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# Swale, Ure, Nidd and Upper Ouse Abstraction Licensing Strategy

February 2013

A licensing strategy to manage water resources sustainably

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# Foreword

Water is the most essential of our natural resources, and it is our job to ensure that we manage and use it effectively and sustainably. The latest population growth and climate change predictions show that pressure on water resources is likely to increase in the future. In light of this, we have to ensure that we continue to maintain and improve sustainable abstraction and balance the needs of society, the economy and the environment.

This licensing strategy sets out how we will manage water resources in the Swale, Ure, Nidd and Upper Ouse catchment and provides you with information on how we will manage existing abstraction licences and water availability for further abstraction.



Mark Scott      Yorkshire Area Manager

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# 1. About the Licensing Strategy

This **Licensing Strategy** sets out how water resources are managed in the Swale, Ure, Nidd and Upper Ouse (SUNO) area. It provides information about where water is available for further abstraction and an indication of how reliable a new abstraction licence may be.

This strategy was produced in February 2013 and it supersedes the strategy issued in 2004.

## **How CAMS contributes to achieving environmental objectives under the Water Framework Directive (WFD)**

The Water Framework Directive's main objectives are to protect and enhance the water environment and ensure the sustainable use of water resources for economic and social development.

Catchment Abstraction Management Strategies (CAMS) set out how we will manage the water resources of a catchment and contribute to implementing the WFD.

CAMS contribute to the WFD by:

- providing a water resource assessment of rivers, lakes, reservoirs, estuaries and groundwater referred to as water bodies under the WFD;
- identifying water bodies that fail flow conditions expected to support good ecological status;
- preventing deterioration of water body status due to new abstractions;
- providing results which inform River Basin Management Plans ([RBMPs](#)).

## **When is an abstraction licence required?**

You need a licence from us if you want to abstract more than 20 cubic meters (m<sup>3</sup>) (4,400 gallons) of water per day from a:

- river or stream
- reservoir, lake or pond
- canal
- spring or
- an underground source

Whether or not a licence is granted depends on the amount of water available after the needs of the environment and existing abstractors are met and whether the justification for the abstraction is reasonable.

If you want to apply for an abstraction licence or make changes to a licence that you already have then, please contact us:

- by telephone on 03708 506 506
- by email at [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)
- or visit our website at [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk).

**Sustainable abstraction**

This licensing strategy has been produced using evidence and information gathered during the CAMS process. Through this process we consider the impact of abstraction at all flows. This helps to manage future abstraction more sustainably.

We now assess water resources at a sub-catchment level called water bodies. This means that we can provide more detailed information on the availability of water resources in the SUNO CAMS area compared to the scale used in the previous strategy.

Within this strategy we also outline where we may need to reduce current rates of abstraction and our approach on time limiting licences.

The background, aims and principles of CAMS, the over arching principles we use when managing abstraction licences and links with other initiatives are detailed in our document: [Managing Water Abstraction](#). You should read Managing Water Abstraction when reading this catchment specific licensing strategy.

## 2. Swale, Ure, Nidd and Upper Ouse CAMS area

[Map 1](#) shows the Swale, Ure, Nidd and Upper Ouse catchment.

The Swale, Ure, Nidd and Upper Ouse (SUNO) CAMS encompasses an area of 3,509km<sup>2</sup> of North Yorkshire. It was defined using the natural hydrological boundaries and catchment watersheds of the above four rivers. The River Swale rises near the town of Richmond in the Northern Pennine area of the Yorkshire Dales National Park. Here the catchment features narrow, steep sided valleys in contrast to the wider and more level Vale of York downstream. The River Ure follows a similar pattern but originates in the Wensleydale area of the Pennines, flowing into a wider valley past Hawes before joining the River Swale. The source of the River Nidd is on the edge of the Yorkshire Dales National Park. From here it runs into Gouthwaite Reservoir then through Nidderdale and on into the Vale of York. The River Ouse is a larger river which forms at the confluences of the River Ure and Ouse Gill Beck. The SUNO area ends at the tidal limit of the River Ouse at Naburn Weir and Lock.

The SUNO CAMS area is mostly rural farmland but incorporates the towns of Richmond, Northallerton, Knaresborough, Thirsk and Harrogate and the cities of Ripon and York. The resident population of the York, Harrogate, Hambleton and Richmondshire authorities is around half a million people, with seasonal visitor numbers increasing this substantially. There is a long history of industrial and commercial activity in the area, although tourism, the service industry, recreation and agriculture are now the dominant economic sectors.

The west of the CAMS area is largely made up of the Pennines and Yorkshire Dales National Park. Managed grassland in the lowlands provides areas for livestock grazing and breeding, while heather moorland is more frequent in the uplands. Within the Vale of York to the east, arable farming is more common. Small areas of woodland are scattered throughout most of the region, but can be found in a greater concentration in the north east of the area which includes a section of the North York Moors National Park.

The rocks of the SUNO CAMS area range in age from Carboniferous (c.360 million years ago) to Triassic (c.248 million years ago) and consist mainly of sedimentary limestones, sandstones, mudstones and shales. The west of the catchment is primarily Carboniferous Limestone and Millstone Grit with drift deposits of typically less than 3m thick, meaning the aquifers are in good connectivity with surface waters. In the River Swale catchment and in the northeast and central area however, the rocks are covered by drift deposits that are often more than 20m thick. As a result of this, the underlying Magnesian Limestone and Sherwood Sandstone aquifers are more detached from surface flows.

