



Soar

Abstraction Licensing Strategy

A strategy to manage water resources sustainably

August 2020

LIT 2646

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Published by:

Environment Agency
Horizon House, Deanery Road,
Bristol BS1 5AH

www.gov.uk/environment-agency

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1. About the licensing strategy

This strategy sets out our approach to managing new and existing water [abstraction](#) and [impoundment](#) licensing within the Soar [catchment](#) in the Humber river basin district. It provides information about where water is available for further abstraction and how reliable a new abstraction licence may be. The following sub-sections provide further information about our licensing approach as well as an introduction to the Soar Abstraction Licensing Strategy ([ALS](#)) area.

We apply this approach to the [water body](#) in which the abstraction is located. Water bodies are sub-catchment surface water units or groundwater units on which we carry out assessments and map results. 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 [ALS](#).

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

1.1. Water abstraction licensing principles and process

Our licensing approach ensures that River Basin Management Plan (RBMP) objectives for water resources activities are met and we avoid deterioration within this catchment in line with the Water Framework Directive (WFD). WFD seeks environmental objectives of protecting and enhancing the water environment and ensuring the sustainable use of water resources for economic and social development. The ALS sets out how we will manage the water resources of a catchment and contribute to implementing the WFD.

The document [Managing Water Abstraction](#) outlines the over-arching principles that we follow in managing our water resources. How we apply these principles in the Soar ALS area is outlined in this section. If you want to abstract water it outlines where water is available for further abstraction and the principles we follow in assessing your application for a licence.

Abstraction licence application process

Anyone wanting to take more than 20 m³/day (4,400 gallons) water from a source of supply (i.e. river, stream, lake, well, groundwater, etc.) must have an abstraction licence. In dealing with abstraction applications we may require the application to be advertised and may require supporting environmental information. When considering the application we check that the quantities applied for and the purpose of the abstraction are reasonable, that there is sufficient water available to support it and that the potential impacts on the environment and other water users are acceptable. Depending on the outcome of our investigations we will issue a licence either as applied for, or with conditions that restrict the abstraction to protect the environment or rights of other users. In certain cases we may have to refuse the application. Any applicant who is not happy with our decision has the right to appeal against it.

Applying for impoundment

Applications for impoundments will be dealt with on a case-by-case basis. An impoundment is a dam, weir or other constructions in an inland waterway that obstructs or impedes flow and/or raises water levels.

Applying for hydropower

Water abstraction for hydropower schemes is non-consumptive, with almost all water used returned to the watercourse. Maximum abstraction volumes are determined in line with the Environment Agency's Hydropower Good Practice Guidelines and based on the assessment of environmental risk for each scheme (please see [Hydroelectric power schemes: application](#) for further information in regard to applying for abstraction for hydropower).

1.2. Abstraction considerations

Each application is determined on its own merits

Whilst this document may say that water is available for further abstraction, this does not guarantee that all applications will be successful. We will determine each application upon its own merits and any local impacts. This may mean we are either unable to grant a licence as applied for, or even at all.

Water resources reliability

It is important to understand that when we issue a licence we do not guarantee the supply of water at all times. We have to protect the environment and rights of other abstractors. To do this we may add constraints to licences. Licence holders need to understand the implications of this as it affects the reliability of supply. For example, in drier years it is more likely that conditions will come into effect and abstraction is more likely to be stopped.

Abstractions are managed to protect the environment

We assess the impacts of new applications for water to make sure that complying with the WFD the resultant river flows will maintain a good ecology or if the ecology is not good, will not deteriorate the ecology of our rivers further. If the water body is of high hydrological regime, we need to make sure that the river flows will maintain the near pristine condition of the water body.

We will also take action if necessary to limit the increase in current abstraction when we think this will lead to deterioration of the ecology or the near pristine condition of our high hydrological regime water bodies. This is to ensure compliance with the WFD.

1.3. Abstraction restrictions

When issuing a licence we have to protect the environment and rights of other abstractors. To do this we may add conditions to licences. These could be limitations on the time of year when abstraction can take place and the period of time a licence is valid, as explained below.

Hands off flow (HoF) and hands off level (HoL) conditions

To protect the environment and the right of other abstractors we may issue a licence with conditions referred to as '[hands off flow](#)' (HoF) and / or '[hands off level](#)' (HoL) to respectively protect surface water and groundwater resources. These specify that if the flow in the river or groundwater level drops below that which is required to protect the environment, abstraction must stop. As a result, when we grant a licence, it does not mean that we guarantee a supply of water. Therefore, in dry years, restrictions are likely to apply more often, which will affect the reliability of supply.

See section 3.1 for details relating to licence restrictions within the Soar catchment.

Time limited licences

In recognition of changing pressures on water resources all new licences and variations to existing licences (other than downward variations or minor variations having no environmental impact) will have a time limit imposed. This allows for the periodic review and changes to abstraction licences where circumstances have changed since the licence was granted.

All new licences within an ALS area have a common end date ([CED](#)) so they can be reviewed at the same time. The normal duration of a licence is usually 12 years. When an application is made within six years of the CED, we will generally apply the subsequent CED to any licence granted. This is to avoid issuing shorter and shorter duration licences as the CED approaches. However, where we are uncertain about the long term impacts of an abstraction we will grant a short term licence during which time potential impacts are monitored. We have the discretion to apply short or long time limits to a licence and this will be done on a case by case basis, following discussion between the applicant and ourselves. Additional information about the replacement of time limited licences is available in [Managing Water Abstraction](#).

See section 2.5 for such conditions in the Soar catchment.

This strategy was finalised in March 2020 and it supersedes the strategy issued in February 2013.

1.4. An overview of the Soar catchment

The Soar catchment is a significant tributary of the River Trent. The catchment of the River Soar covers an area of approximately 1,380 km², covering much of the county of Leicestershire, together with small areas of south Nottinghamshire and north east Warwickshire. Located near the centre of the catchment, the principle urban area is the City of Leicester, with a population of approximately 330,000 (source: Office for National Statistics, 2011 Census). Other significant towns include Wigston, Melton Mowbray, Loughborough and Kegworth (Map1).

