



# **Severn Corridor Abstraction Licensing Strategy**

A strategy to manage water resources sustainably

February 2020

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the [Defra](#) group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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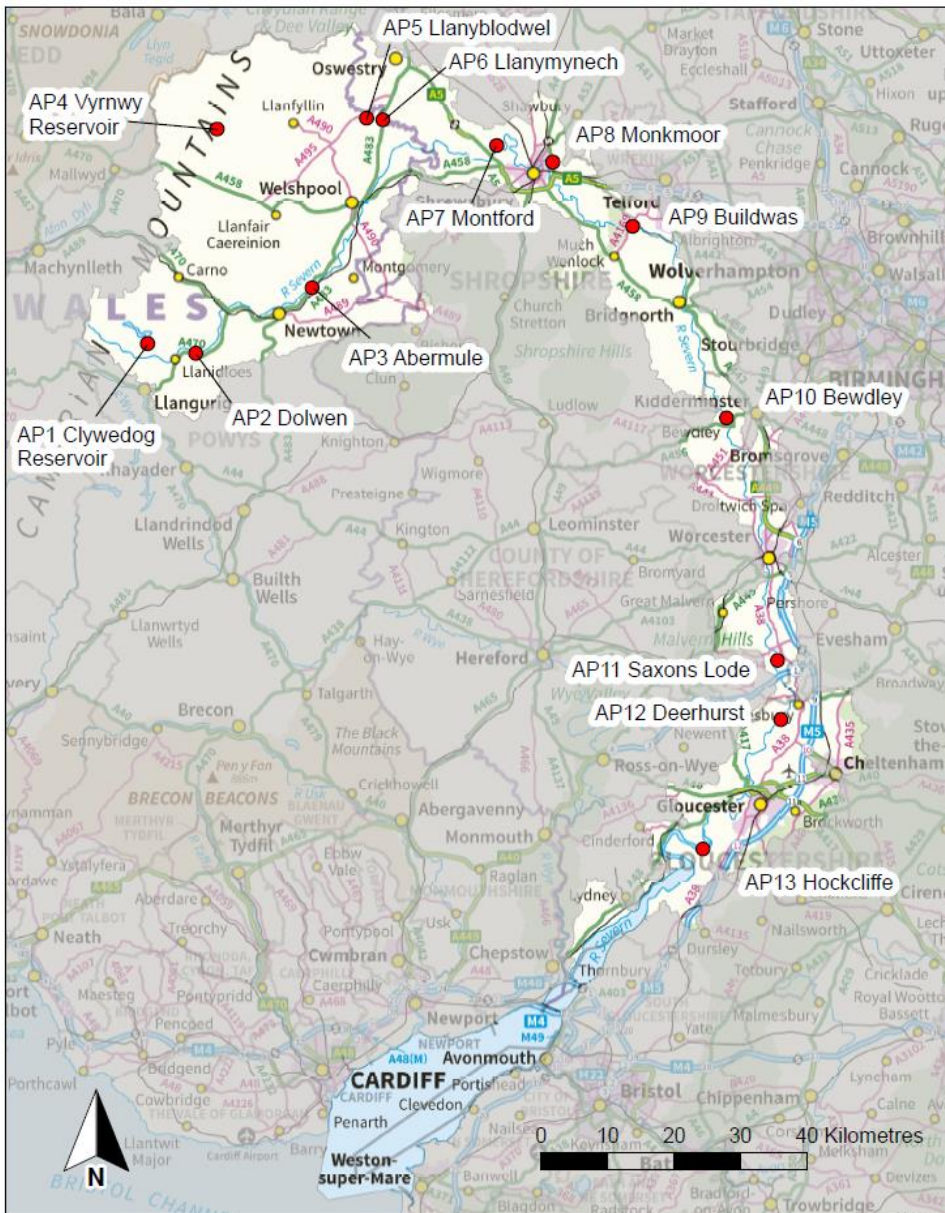
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# 1. About the licensing strategy

This strategy sets out our approach to managing new and existing [abstraction](#) and [impoundment](#) within the Severn Corridor [catchment](#) in the Severn river basin district.

The Severn Corridor Abstraction Licensing Strategy (ALS) covers the upper reaches of the River Severn catchment (including all of the upland tributaries) down to the point where it is joined by the River Perry to the north west of Shrewsbury. From here on it focuses on the River Severn itself and a number of smaller tributaries down to the Severn Estuary. The major tributaries such as the Tern, Stour, Teme and Avon are covered within separate ALS documents, although their tributary impacts are incorporated within the Severn Corridor resource assessment.

Map 1 The Severn Corridor area and [Assessment Points](#)



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● Assessment Points

Our approach ensures that River Basin Management Plan objectives for water resources activities are met and we avoid deterioration within this catchment.

We apply this approach to the [water body](#) in which the abstraction is located. It also applies to all downstream [surface water](#) bodies that may be affected by any reduction in abstraction-related flow, or adjacent [groundwater](#) bodies affected by any reduction in groundwater level.

Please see [Managing Water Abstraction](#) for the technical explanation, legal and policy requirements behind the Abstraction Licensing Strategy ([ALS](#)).

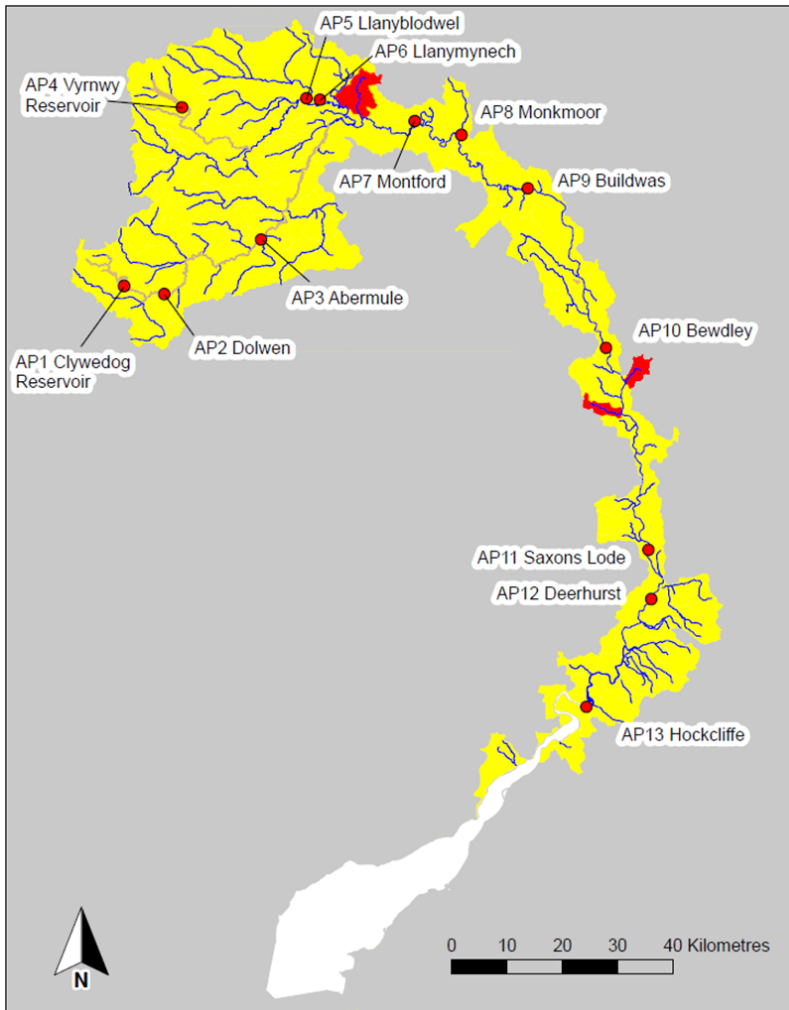
Please see [abstraction pages on gov.uk](#) for advice on who needs an abstraction or impoundment licence, and how to apply.

