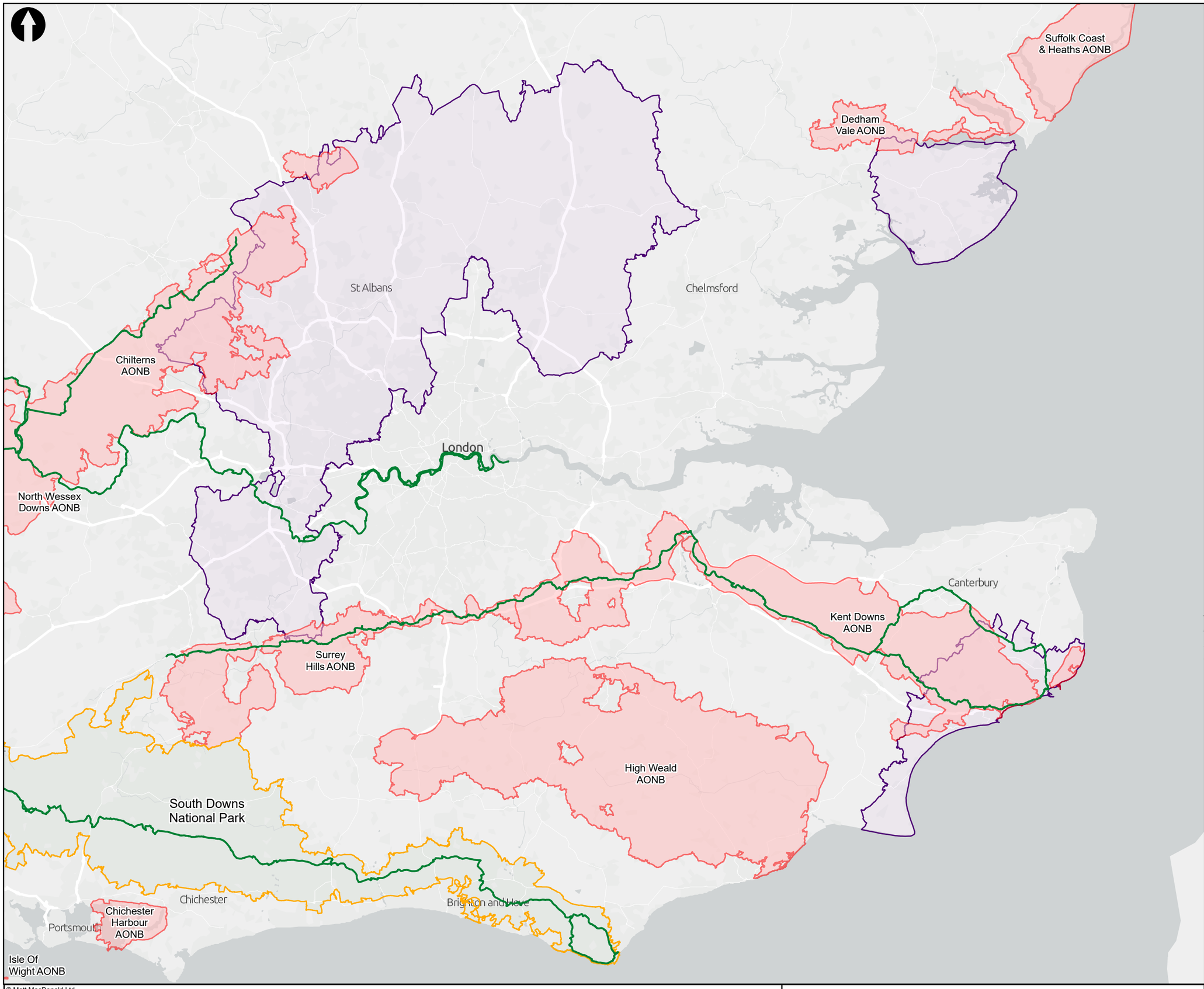


Location Map


Key to Symbols

- Affinity Water Region
- National Trails
- Area of Outstanding Natural Beauty (AONB)
- National Parks

Notes



| Rev | Date | Drawn | Description | Ch'k'd | App'd |
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Title

WRMP24
Environmental Constraints - Figure B5
Landscape Designations

| | | | | | |
|---|---|---|---|---|---|
| Designed | - | | Eng Check | - | |
| Drawn | G Timms | | Coordination | N Levy | |
| GIS Check | N Waldron | | Approved | J Fookes | |

| Scale at A3 | Status | Rev | Security |
|---|---|---|---|
| 1:600,000 | PRE | P2 | STD |

Drawing Number
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0 12.5 25 50 Kilometres

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