Sources of water across the Soar catchment

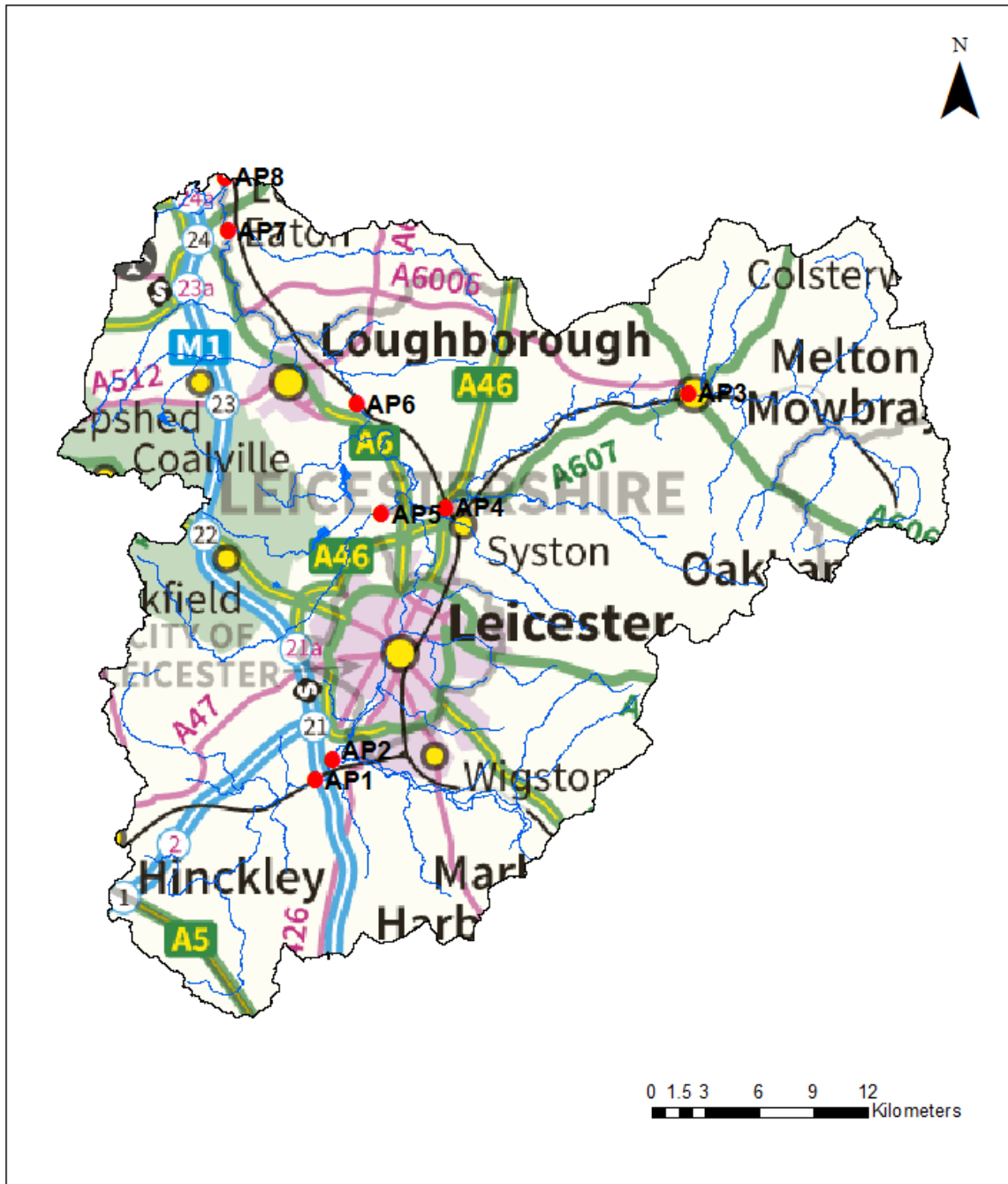
From its source, south east of Hinckley, the River Soar follows a northerly course towards its confluence with the River Trent near Ratcliffe on Soar, south west of Nottingham. There are a number of important tributaries, including the rivers Sence and Wreake and

the Rothley, Black and Kingston brooks. The Charnwood Reservoir Group, located in the north west of the catchment, includes Cropston, Swithland, Thornton, Blackbrook and Nanpantan reservoirs. With the exception of Nanpantan, these water-bodies are impounding reservoirs, with legal agreements requiring compensation discharges to be made from Thornton Reservoir to the Rothley Brook and from Blackbrook Reservoir to the Black Brook, maintaining flow downstream of the dams.

There are limited sources of groundwater (aquifers) across the Soar catchment. The Environment Agency classifies aquifers as principal, secondary and unproductive strata. Secondary aquifers hold less significant water resources. The geology of the Soar CAMS area is dominated by impermeable clays and marls with limited areas of permeable rocks that provide exploitable groundwater resources. In the north west of the catchment there are some limited outcrops of Sherwood Sandstone, classified as a 'principal' aquifer. Although not viewed as 'strategic' or regionally significant, these can provide locally important groundwater sources, as does the pre-Cambrian strata of this area of the catchment. More widespread through the river corridors of the catchment are alluvial sand and gravel deposits, although the extent and depth of these superficial deposits can be limited.

The River Soar is predominantly a lowland watercourse, rising in the south west of the catchment. The rivers Sence, Eye, Wreake and Kingston Brook all drain typically rolling wolds countryside. However, Charnwood, in the west of the catchment, rises to 250 metres above sea level, with an upland heathland environment contrasting against the gentle rolling open farmland of the surrounding clay areas of the Leicestershire wolds. The pre-Cambrian, solid geology of the upland area generated a favourable location for the construction of the reservoirs during the nineteenth century for public water supply to Leicester. The Rothley, Quorn and Black brooks drain this area.