# 2. Water resource availability of the Severn Corridor ALS

## 2.1. Surface water resource availability

The water resource availability, calculated at four different flows, Q95 (the flow of a river which is exceeded on average for 95% of the time i.e. low flow), Q70, Q50, and Q30 (higher flow) for this ALS is presented and explained in Maps 2 to 5 and below.

Map 2 Water resource availability colours at Q95 for the Severn Corridor ALS.



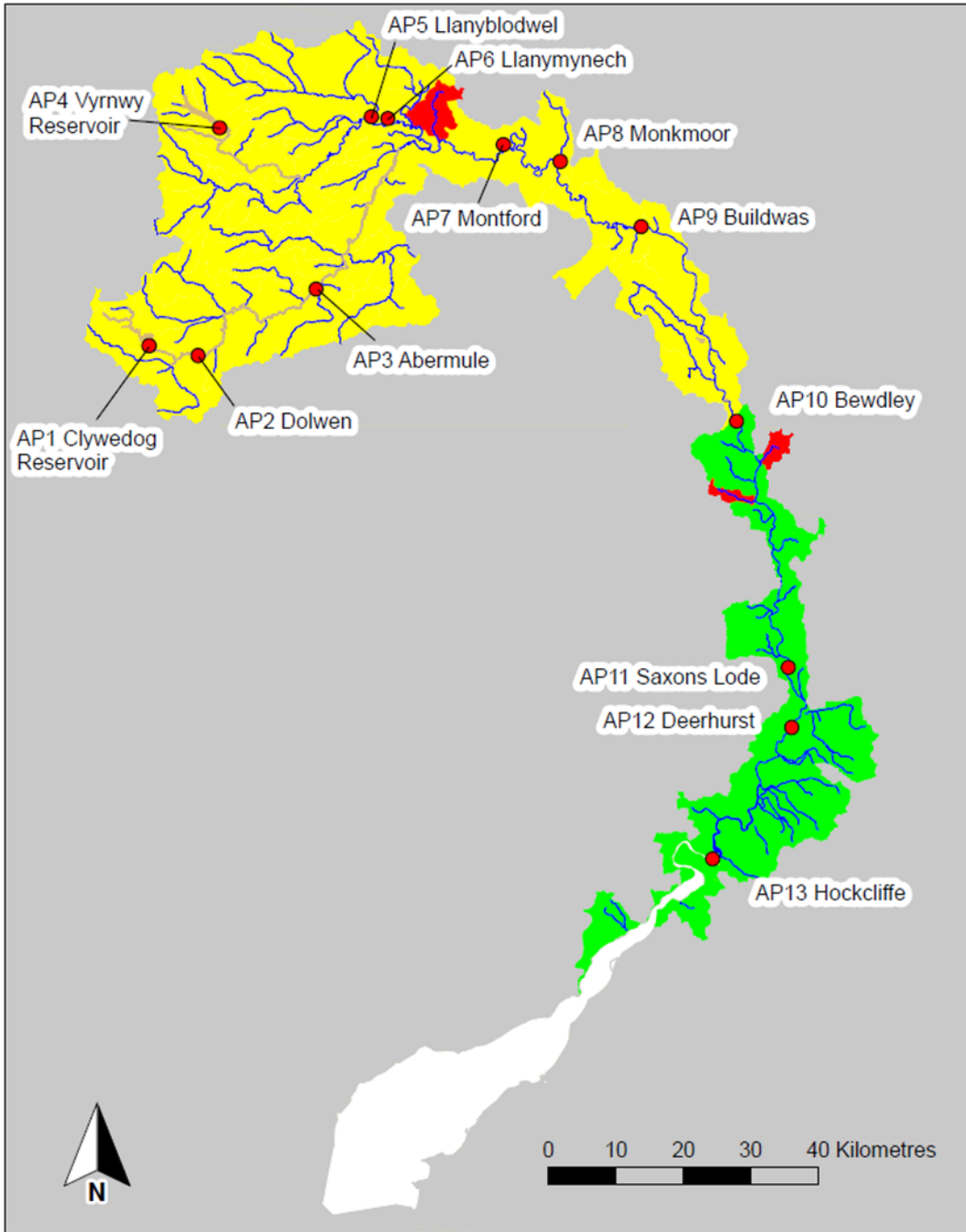
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- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Water Availability at Q95:

- Water available
- Restricted water available
- Water not available

Map 3 Water resource availability colours at Q70 for the Severn Corridor ALS.



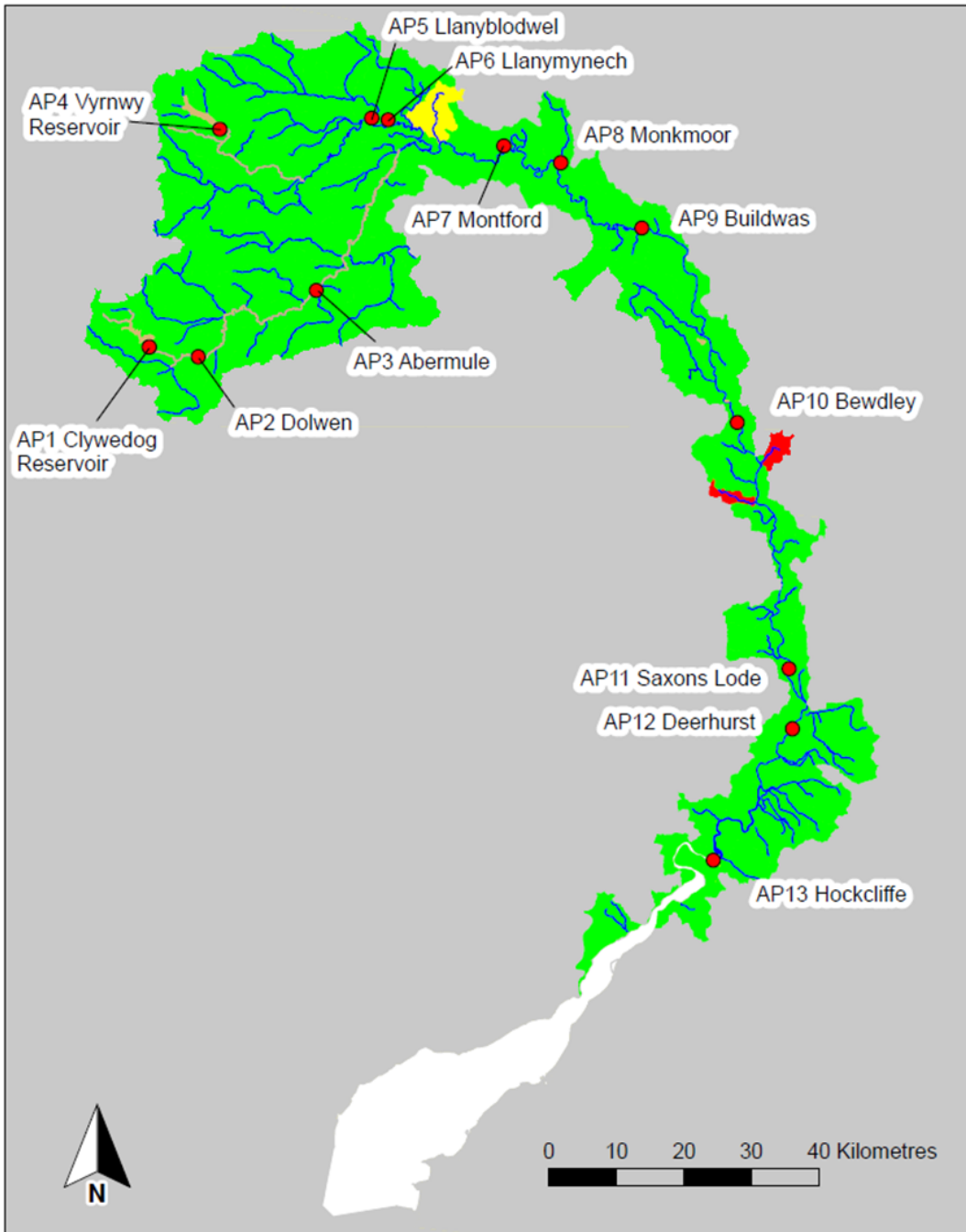
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- Assessment Points
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- Rivers

Water Availability at Q70:

- Water available
- Restricted water available
- Water not available

Map 4 Water resource availability colours at Q50 for the Severn Corridor ALS.