There are few water resource pressures within the Soar catchment as the vast majority of public water supply is imported from neighbouring catchments. There are a number of public water supply reservoirs in the west of the catchment. Many of these reservoirs have been designated SSSIs by Natural England. There is very little strategically important groundwater licences.



Legend

- Assessment Points
- Rivers
- Lakes

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Map 1. The catchment of the River Soar including the network of major rivers and the location of major cities across it.

2. Water resource availability of the Soar ALS area

2.1. Resource assessment

Resource assessment is at the heart of abstraction management. To manage water effectively we need to understand how much and where it is available, and how much the environment and existing abstractors need. We have a monitoring network to measure river flows and groundwater levels. We use these data along with our knowledge of human influences and environmental needs to establish a baseline of water availability for each water body that builds into a picture for the catchment. The main components of this assessment that help us to understand the availability of water resources are:

- The Environmental Flow Indicator (EFI); a resource allocation for the environment defined as a proportion of natural flow
- The Fully Licensed (FL) scenario; the situation if all abstraction licences were being used to full capacity
- The Recent Actual (RA) scenario; the amount of water which has actually been abstracted on average over the previous six years

River flows change naturally throughout the year, so we want to protect flow variability in our rivers from low to high flow conditions. We use flow statistics to help to do this. Flow statistics are expressed as the percentage of time that flow is exceeded. Resource availability is 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). This information gives a more realistic picture of what the current resource availability is within a given water body.

2.1.1. Water resource availability colours and implications for licensing

In order to communicate water resources availability across catchments, we usually use a colour code system. Table 1 defines the colour codes used for presenting resource availability (of surface water) with the licensing implication associated to each colour. However, not all of them necessarily apply to any individual catchment.

Table 1. Surface water resource availability colours and associated implications for abstraction licensing.

Surface water resource availability colour	Implication for abstraction licensing
High hydrological regime	There is more water than required to meet the needs of the environment. However, due to the need to maintain the near pristine nature of the water body, further abstraction is severely restricted.

Surface water resource availability colour	Implication for abstraction licensing
Water available for licensing	<p>There is more water than required to meet the needs of the environment.</p> <p>New licences can be considered depending on local and downstream impacts.</p>
Restricted water available for licensing	<p>Full Licensed flows fall below the Environmental Flow Indicators (EFIs).</p> <p>If all licensed water is abstracted there will not be enough water left for the needs of the environment. No new consumptive licences would be granted. It is likely we will 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.</p>
Water not available for licensing	<p>Recent actual flows are below the EFI.</p> <p>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.</p> <p>Note: 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) the amount equivalent to recently abstracted from an existing licence holder.</p>
Heavily Modified Water Bodies (HMWBs) (and/or discharge rich water bodies)	<p>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. More detail if applicable can be found in section 3.1 Surface Water.</p> <p>There may be water available for abstraction in discharge rich catchments, you need to contact the Environment Agency to find out more.</p>

2.1.2. Groundwater resource availability colours and implications for licensing

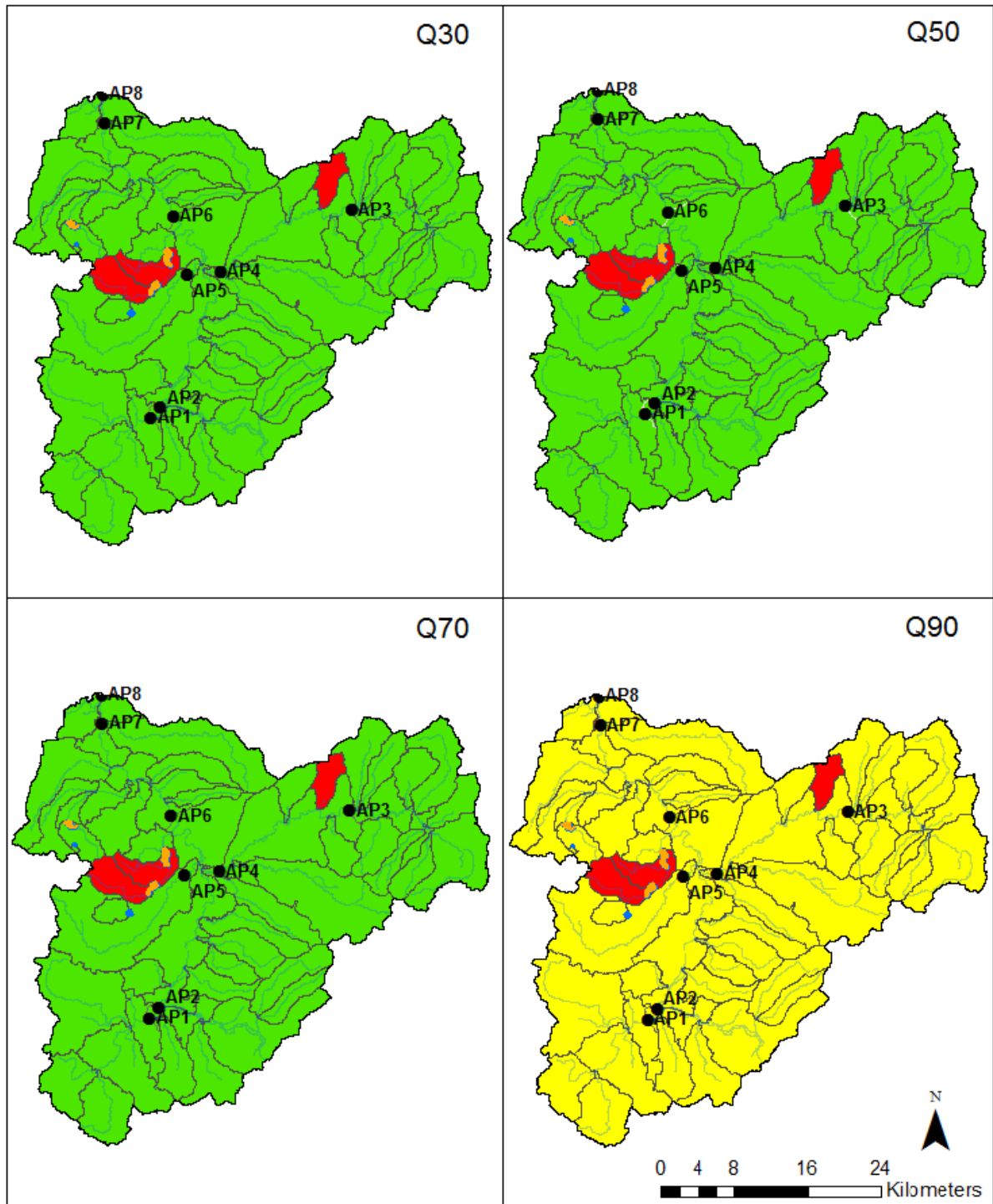
For groundwater availability there are only three colour codes. Table 2 presents these colours with the licensing implication associated to each colour.

Table 2. Groundwater resource availability colours and associated implications for abstraction licensing.

GWMU resource availability colour	Implication for abstraction licensing
Water available for licensing	Groundwater unit balance shows groundwater available for licensing. New licences can be considered depending on impacts on other abstractors and providing there will be no significant impact on surface water flows, dependent wetlands, groundwater levels or cause saline intrusions.
Restricted water available for licensing	<p>Groundwater 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 dependent wetlands, groundwater levels or cause saline intrusions but with management options in place.</p> <p>In restricted groundwater units no new consumptive licences will be granted. It may also be appropriate to investigate the possibilities for reducing 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.</p> <p>In other units there may be restrictions in some areas e.g. in relation to saline intrusion.</p>
Water not available for licensing	<p>Groundwater unit balance shows more water has been abstracted based on recent amounts than the amount available.</p> <p>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' the entitlement to abstract water from an existing licence holder (known as licence trading).</p>

2.2. Resource availability

The water resource availability, calculated at four different flows, Q95 (low flow), Q70, Q50, and Q30 (higher flow) for this ALS is presented in Map 2 with the definition of availability colours and associated licensing implication explained in Section 2.1.1. For further licensing information about surface water, please refer to Section 3.1.



Legend

- Waterbodies
- Assessment Points
- HMWB / Artificial Rivers
- HMWB / Artificial Lakes
- Rivers
- Lakes

Water Availability

- Water available
- Restricted water available
- Water not available

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Map 2. Water resource availability colours at different flow rate for the Soar ALS area.

2.3. Groundwater resource availability

Groundwater availability is guided by the surface water resource availability unless we have better information on principal aquifers or we are aware of local issues we need to protect. Map 2 shows the water resource availability colours for surface water in the Soar ALS area.

Under the Water Framework Directive aquifers are designated as named groundwater bodies (GWBs). We may divide GWBs into groundwater management units (GWMUs). In the case of Principal aquifers we use the information and assessments on these units to determine water availability and licence restrictions. In certain areas, resource concerns over groundwater mean that the standard water resource availability colours have been overridden.

There are no large areas of principal aquifer in the Soar catchment, hence GWMUs are not required. Map 3 presents the typology and extent of the aquifers across the catchment. Within the neighbour catchment Lower Trent and Erewash, the Diseworth GWMU (Sherwood Sandstone) is quantified as having water available for licensing. Geographically, this extends into the Soar catchment, but has wholly been assessed as part of the Lower Trent and Erewash ALS.

There is potential water availability from other geological formations within the Soar catchment. The vast majority of bedrock outcrop relates to the Mercia Mudstone group. These are predominantly clay based and provide very inconsistent resources. However, locally important sources may be available subject to environmental assessment and considered on an individual case basis.