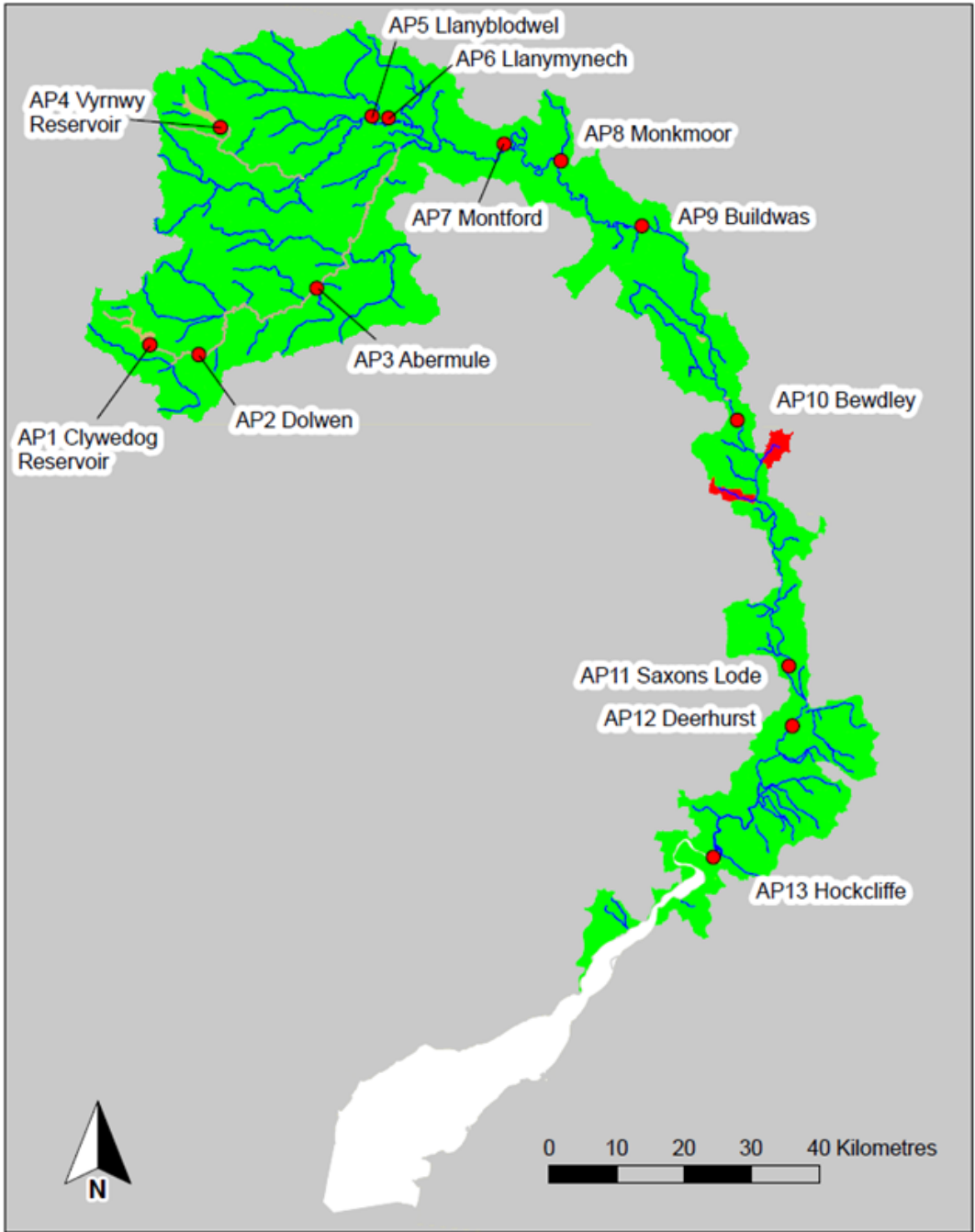


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- Assessment Points
  - Heavily Modified and Artificial Rivers
  - Heavily Modified Artificial lakes
  - Rivers
- Water Availability at Q50:
- Water available
  - Restricted water available
  - Water not available



Map 5 Water resource availability colours at Q30 for the Severn Corridor ALS



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- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Water Availability at Q30:

- Water available
- Restricted water available
- Water not available

## 2.1.1 Water resource availability colours and implications for licensing

### Water available for licensing

Green 

There is more water than required to meet the needs of the environment at the flows shown in maps 2 to 5.

New licences can be considered depending on local and downstream impacts. [Consumptive](#) licences will be issued with a [hands off flow](#) (HoF) restriction to protect environmental requirements at lower flows.

### Restricted water available for licensing

Yellow 

Full Licensed flows fall below the [Environmental Flow Indicators](#) (EFIs) at the flows shown in maps 2 to 5.

If all licensed water is abstracted at these flows there will not be enough water left for the needs of the environment. No new consumptive licences would be granted without a suitable [HoF](#) to protect the flows needed by the environment. It is likely we'll be taking action to reduce full licensed risks.

Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder. Please refer to Section 3.6.

### Water not available for licensing

Red 

Recent actual flows are below the EFI at the flows shown in maps 2 to 5.

This scenario highlights water bodies where flows are below the indicative flow requirement to help support a healthy ecology in our rivers. We call this 'Good Ecological Status' ([GES](#)) or 'Good Ecological Potential' ([GEP](#)) where a water body is heavily modified for reasons other than water resources.

We are currently taking action in water bodies that are not supporting GES or GEP. We will not grant further licences.

Water may be available if you can buy (known as licence trading) a volume equivalent to that recently abstracted by an existing local licence holder. Please refer to Section 3.6.

### Heavily Modified Water Bodies ([HMWBs](#)) (and/or [discharge](#) rich water bodies

These water bodies have a modified flow that is influenced by reservoir compensation releases or they have flows that are augmented. These are often known as 'regulated rivers'. They may be managed through an operating agreement, often held by a water company. The availability of water is dependent on these operating agreements.

There may be water available for abstraction in discharge rich catchments, you need to contact us to find out more.

## 2.2. Groundwater resource availability

In certain areas, resource concerns over groundwater mean that the standard water resource availability colours have been overridden. Section 2.2.1 explains the groundwater resource availability colours, and Map 6 shows these colours for groundwater management units (GWMUs) in the Severn Corridor area. Applications for new or varied groundwater abstraction areas outside of GWMUs will continue to be assessed on a case by case basis.

### 2.2.1 Groundwater resource availability colours and implications for licensing

#### Water available for licensing

Green 

Groundwater management unit balance shows groundwater is available for licensing. New licences can be considered depending on their impacts on other abstractors and providing there will be no significant impact on surface water flows, dependent wetlands, groundwater levels and they do not cause saline intrusions.

#### Restricted water available for licensing

Yellow 

Groundwater management unit balance shows more water is licensed than the amount available, but that recent actual abstractions are lower than the amount available OR that there are known local impacts likely to occur on surface water flows, dependent wetlands, groundwater levels or cause saline intrusions but with management options in place.

In restricted groundwater management units no new consumptive licences will be granted where the groundwater balance and/or surface water flows/groundwater dependent wetlands are at risk of becoming unsustainable as a result of existing licensed abstraction. It will be appropriate to take action to reduce fully licensed risks.

Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder. Please refer to Section 3.6.

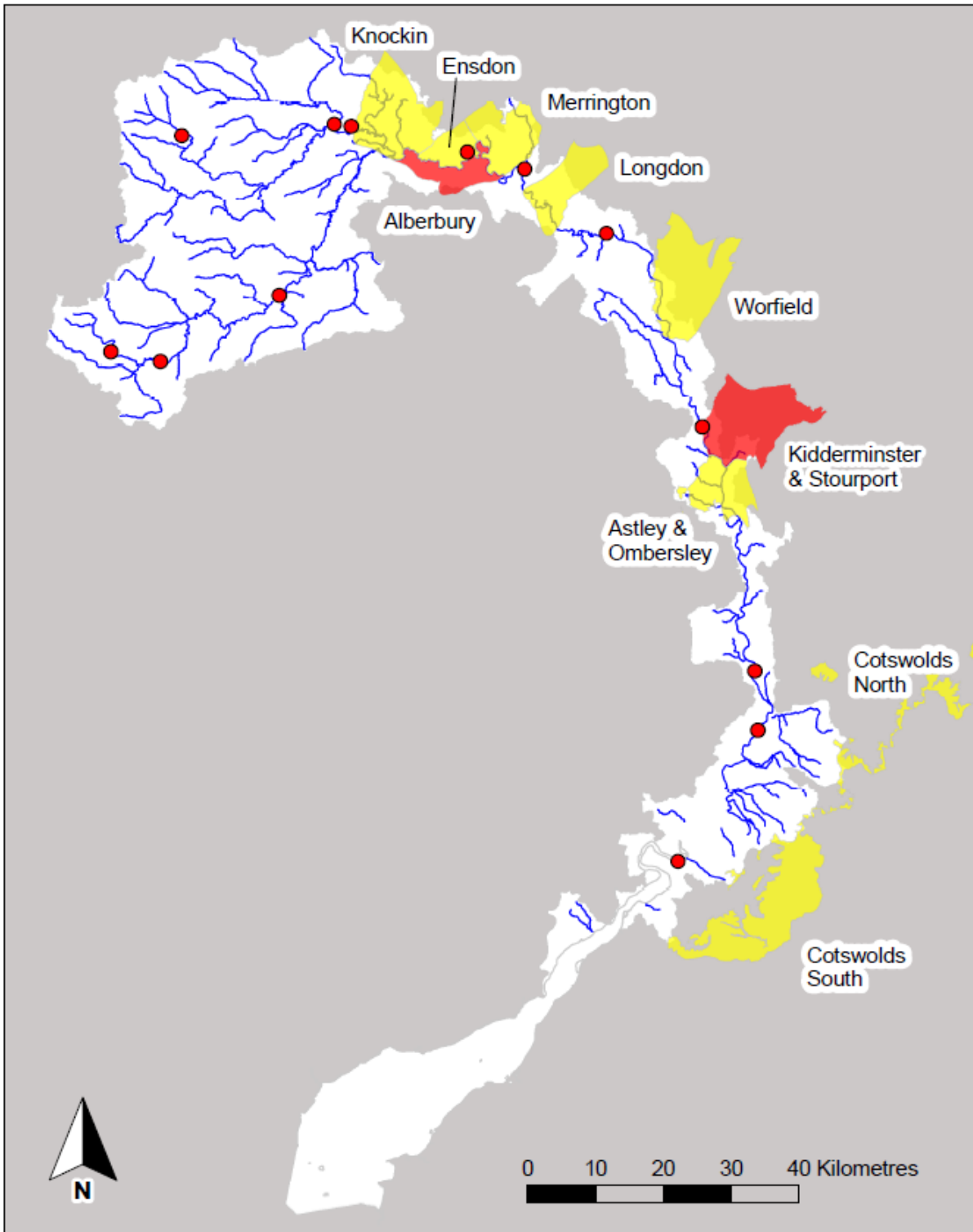
#### Water not available for licensing

Red 

Groundwater management unit balance shows more water has been abstracted based on recent amounts than the amount available.

We will not grant further consumptive licences. It will be appropriate to take action to reduce fully licensed risks. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder. Please refer to Section 3.6.

Map 6 Groundwater resource availability colours in the Severn Corridor



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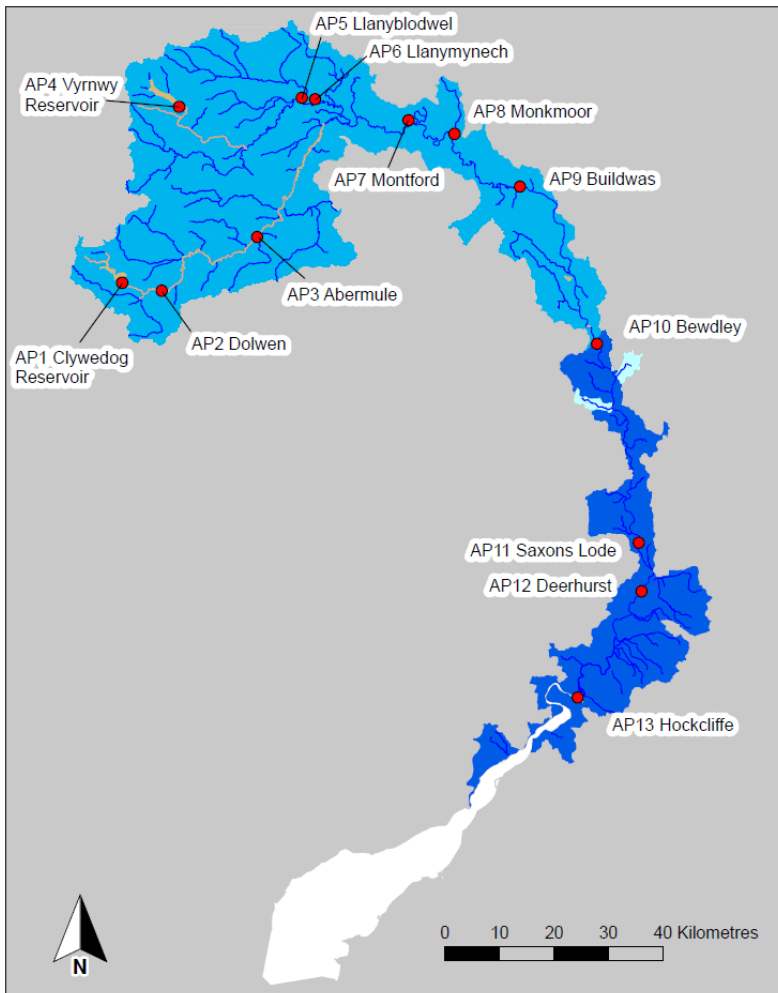
- Assessment Points
- Rivers
- Restricted water available GWMUs
- Water not available GWMUs

## 2.3. Resource reliability

If you want to apply for a licence, it's worth considering the reliability of your abstraction.

By assessing the quantity of water available at different flows it's possible to see when there is a surplus or deficit of water and the associated reliability of an abstraction. This is an indication only; actual reliability of a licence will be discussed when you apply.

Map 7 Water resource reliability for consumptive abstraction of the Severn Corridor ALS expressed as percentage of time available



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- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Percentage of the time additional consumptive resource may be available:

- Consumptive abstraction available less than 30% of the time
- Consumptive abstraction available at least 30% of the time
- Consumptive abstraction available at least 50% of the time
- Consumptive abstraction available at least 70% of the time
- Consumptive abstraction available at least 95% of the time

## 2.4. Other considerations for availability and reliability

We may have to add constraints to licences such as [hands off flow \(HoF\)](#) conditions to protect the environment and the rights of other abstractors. As a result, when we grant a licence, it doesn't mean that we guarantee a supply of water. These conditions specify that if the flow in the river drops below what's needed to protect the environment, abstraction must reduce or stop. So, in dry years, restrictions are likely to apply more often, which will affect the reliability of supply.