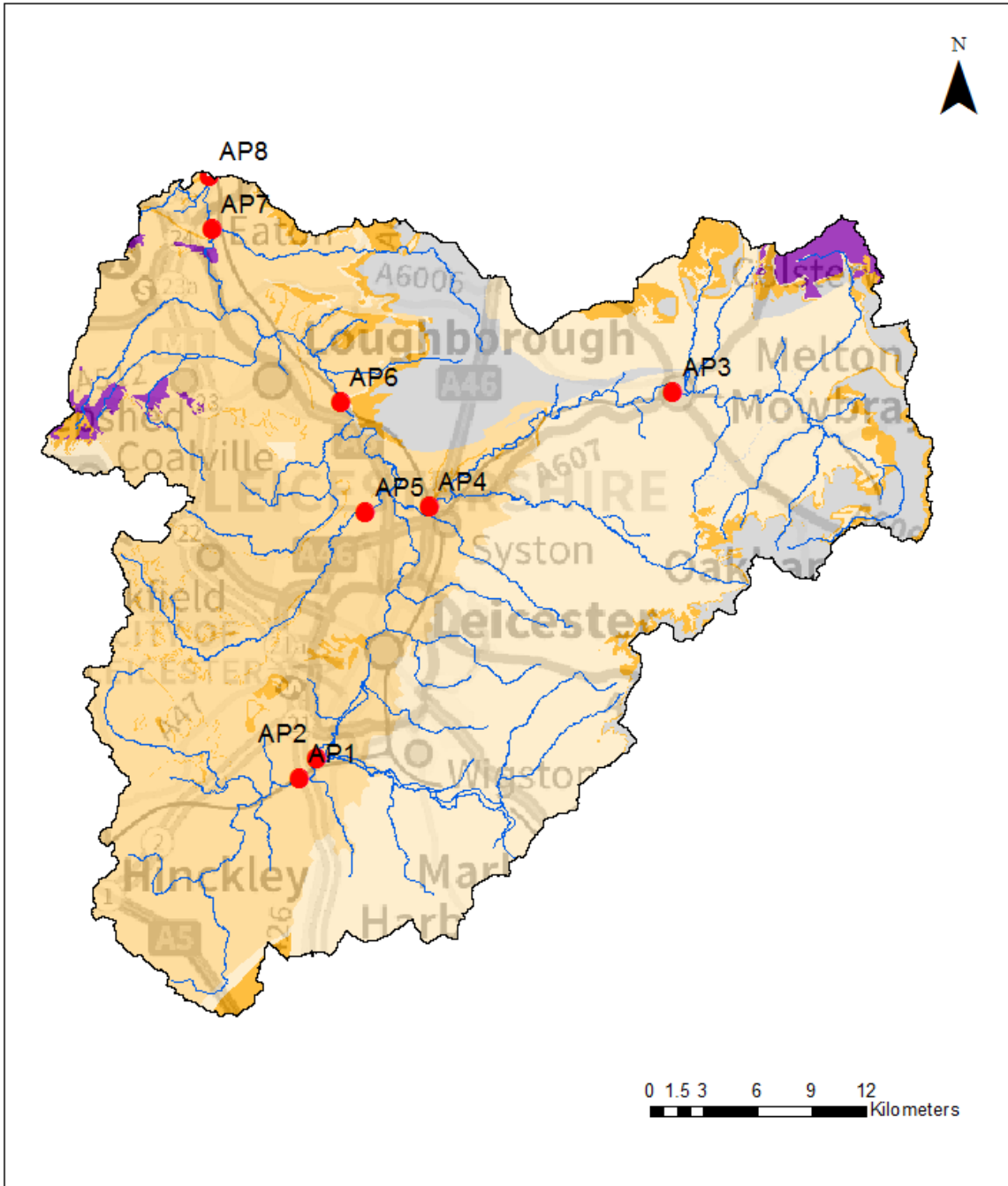
Proposals for abstraction from the Superficial Deposits will also be considered, but where the groundwater resources are found to be in continuity with the surface water course, these will be subject to a hands off flow (HoF).

Further information about resource availability from groundwater can be found in Section 3.2.

2.4. Resource reliability

If you want to apply for a licence, it is worth considering the reliability of your abstraction. By assessing the quantity of water available at different flows it is 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 4 gives an indication of the resource availability for [consumptive abstraction](#) in Soar ALS area expressed as a percentage of time.



Legend

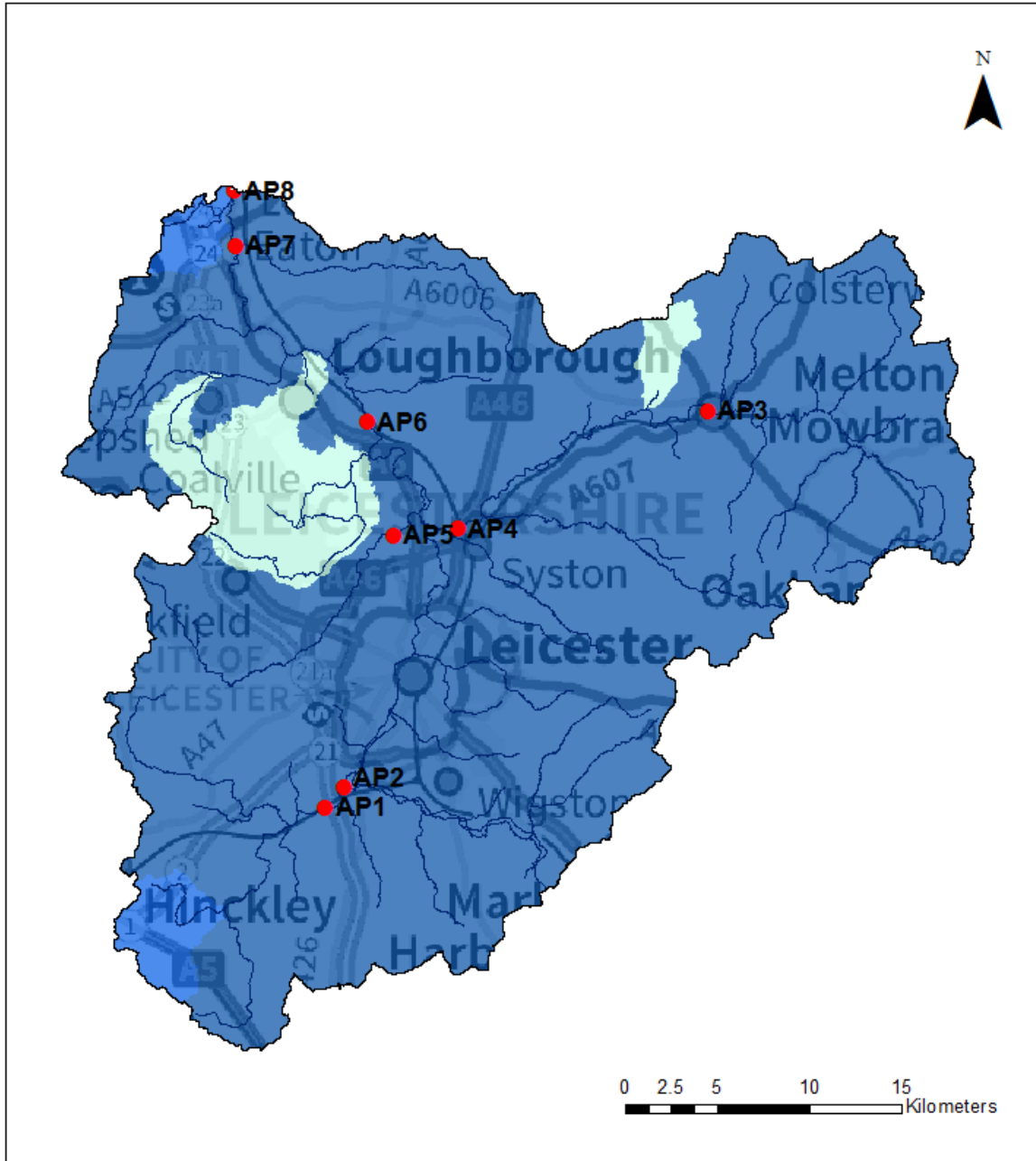
- Assessment Points
- Rivers

Aquifer Typology Bedrock

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unproductive

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Map 3. Typology and extent of the aquifers across the Soar catchment.



Legend

- Assessment Points
- Rivers

Resource Reliability (% of the time)

- less than 30%
- at least 30%
- at least 50%
- at least 70%
- at least 95%

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Map 4. Water resource reliability of the Soar ALS expressed as percentage of time available.

2.5. Other considerations for availability and reliability

As explained in the Introduction section, 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. HoF values applicable to watercourses across the Soar catchment are stated in Table 3.

In addition, 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 31st March 2037.

2.6. 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 Soar ALS area

3.1. Assessment points (surface water)

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. Where groundwater abstractions directly impact on surface water flows, the impact is measured at the surface water AP.

Table 3 gives an indication of how much water is available for further abstraction and the associated restrictions we may have to apply to new and varied [abstraction licences](#) from the main river. Tributaries to the main river 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. 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. This is detailed in the last column of Table 3 if applicable.

All abstraction licence applications are subject to an assessment to take account of any local and downstream issues and may be subject to further restrictions.

In cases where there is water available at all flows we may apply a Minimum Residual Flow (MRF) to protect very low flows. We will decide this on a case by case basis.

Reading from top to bottom in Table 3 are the APs in the Soar ALS area. Reading across the columns you can see the potential HoF that may be applied to a licence, the number of days water may be available under this restriction and the approximate volume of water in [MI/d](#) (Mega litres per day) that may be available.

Across the Trent catchment the water resource management strategies are driven by the need to protect flows at the fluvial end point of the River Trent at North Muskham gauging station. The need to protect flows entering the tidal River Trent and navigation requirements in the fluvial River Trent has concluded that in order to provide this protection, a HoF of 2650 MI/d at North Muskham (equivalent flow at Q90) is needed to be maintained.

Therefore, throughout the Soar catchment all HoFs have been set at local gauging stations but at flows which are equivalent to or higher than 2,650 MI/d at North Muskham gauging station. In the Soar catchment, the need to protect flows entering the River Trent has meant we have applied an equivalent HoF of 340 MI/d (flow at Q90) as measured at Kegworth gauging station to all APs to ensure adequate protection is given to the HoF set at North Muskham. As a result, in the Soar catchment 17 MI/d is available which has been assigned to the whole of the catchment. This, however, does not guarantee that this quantity is available at any one particular assessment point throughout the catchment and schemes will be assessed on a case by case basis.

Groundwater licences which are not from principal aquifers described in Section 2.3 will be individually assessed. Where they are linked to surface water, the surface water restrictions described below may be applied.

Parts of the Soar catchment are discharge rich so the strategy outlined below depends on the resource situation remaining as it is currently. Any changes to major abstractions from or discharges to the catchment may result in a change in this licensing strategy or to the volumes of water available.

In addition, we may ask applicants to provide additional information about any likely environmental impact of the proposed abstraction. This will be assessed on a case by case basis.

We have also an obligation to protect all Habitats Directive sites and implement the needs of the Eels Regulations 2009, as amended in 2011. Conditions may be added to new licences and variations to ensure the protection of fish, other aquatic wildlife and protected sites.

3.1.1. Our licensing strategy across the Soar ALS area

In addition to the above considerations, below is our strategy referred to in Table 3 when processing new abstraction applications or renewing the existing licences depending on water availability status of each AP catchment and in which AP catchment the location of abstraction lies.

(1) For existing licences, the renewal of licences will be considered subject to the following criteria and local considerations:

- environmental sustainability is not in question
- there is a continued justification of need for the water
- the water is used efficiently

We will also take into account any objections received to renewal of the licence.

(2) Availability of water in the catchment and at each AP is overall subject to a HoF of 340 MI/d and the following conditions:

- No new unconstrained abstraction will be granted
- Groundwater licences will be considered for small abstractions on a case by case basis depending on the scale and impact on surface water
- There is a time limit of 31st March 2037

Table 3 Summary of licensing approach for the APs of Soar ALS area.

AP	Name	Water Resource Availability	HoF Restriction (MI/d) and critical AP	No. of days per annum abstraction may be available	Approx. volume available at restriction (MI/d)	Is there a gauging station at this AP?
1	Upper River Soar – Littlethorpe	Conditional availability (1&2 above)	340.0 (Q90) AP8	On average 329	17	Yes
2	River Sence	Conditional availability (1&2 above)	340.0 (Q90) AP8	On average 329		Yes
3	River Eye	Conditional availability (1&2 above)	340.0 (Q90) AP8	On average 329		No
4	River Wreake*	Conditional availability (1&2 above &*)	340.0 (Q90) AP8	On average 329		Yes
5	Rothley Brook	Conditional availability (1&2 above)	340.0 (Q90) AP8	On average 329		Yes
6	Middle River Soar – Pillings Lock (Barrow on Soar)**	Conditional availability (1&2 above &**)	340.0 (Q90) AP8	On average 329		Yes
7	Kingston Brook	Conditional availability (see 1&2)	340.0 (Q90) AP8	On average 329		No
8	Lower River Soar – Kegworth	Conditional availability (see 1&2)	340.0 (Q90) AP8	On average 329		Yes

* The exception to this is the Welby Brook (WFD waterbody GB104028047570). This tributary catchment has issues with low flow and has been closed on a precautionary basis.

** The exception to this is the Quorn Brook (WFD waterbody GB104028047060). This tributary catchment has issues with water regulation and low flow and has been closed on a precautionary basis.