Whilst this document may say that water is available for abstraction, this doesn't guarantee that all applications will be successful. This is because we have to determine each application on its own merits, and local factors may mean we're either unable to grant a licence as applied for, or even at all.

New licences within an ALS are usually given a Common End Date ([CED](#)), which allows them to be reviewed at the same time. The next CED for this ALS is 31 March 2034 and the subsequent one is 31 March 2046.

## 2.5. Impoundments

Applications for impoundments will be dealt with on a case by case basis. More information may be found on our [water management web pages on gov.uk](#).

# 3. How we manage abstraction in the Severn Corridor ALS

## 3.1. Surface water assessment points

We assess surface water flows at [Assessment points \(APs\)](#), which are significant points on a river, often where two major rivers join or at a gauging station. APs cover multiple surface water bodies.

To protect the environment we will issue licences with a condition referred to as a hands-off flow (HoF). This specifies that if the flow in the river drops below that which is required to protect the environment abstraction must stop, hence 'hands off flow'.

Table 1 gives an indication of how much water is available for further abstraction at each AP and the HoFs and other associated restrictions applicable to new and varied [abstraction licences](#) from the main rivers. Tributaries to the main rivers may be subject to different restrictions and quantities and will be assessed locally on a case by case basis.

Each HoF is linked to an AP and is dependent on the resource availability at that AP. All abstraction licence applications are subject to an assessment to take account of any local and downstream issues. In some cases additional restrictions may apply to licences where there is a more critical resource availability downstream to protect the ecological requirements of the river.

Reading from top to bottom in Table 1 are the APs in the Severn Corridor ALS area. Reading across the columns you can see the water resource availability status, potential HoF that may be applied to a licence in each AP, the number of days water may be available under this restriction and the approximate volume of water that may be available in [Ml/d](#). Further information on any local conditions can be seen in the final column.

The conditions in Table 1 apply to new or varied [consumptive](#) abstractions and may not apply if the abstraction is non-consumptive (i.e. it doesn't result in a loss of water to any part of the catchment) or if the licence results in an overall environmental benefit.

To protect fish and eels we may also require the installation of a correctly-sized screen and/or fish pass.

Licences will be issued to the Severn Corridor Common End Date (CED) of 31st March 2034. A shorter time limit or changes to the licence conditions may be required where there are risks to the sustainability of catchments.

Any existing licence which the holder applies to have formally varied to increase the volume abstracted will be subject to the same conditions as new licences on the increased part of the licence only.

Licences due for renewal in this area will have a presumption of renewal, subject to meeting the renewal criteria (requiring the abstraction to be sustainable, justified and efficient) and local considerations. Renewals may be subject to minor changes including the addition of water efficiency conditions. We will endeavour to give six years notice if a licence will not be renewed or is to be renewed but on more restrictive terms. See Section 3.7.2.

Table 1 Summary of licensing approach for the assessment points of the Severn Corridor ALS.

| AP | Name                                   | Water Resource Availability              | HOF Restriction  | Average number of days per annum abstraction may be available | Approximate volume available at restriction (MI/d) | Additional information |
|----|--|--|--|---|--|------------------------|
| 1  | Afon Clywedog below Clywedog Reservoir | Restricted Water Available for Licensing | 2271 MI/d at Bewdley gauging station on the River Severn | 219   | See AP10   |                        |
| 2  | River Severn at Dolwen                 | Restricted Water Available for Licensing | 2271 MI/d at Bewdley gauging station on the River Severn | 219   | See AP10   |                        |
| 3  | River Severn at Abermule               | Restricted Water Available for Licensing | 2271 MI/d at Bewdley gauging station on the River Severn | 219   | See AP10   |                        |
| 4  | River Vyrnwy                           | Restricted Water                         | 224 MI/d at Llanyblodwel gauging                         | 219   | See AP5  |                        |

| AP | Name                        | Water Resource Availability              | HOF Restriction   | Average number of days per annum abstraction may be available | Approximate volume available at restriction (MI/d)            | Additional information   |
|----|-----------------------------|--|---|---|---|--|
|    | (below reservoir)           | Available for Licensing                  | station on the River Tanat                                  |   |   |  |
| 5  | River Tanat at Llanyblodwel | Restricted Water Available for Licensing | 224 MI/d  | 219   | 27.1 from the whole of the catchment upstream of Llanyblodwel | A lower restriction of 207 MI/d will apply when water company abstractions are reduced                     |
| 6  | River Vyrnwy at Llanymynech | Restricted Water Available for Licensing | 224 MI/d at Llanyblodwel gauging station on the River Tanat | 219   | See AP5   |  |
| 7  | River Severn at Montford    | Restricted Water Available for Licensing | 2271 MI/d at Bewdley gauging station on the River Severn    | 219   | See AP10  | Abstractions from the Weir Brook are likely to be restricted to higher flows due to ongoing investigations |
| 8  | River Severn at Monkmoor    | Restricted Water Available for Licensing | 2271 MI/d at Bewdley gauging station on the River Severn    | 219   | See AP10  |  |
| 9  | River Severn at Buildwas    | Restricted Water Available for Licensing | 2271 MI/d at Bewdley gauging station on the River Severn    | 219   | See AP10  | Abstractions from the Sundorne Brook will be assessed on a case-by-case basis due to the modified          |



| AP | Name                        | Water Resource Availability              | HOF Restriction  | Average number of days per annum abstraction may be available | Approximate volume available at restriction (MI/d)        | Additional information  |
|----|-----------------------------|--|--|---|---|---|
|    |                             |  |  |   |   | nature of the watercourse   |
| 10 | River Severn at Bewdley     | Restricted Water Available for Licensing | 2271 MI/d  | 219   | 131 from the whole of the catchment upstream of Bewdley   | A lower restriction of 2131 MI/d will apply when water company abstractions are reduced   |
| 11 | River Severn at Saxons Lode | Restricted Water Available for Licensing | 2568 MI/d at Deerhurst gauging station on the River Severn | 285   | See AP12  | Hartlebury Brook will be closed to further abstraction and abstractions from the Dick Brook and Shrawley Brook may be limited due to concerns over their sustainability |
| 12 | River Severn at Deerhurst   | Restricted Water Available for Licensing | 2568 MI/d  | 285   | 172 from the whole of the catchment upstream of Deerhurst | A lower restriction of 2428 MI/d will apply when water company abstractions are reduced   |
| 13 | River Severn at Hockcliffe  | Restricted Water Available for Licensing | 2568 MI/d at Deerhurst gauging station on the River Severn | 285   | See AP12  |   |

We are offering lower (less restrictive) [HoFs](#) which will be available to licence holders at times when Severn Trent Water’s Birmingham Resilience Licence is not being used. It is licensed to be used during the winter months but is unlikely to be used every year. The reduced HoFs would apply to the remainder of the year and in times of non-use. The lower HoFs offered will be:

- Bewdley: 2,131 MI/d
- Deerhurst: 2,428 MI/d
- Llanyblodwel: 207MI/d

As an alternative option to the HoFs set out in Table 1, licence holders may instead choose to obtain a licence up to 2MI/d with the following conditions:

- No HoF condition.
- A condition stating that the abstraction must cease when total regulation to the River Severn is greater than or equal to 500 MI/d.
- A time limit to 31 March 2024.
- A presumption of renewal on the basis that a HoF may be imposed on any renewed licence.

A review of this alternative option will be triggered when the total net quantity licensed after the implementation of this strategy reaches 50 MI/d. An overview of the regulation of the River Severn is given in Section 3.4 Heavily Modified Water Bodies. We can provide further advice and information if licence holders wish to investigate this option further.