3.2. Managing Groundwater

As explained in Section 2.3, for Principal aquifers we may divide the area into groundwater management units (GWMUs), which are sub-divisions of the groundwater bodies. 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.

Licence restrictions on groundwater abstractions in the Soar ALS area

As mentioned in Section 2.3 there are no large areas of principal aquifer in the Soar catchment, hence GWMUs are not required. However, there might be local resources available which are subject to environmental assessment and will be considered on an individual case basis. Proposals for abstraction from these resources where the groundwater are found to be in continuity with the surface water course, will be subject to a hands of flow. Table 4 details groundwater availability status within Soar ALS area and the restrictions that might be applied to abstractions likely to impact on groundwater dependent environments.

Table 4: Licence restrictions on groundwater abstractions in the Soar ALS area.

Groundwater Body	Water Resource Status	Approximate Volume of water available (MI/d)	Licence Restriction
Soar Secondary Combined (Mercia Mudstone Group)	Water Available for licensing	-	Further abstractions from superficial deposits are available. A HOF of 340 MI/d will be applied to applications found to be in continuity with a surface watercourse
Superficial Deposits	Water Available for licensing	-	Further abstractions from superficial deposits are available. A HOF of 340 MI/d will be applied to applications found to be in continuity with a surface watercourse

3.3. Artificial and Heavily modified water bodies (HMWBs)

Artificial water bodies describe water bodies that are entirely man-made for example canals. They also include lakes where no significant water body existed previously (gravel pits) or impounded rivers or lakes with an artificial catchment (reservoirs). A heavily

modified water body is an existing body of water that has had its original appearance significantly changed to suit a specific purpose. For example, a river water body that has undergone extensive re-alignment for navigation, or a flood defended coastline.

Artificial water bodies and HMWBs are considered together and in the same way. These water bodies can be classified for many reasons, but for water resources purposes they are classified if they may contain a lake and/or reservoir that influence the downstream flow regime of the river or groundwater level. The downstream 'flow modified' water bodies are also classified as heavily modified. They are designated for water resource purposes if the flow regime has been altered by flow regulation/augmentation. The availability of water in water resource designated HMWBs will depend on the compensation release and/or operating agreements that impact on these water bodies.

Within the Soar ALS area, there are a number of waterbodies that are designated Artificial or HMWBs. Blackbrook catchment is designated a HMWB that itself include Blackbrook reservoir. There are also Cropston and Swithland reservoirs within Quorn Brook catchment that are artificial waterbodies. Together, these three reservoirs are known as the Charnwood reservoirs and they provide storage for drinking water and are all designated artificial waterbodies. As they are impoundments, they obstruct the watercourses and thus alter the flow regime downstream of these impoundments. This affects the water availability within these catchments. Please refer to section 3.1 above for further details. The Quorn Brook catchment has been closed to further consumptive abstraction as the waterbody is failing to meet certain elements of the WFD.