### 3.2. Groundwater

Principal aquifers are designated as named groundwater bodies (GWB). We may divide GWB's into smaller groundwater management units (GWMU). In these cases we use the information and assessments on these units to determine water availability and licence restrictions.

Where groundwater abstractions directly impact on surface water flows, including reduction of base flow, the impact is measured at the surface water [AP](#). In these cases, restrictions may be applied to licences, such as Hands off Level ([HoL](#)) or [Hands off Flow](#) (HoF) conditions. The HoL is a groundwater level below which an abstractor is required to reduce or stop abstraction. The HoF is applied when flows fall below a certain rate in a connected watercourse.

Other restrictions may apply where availability is limited or to protect the environment, for example to prevent saline intrusion.

Table 2 Availability of groundwater and licence restrictions on groundwater abstraction in the Severn Corridor ALS area

| Groundwater body and Status  | Groundwater Management Unit | Resource Availability Colour and Licence restrictions on groundwater abstractions  |
|--|-----------------------------|--|
| Severn Uplands Permo-Triassic Sandstone Knockin<br>This groundwater body is considered to be at good | Knockin                     | Restricted water available for licensing.<br>No new consumptive abstractions will be granted.<br>Opportunities to reduce fully licensed risks will be taken where deterioration of surface water body status is a risk. In these |

| Groundwater body and Status  | Groundwater Management Unit                    | Resource Availability Colour and Licence restrictions on groundwater abstractions  |
|--|--|--|
| quantitative status but at risk of deterioration   |  | locations, time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.  |
| <p>Shropshire Middle Severn Permo-Triassic Sandstone East Shropshire</p> <p>This groundwater body is considered to be at poor quantitative status and at risk of deterioration</p> | Alberbury                                      | <p>Water Not Available for Licensing.</p> <p>No new consumptive abstractions will be granted.</p> <p>Opportunities to reduce fully licensed risks will be taken. Time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.</p>        |
| <p>Shropshire Middle Severn Permo-Triassic Sandstone East Shropshire</p> <p>This groundwater body is considered to be at poor quantitative status and at risk of deterioration</p> | <p>Ensdon</p> <p>Merrington</p> <p>Longdon</p> | <p>Restricted water available for licensing.</p> <p>No new consumptive abstractions will be granted.</p> <p>Opportunities to reduce fully licensed risks will be taken. Time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.</p> |
| <p>Worcestershire Middle Severn Permo-Triassic Sandstone</p> <p>This groundwater body is considered to be at poor quantitative status and at risk of deterioration</p>             | Kidderminster & Stourport                      | <p>Water Not Available for Licensing.</p> <p>No new consumptive abstractions will be granted.</p> <p>Opportunities to reduce fully licensed risks will be taken. Time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.</p>        |

| Groundwater body and Status   | Groundwater Management Unit                | Resource Availability Colour and Licence restrictions on groundwater abstractions  |
|---|--|--|
| <p>Worcestershire Middle Severn Permo-Triassic Sandstone</p> <p>This groundwater body is considered to be at poor quantitative status and at risk of deterioration</p>        | <p>Worfield<br/>Astley &amp; Ombersley</p> | <p>Restricted water available for licensing.</p> <p>No new consumptive abstractions will be granted.</p> <p>Opportunities to reduce fully licensed risks will be taken. Time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.</p>   |
| <p>Warwickshire Avon Jurassic Limestone Cotswold Edge North</p> <p>This groundwater body is considered to be at good quantitative status and not at risk of deterioration</p> | <p>Cotswold North</p>                      | <p>Restricted water available for licensing.</p> <p>Resources are available from this unit for further groundwater development. The unit covers many catchments and has a strong linkage with surface water. A HoF will be applied to new abstractions according to the surface water catchment influenced by the abstraction.</p> <p>Any application will be subject to the assessment of impacts on existing water users, groundwater dependent terrestrial ecosystems, surface water level and flow impacts, as we must ensure that no deterioration of the water environment is allowed to occur.</p> <p>Opportunities to reduce fully licensed risks will be taken where surface water body deterioration is a risk. In these locations, time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.</p> |
| <p>Severn Vale Jurassic Limestone Cotswold Edge South</p> <p>This groundwater body is considered to be good quantitative status and not at risk of deterioration</p>          | <p>Cotswold South</p>                      | <p>Restricted water available for licensing.</p> <p>Resources are available from this unit for further groundwater development.</p> <p>New groundwater licences from this unit will be granted with a HoF condition to be measured at Ebley Mill gauging station. The condition will offer the same level of protection as the surface water HoF on the River Frome as set out in the Severn Vale Abstraction Licensing Strategy. This is required as the surface water and</p>  |

| Groundwater body and Status | Groundwater Management Unit | Resource Availability Colour and Licence restrictions on groundwater abstractions  |
|-----------------------------|-----------------------------|--|
|                             |                             | <p>groundwater in this area is extremely well connected.</p> <p>Any application will be subject to the assessment of impacts on existing water users, groundwater dependent terrestrial ecosystems, surface water level and flow impacts, as we must ensure that no deterioration of the water environment is allowed to occur.</p> <p>Opportunities to reduce fully licensed risks will be taken where surface water body deterioration is a risk. In these locations, time limited licence renewals will require changes to reflect historic usage in order to manage the risk of future deterioration to the environment.</p> |

### Secondary Aquifers

New groundwater licence applications for abstraction from secondary aquifers will continue to be assessed on a case by case basis. Consideration will include potential impacts on existing water users, groundwater dependent terrestrial ecosystems, groundwater resources, surface water level and flow. We must ensure that no deterioration of the water environment is allowed to occur.

### 3.3. Coasts and estuaries

The Severn Estuary supports a wide array of habitats and species and is designated as a Site of Special Scientific Interest (SSSI), a Habitats Directive Special Protection Area (SPA) and Special Area of Conservation (SAC), and is included on the list of wetlands of international importance under the Ramsar Convention (Ramsar Site). The intertidal mudflats, sand banks, rocky platforms and salt marsh are among the largest and most important in Britain; supporting internationally important populations of waterfowl, invertebrate populations of considerable interest and large populations of migratory fish including Atlantic salmon, sea trout, allis and twaite shad, sea and river lamprey and European eels.

The Estuary receives a significant proportion of its flow from the River Severn catchment, and as we have an obligation to protect all Habitats Directive sites, this means that the River Severn and all of its tributaries must be managed using appropriate flow restrictions to protect the environmental needs of the Estuary. All the HoFs to be applied to new or upwardly varied surface water licences granted on the River Severn and its tributaries are equal to or more restrictive than the flow required by the estuarine ecology.

### 3.4. Heavily modified water bodies

Upstream of Bewdley, the Rivers Severn and Vyrnwy are designated as Heavily Modified Water Bodies (HMWBs), due to the impact from the River Severn regulation system, which influences the flow regime of the rivers. This regulation system is designed to meet the water resource demands of abstractors on the river, while maintaining an acceptable flow

for the purposes of fisheries, conservation, recreation, navigation, effluent dilution and other 'in-river' uses. The legislation concerning the regulation system was established in 1963, when it was anticipated that the amount of water that people wanted to abstract from the river, principally for public water supply, could be greater than the river could provide, particularly during dry years. The resulting Act of Parliament enabled the construction of Clywedog Reservoir to regulate the flow of the River Severn to maintain a statutory minimum flow of the River Severn and meet the needs of abstraction in the river. The control point for river regulation is located at Bewdley in the middle reaches of the Severn. Following the exceptional drought in 1976, the Act was varied so that the maintained flow is now 850 MI/d averaged over a 5 day period and a minimum of 650 MI/d on any single day. During very dry summers the flow at Bewdley may fall below these values when river regulation reaches a prescribed maximum value.

The droughts of the 1970s confirmed that the available resources of Clywedog Reservoir would be insufficient to fully meet the increased future demands for water from the River Severn. Investigations were carried out into the possibility of developing a scheme to pump groundwater from the Sherwood Sandstone Aquifer in Shropshire to support the flow of the River Severn. After several years of research and a five week public enquiry, the Secretary of State for the Environment formally approved the Shropshire Groundwater Scheme (SGS) in October 1981. In addition a small proportion of the storage of Lake Vyrnwy (principally used to provide water supplies to Merseyside) is used for river regulation. Rules set out how much water should be released from each regulation source to support flows in the River Severn. They also give detailed guidelines on the day to day operation of Clywedog Reservoir and Lake Vyrnwy in conjunction with the Shropshire Groundwater Scheme.

### 3.5. Protected areas

UK law provides a very high level of protection to two types of designated sites, these are also referred to as Habitats Directive sites due to their special environment. These are:

- Special Areas of Conservation ([SAC](#)), which contribute to biodiversity by maintaining and restoring habitats and species;
- Special Protection Area ([SPA](#)), which provides protection to birds and their nests, eggs and habitats.

Ramsar sites and Sites of Special Scientific Interest ([SSSI](#)) also carry a high level of environmental importance.

All applications for abstraction licences will be assessed in relation to their direct and indirect impacts on protected areas. If an abstraction is deemed to potentially impact a protected area, the licence (if granted) may be conditioned with local, site specific restrictions to ensure the protected area is not impacted. These conditions may be more restrictive than the strategy outlined throughout this document.

Table 3 lists the water related environmentally designated sites in this ALS.

Table 3: Important local features that may affect water availability

| Feature   | Site name   |
|---|---|
| Water related Sites of Special Scientific Interest (SSSI) | Including: Ashleworth Ham, Ashmoor Common, Badgeworth, Bryn Coch, Buildwas River Section, Coombe Hill Canal, Granllyn, Grimley Brick Pits, Innsworth Meadow, Malvern Hills, Montford River Section, Montgomery Canal, Northwick Marsh, Old River Severn Upper Lode, Pistyll Rhaeadr, Severn Ham Tewkesbury, Trwstllewellyn, Upper Severn Estuary, Upton Ham, Walmore Common |
| Water related Special Area of Conservation (SAC)          | Berwyn a Mynyddoedd de Clwyd/ Berwyn and South Clwyd Mountains<br>Granllyn<br>Montgomery Canal<br>Upper Severn Estuary  |
| Water related Special Protection Area (SPA)               | Berwyn a Mynyddoedd de Clwyd/ Berwyn and South Clwyd Mountains<br>Granllyn<br>Montgomery Canal<br>Walmore Common<br>Upper Severn Estuary  |
| Water related Ramsar site                                 | Parts of Midlands Mosses and Meres<br>Walmore Common<br>Upper Severn Estuary  |

## The Severn Estuary

The Severn Estuary is designated as a Site of Special Scientific Interest (SSSI), a Habitats Directive Special Protection Area (SPA) and Special Area of Conservation (SAC), and is included on the list of wetlands of international importance under the Ramsar Convention (Ramsar Site). For further information see Section 3.3. Coasts and Estuaries.

## 3.6. Water rights trading

We want to make it easier to trade water rights. A water rights trade is where a person sells all or part of their water right, as defined by their abstraction licence(s), to another person on a permanent or temporary basis. In the majority of cases a trade will involve a change in abstraction location and/or use which we will need to approve through the issue or variation of abstraction licences.

In licensing trades, as with new abstraction licences, we need to make sure that we don't cause any deterioration in water body status both within the water body / bodies where the trade will take place and to downstream water bodies. The section below provides a guide to the potential for trading in water bodies of a particular ALS water resource availability colour, as shown on maps 2 to 5.

To find out more about licence trading please go to our [water management web pages on gov.uk](http://www.gov.uk)

## Guide to potential water rights trading in the Severn Corridor ALS

### Water available for licensing

Green 

Allow trades of recent actual abstraction and licensed abstraction, but little demand for trading expected within water body as water available for new abstractions.

### Restricted water available for licensing

Yellow 

There may be opportunities for licence holders to trade up to their full licensed quantities, but the quantities of water available to trade may be restricted once levels of actual abstraction reach sustainable limits. We will not permit licence trades in water bodies/groundwater management units where we are taking action to prevent deterioration unless the trade is consistent with achieving water body objectives.

### Water not available for licensing

Red 

We will only trade up to recent actual abstraction as no increase in recent actual abstraction is permitted in these water bodies/groundwater management units. Licensed abstraction will be recovered for the environment.

### HMWBs

Grey 

Opportunities for trading will depend on local operating agreements and local management.

## 3.7. Taking action on unsustainable abstraction

### 3.7.1 Action being taken on unsustainable abstraction in the Severn Corridor ALS

We will take action to tackle unsustainable abstraction from surface water and groundwater, to ensure that we support good ecological status and manage the risk of deterioration.

#### Revocation for non-use / reduction of under used licences

We will continue to target unused and under used licences in the ALS to look to reduce licensed abstraction which is not being used. This helps to reduce the risk of future deterioration and may release unused water for future licensing.

#### Changes to time limited licences

During the renewal process we will take into account the current licence conditions, the status of the water body or groundwater management unit, past licence use and water efficiency when deciding if changes are required. Our approach will depend on whether it is a surface water or a groundwater abstraction, and the water availability status.

Licences will be reissued on the same terms to the Severn Corridor Common End Date (CED) of 31st March 2034 where:

- renewal of the licence does not pose a risk of deterioration in ecological or any other status;
- the quantities are justified and;



- the water is used efficiently.

A shorter time limit or changes to the licence conditions may be required where there are risks to the sustainability of catchments. See Section 3.7.2 for more information.

### **Water Industry National Environment Programme (WINEP) and Asset Management Plans**

Through these programmes we work with the water companies to investigate and deliver environmental improvements which are needed to meet Water Framework Directive and national targets.

### **Restoring Sustainable Abstraction (RSA)**

This is the Environment Agency's programme of work to review unsustainable abstraction. Where water abstractions cause or potentially cause actual flows to fall short of the EFIs and result in environmental damage, we have been changing or revoking existing abstraction licences in order to achieve a sustainable abstraction regime.

### **Serious Damage**

There are currently five Water Framework Directive (WFD) surface waterbodies within the Severn Corridor ALS that have been identified as being at risk of Serious Damage. In order to be classified as being at Serious Damage a water body must meet the following 3 criteria:

- Be identified as being Band 3 non-compliant for flow. This means that they are experiencing severe levels of abstraction pressure causing recent actual flows to fall into deficit against the EFI.
- Have an overall WFD status of less than 'Good',
- Have the abstraction of water and subsequent low flows confirmed as the reason, or contributing to the reason, for not achieving 'Good' WFD status.

New applications for abstraction from waterbodies that are classified as being at, or at risk of, Serious Damage will be assessed on a case by case basis, to ensure that no deterioration of the water environment is allowed to occur.

More information on these programmes is available in our Abstraction Plan on gov.uk <https://www.gov.uk/government/publications/water-abstraction-plan-2017/water-abstraction-plan-environment>.

### **3.7.2 Guide to renewing time limited licences based on water resource availability colour**

If you wish to discuss the renewal of your current licences then please contact our National Permitting Service. Our approach will depend on whether it is a surface water or a groundwater abstraction, and the water availability status.

There is a presumption of renewal for time limited licences, subject to the three renewal criteria (environmental sustainability, continued justification of need and efficient use of water) and local considerations.

Water availability colours for surface water can be found on maps 2 to 5, and for each Groundwater Management Unit on map 6.

## Surface water abstraction licences

Surface water licences will be renewed on the following broad principles around environmental sustainability:

### Water available for licensing

Green 

We will consider renewing the licence at the same quantities, subject to the renewal criteria, when the waterbody, and downstream waterbodies, have environmentally sustainable rates of water abstraction both now and at times when abstractors take their full licensed quantities of water.