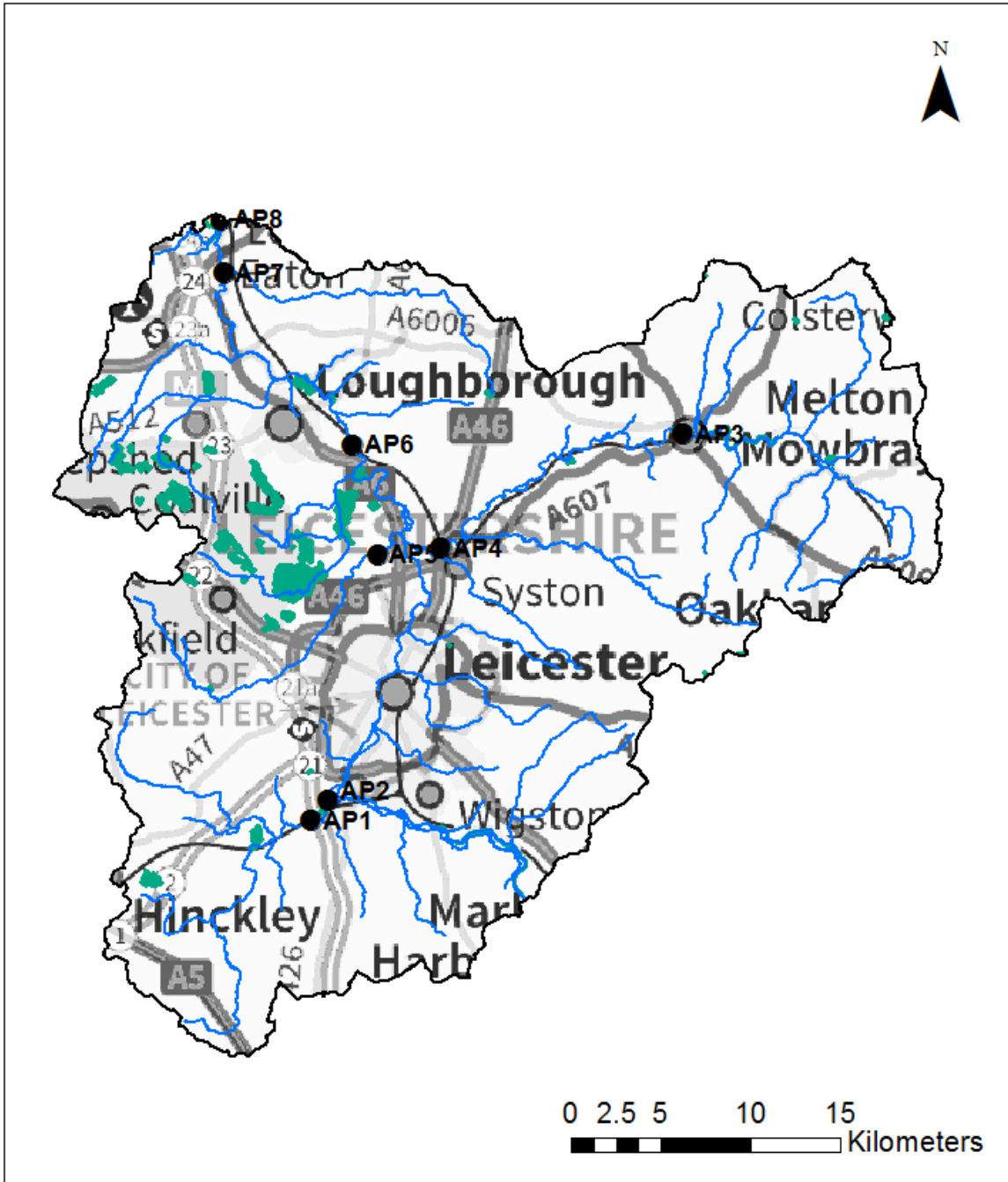
3.4. Protected areas

UK law provides a very high level of protection to two types of designated 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.

Across Soar ALS area there are three SSSIs: Blackbrook Reservoir SSSI, Buddon Wood and Swithland Reservoir SSSI, and Bradgate Park and Cropston Reservoir SSSI. All reservoirs were originally built and are still managed for public water supply. All three reservoirs have been notified for their marginal and inundation plant communities. The inundation plant communities are characteristic of nutrient poor lake waters and high winter / low summer water levels. The interest feature has been assessed as being in unfavourable condition due to the water quality and water level management. Blackbrook and Cropston reservoir SSSIs are stocked with brown trout but also supports crayfish *Austropotambius pallipes*. It is isolated from populations of the non-native American crayfish *Pacifastacus leniusculus*, the carrier of a fungal spore which has devastated populations of the native crayfish.



Legend

- Assessment Points
- Rivers
- ▨ SACs
- RAMSARs
- ▨ SPAs
- SSSIs

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Map 5: Designated sites across the Soar ALS area.

4. Managing existing licences

4.1. 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 do not cause any deterioration in water body status both within the water body / bodies where the trade will take place and to downstream water bodies.

Guide to the potential trading in water bodies of Soar ALS

Table 5 provides a guide to the potential for trading in water bodies of Soar ALS water resource availability colour, as shown on Map 2.

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

Table 5 Licence trading information associated with water resource availability colours in Soar ALS area.

ALS water resource availability colour	Our approach to trading
High hydrological regime	Opportunities for trading water rights will be limited.
Water available for licensing	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	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 where we are taking action to prevent deterioration unless the trade is consistent with achieving water body objectives.
Water not available for licensing	We will only trade up to recent actual abstraction but no increase in recent actual abstraction is permitted in water body. Licensed abstraction will be recovered for the environment.

ALS water resource availability colour	Our approach to trading
HMWBs	Opportunities for trading will depend on local operating agreements and local management.

4.2. Taking action on unsustainable abstraction

We need to take action on unsustainable abstraction causing diversion from the aims of the WFD i.e. a situation where flow does not support good ecological status, or potential if the water body is heavily modified. Action is also needed to manage the risk of deterioration or correct instances of serious damage. The actions that we may take include:

- Actions under the water industry national environment programme (WINEP)
- Revocations of licences for non-use
- Reductions of under-used and unused licences
- Changes to time-limited licences

4.2.1. Action being taken on unsustainable abstraction in the Soar ALS area

Within the Soar ALS area currently there is only one Restoring Sustainable Abstraction (RSA) scheme ongoing. This project concerns the Charnwood reservoirs (Blackbrook, Cropston and Swithland) and have been investigated to assess the impact of abstraction on the SSSIs at the reservoir locations. These reservoirs have all been designated SSSIs principally because of the marginal vegetation. Therefore, the selected solution for the RSA programme is to add drawdown curves to the licences to enable better management of reservoir levels to benefit the marginal vegetation. The drawdown curves will ensure that the reservoirs are drawdown from 1st May to expose the marginal vegetation but from 1st September the reservoirs are allowed to refill so that the marginal vegetation becomes inundated and the reservoirs are full by 1st April.

At Cropston and Swithland reservoirs the solution is also to add a requirement for compensation flows out of Cropston reservoir into the Quorn Brook (initially for 1 MI/d, with the potential to increase to 2 MI/d) and out of Swithland reservoir into the Quorn Brook (initially for 2 MI/d, with the potential to increase to 4 MI/d). This will benefit the aquatic environment of the Quorn brook downstream of the reservoirs which currently only receive water from the reservoirs when they overspill.

4.2.2. Action being taken on unsustainable groundwater abstraction in the Soar ALS area

If groundwater abstractions are found to impact the environment, we will seek to reduce or cease certain abstractions. This is aimed to prevent deterioration to groundwater aquifers and the surface waterbodies which are fed by these aquifers. There are no ongoing projects in this regards on the GWBs in the Soar ALS area.

4.3. Regulating previously exempt abstraction

As the abstraction licensing system in England and Wales developed over the past 50 years, certain abstractions have remained lawfully exempt from licensing control. This

meant that unlimited supplies of water could be abstracted, even in areas that are water stressed, irrespective of availability and without regard to impacts on the environment or other abstractors.

Following two public consultations Government have introduced new Regulations that took effect on 1st January 2018. The Water Resources (Transitional Provisions) Regulations 2017 have removed the majority of previous exemptions from licensing control, and current exempt abstractors will now require a licence to lawfully abstract water (known as New Authorisations). This is to help balance the needs of all abstractors and the environment. This will enable more effective water management by ensuring that all significant activities influencing the availability of water and its impact on the environment are undertaken in a sustainable way.

The main activities that are impacted by the changes include:

- 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 have included them in our assessments to consider how they impact on the catchment.

5. 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.

GWMU

Groundwater Management Unit.

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.

WFD

Water Framework Directive

6. 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 either directly or indirectly 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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