### Restricted water available for licensing

Yellow 

On renewal of abstractions in waterbodies where full licensed flows have fallen below the EFI, we may seek to reduce unused portions of licensed quantities to reduce the risk of surface water bodies becoming unsustainable at fully licensed rates of abstraction or the ecology deteriorating compared to the River Basin Management Plan (RBMP) 2015 baseline.

### Water not available for licensing

Red 

These surface water bodies are already subject to unsustainable rates of abstraction so we will need to renew the licences with measures to help restore that waterbody to a sustainable level of abstraction.

On renewal, time limited licences may be capped at historic maximum abstraction. This will reduce the risk of abstraction from surface water bodies becoming increasingly unsustainable at fully licensed rates of abstraction or the ecology deteriorating compared to the River Basin Management Plan (RBMP) 2015 baseline. We will also consider more restrictive terms and conditions such as hands off flow/level conditions.

Where measures are still under investigation, then a licence would be renewed with a cap at historic maximum uptake and may be time-limited to an earlier date.

## Groundwater abstraction licences

Unsustainable groundwater abstraction and the resulting environmental impacts are largely associated with the principal sandstone aquifers, in this case the Worcestershire Middle Severn Permo-Triassic Sandstone Groundwater Body, the Shropshire Middle Severn Permo-Triassic Sandstone East Shropshire Groundwater Body and related groundwater management units. As a result of historical licensing, the groundwater resource balance is unsustainable on a Groundwater Body and Groundwater Management Unit scale, resulting in level and flow impacts on groundwater, surface water and wetland systems. These groundwater bodies are therefore considered to be at overall poor quantitative status and at risk of deterioration. We will take opportunities to reduce fully licensed risks.

The Severn Uplands Permo-Triassic Sandstone Knockin groundwater body also partially falls within the Severn Corridor ALS area. This groundwater body is considered to be at good status but at risk of deterioration. We will take opportunities to reduce fully licensed risks where there is potential for deterioration of surface water bodies.

Individual Groundwater Management Unit status and water availability is discussed in Section 3.2.

Groundwater licences will be renewed on the following broad principles around environmental sustainability:

### **Water available for licensing**

Green 

We will consider renewing the licence at the same quantities when the groundwater body/groundwater management unit, overlying rivers and associated wetland habitats have environmentally sustainable rates of water abstraction both now, and at times when abstractors take their full licensed quantities of water.

### **Restricted water available for licensing**

Yellow 

If the groundwater/surface water bodies and/or groundwater management unit in which the groundwater abstraction sits are at risk of deterioration, time limited renewals may require licence changes to reflect historic usage in order to manage the risk of deterioration i.e. reduce fully licensed risk.

### **Water not available for licensing**

Red 

If the groundwater/surface water bodies and/or groundwater management unit in which the groundwater abstraction sits are already subject to unsustainable rates of abstraction, we will need to renew the licence with measures to help restore a more sustainable level of abstraction. These measures could be licence quantity reductions or Hands off Flow/level conditions. Where 'water body' scale measures are still under investigation, then licence changes to reflect historic usage and a short time-limit will be applied. Requirements for any further licence changes (reductions, HoFs etc.) can then be assessed on the subsequent renewal.

## **3.7.3 Current schemes tackling unsustainable abstraction in the Severn Corridor area**

### **Weir Brook Waterbody**

Groundwater abstraction has been found to be contributing to depleted flows in the Weir Brook, a tributary of the River Severn upstream of Shrewsbury. To supplement the flows in the brook Severn Trent Water Limited discharge a compensation flow from a borehole at Kinnerley into the Weir Brook when flows fall below a trigger level stipulated to protect the watercourse's ecology.

### **Dick Brook Waterbody**

Severn Trent Water Limited will be carrying out investigations under the Water Industry National Environment Programme to look at the risk of future deterioration of this waterbody which could be caused by any growth of abstraction at Astley. This will enable the deterioration to be prevented or mitigated against.

### **Hartlebury Brook Waterbody**

Work carried out under the Water Industry National Environment Programme has shown that groundwater abstraction is contributing to low water levels in the bog at Hartlebury Common and Hilditch SSSI. A new compensation borehole has been drilled by Severn Trent Water Limited and feasibility work looking at improving water levels in the SSSI by way of a new augmentation scheme will be progressed under the Asset Management Plan 7.

### 3.8. Regulating previously exempt abstraction

As the abstraction licensing system in England and Wales developed over the past 50 years, certain abstractions remained lawfully exempt from licensing control. This meant that those exempt abstractions could potentially take unlimited amounts of water, irrespective of availability and without regard to impacts on the environment or other abstractors.

Following two public consultations Government introduced new Regulations which took effect from 1st January 2018. The Water Resources (Transitional Provisions) Regulations 2017 removed the majority of previous exemptions from licensing control and those previously exempt abstractors will now require a licence to lawfully abstract water.

The main activities affected are:

- transferring water from one inland water system to another in the course of, or as the result of, operations carried out by a navigation, harbour or conservancy authority;
- abstracting water into internal drainage districts;
- dewatering mines, quarries and engineering works, except in an emergency;
- warping (abstraction of water containing silt for deposit onto agricultural land so that the silt acts as a fertiliser);
- all forms of irrigation (other than spray irrigation, which is already licensable), and the use of land drainage systems in reverse (including transfers into managed wetland systems) to maintain field water levels;
- abstracting within currently geographically exempt areas, including some rivers close to the borders of Scotland; and
- abstractions covered by Crown and visiting forces (other than Her Majesty the Queen and the Duchies of Cornwall and Lancaster in their private capacity).

Where we have details of these abstractions, we've included them in our assessments to consider how they impact on the catchment.

## 4. List of abbreviations

### **ALS**

Abstraction Licensing Strategy.

### **AP**

Assessment Point.

### **CED**

Common End Date.

### **Defra**

Department of Environment Food and Rural Affairs.

### **EFI**

Ecological Flow Indicator.

### **GEP**

Good Ecological Potential.

### **GES**

Good Ecological Status.

### **GW**

Groundwater.

### **HMWB**

Heavily Modified Water Body.

### **HoF**

Hands off Flow.

### **HoL**

Hands off Level.

### **MI/d**

Megalitres per day.

### **SAC**

Special Areas of Conservation.

### **SPA**

Special Protection Areas.

### **SSSI**

Sites of Special Scientific Interest.

### **UKTAG**

United Kingdom's Technical Advisory Group.

### **WB**

Water body.

# 5. Glossary

## **Abstraction**

Removal of water from a source of supply (surface or groundwater).

## **Abstraction licence**

The authorisation granted by the Environment Agency to allow the removal of water.

## **Assessment point**

A significant point on a river, often where two major rivers join or at a gauging station.

## **Catchment**

The area from which precipitation and groundwater will collect and contribute to the flow of a specific river.

## **Consumptive abstraction**

Abstraction where a significant proportion of the water is not returned to the source of supply after use. For example for the use of spray irrigation.

## **Discharge**

The release of substances (for example, water, treated sewage effluent) into surface waters.

## **Environmental flow indicator**

Flow indicator to prevent environmental deterioration of rivers, set in line with new UK standards set by [UKTAG](#).

## **Groundwater**

Water that is contained in underground rocks.

## **Hands off flow**

A condition attached to an abstraction licence which states that if flow (in the river) falls below the level specified on the licence, the abstractor will be required to reduce or stop the abstraction.

## **Impoundment**

A structure that obstructs or impedes the flow of inland water, such as a dam, weir or other constructed works.

## **Surface water**

This is a general term used to describe all water features such as rivers, streams, springs, ponds and lakes.

## **Water body**

Units of either surface water or groundwater which we use to assess water availability.

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