The hydrology of the area is varied as a result of the contrasting rainfall, topography, geology and soils in the region. In the west of the SUNO CAMS, moorland rising more than 500m above sea level receives between 1300-1800mm mean annual rainfall. Steep valley slopes and seasonally waterlogged soils can lead to a rapid surface runoff response, meaning river levels rise quickly when it rains. In the central and east of the CAMS area, the land is primarily low lying, at elevations of 15-50m above sea level, with a mean annual rainfall between 600-750mm. The low gradients and generally less intense rainfall mean that flow rates in these tributary catchments rise at a moderate to slow rate following rainfall.

About two thirds of surface water abstractions in the SUNO CAMS area are for hydropower generation, although these licences are non-consumptive, meaning the water is returned rather than used up. Public water supply represents the most consumptive use of abstracted water in the area and makes up about a third of the total licensed volume.

The SUNO CAMS area rivers are an important recreational resource for angling, canoeing and boating. The area also has a rich diversity of historic and archaeological sites such as York Minster, Fountains Abbey, Maidens Castle, Richmond Castle, Byland Abbey and Mount Grace Priory.

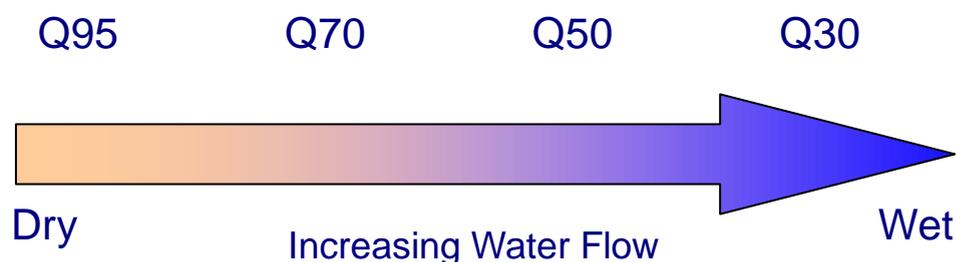
# 3. Water resource availability of the SUNO area

## 3.1 Resource assessment

Resource assessment is at the heart of abstraction management. To manage water effectively we need to understand how much is available and where it is available, after considering the needs of the environment. We have a monitoring network to measure river flows and groundwater levels. We use this 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:

- a resource allocation for the environment defined as a proportion of natural flow, known as the Environmental Flow Indicator (EFI);
- 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 (lowest), Q70, Q50 and Q30 (highest). Low flows (Q95) reflect very dry conditions and high flows (Q30) reflect very wet conditions.



This information gives a realistic picture of what the current resource availability is within a given water body. Water bodies are sub-catchment surface water units or groundwater units on which we carry out assessments and map results.

[Map 2](#) shows the water resource availability for the SUNO CAMS area at the four different flow values.

## 3.2 Resource availability

### 3.2.1 Surface water

If you want to abstract water, you need to know what water resources are available within a catchment and where abstraction for [consumptive](#) purposes is allowed. To show this we have developed a classification system which indicates:

- the relative balance between the environmental requirements for water and how much is licensed for abstraction;
- whether water is available for further abstraction;
- areas where abstraction may need to be reduced.

The availability of water for abstraction is determined by the relationship between the fully licensed and recent actual flows in relation to the EFI. The results mapped onto these water bodies are represented by different water resource availability colours showing the availability of water resource for further abstraction. The water resource availability colours are explained in Table 1.

In addition to these water resource availability colours we've classified some surface water bodies as 'high hydrological status' which are coloured blue on the maps. In these water bodies very little actual abstraction occurs and they show virtually undisturbed, or close to natural, flow conditions.

Another category of water body are Heavily Modified Water Bodies (HMWB). These can be classified for many reasons but for water resources they are classified if they contain a lake and/or reservoir that influences the downstream flow regime of the river. The downstream 'flow modified' water bodies are also classified as heavily modified.

We'll add any conditions necessary to protect flows to a new licence during the licence determination procedure. We will base licence conditions on the water resource availability at different flows (high to low). Table 1 lists the implications for licensing for each water resource availability colour.

In cases where there is a flow deficit ([RA](#) is below the EFI) or risk of a flow deficit ([FL](#) below the EFI), there may be water available for abstraction at higher flows. This means that water may be scarce at low flows, but may be available to abstract at medium or high flows. A licence may still be granted but with conditions which protect the low flows. This usually takes the form of a Hands-Off Flow (HOF) condition on a licence which requires abstraction to stop when the river flow falls below a certain amount. A river may also be heavily supported by flows from a reservoir and may have unnaturally high 'low' flows which means that the river environment is most vulnerable at medium flows.

Water resource availability colour	Implication for 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.
Water available for licensing	There is more water than required to meet the needs of the environment. New licences can be considered depending on local and downstream impacts.
Restricted water available for licensing	Fully Licensed flows fall below the EFIs. If all licensed water is abstracted there will not be enough water left for the needs of the environment. No water is available for further licensing at low flows. Water will be available at higher flows with appropriate restrictions. 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.
Water not available for licensing	Recent actual flows are below the EFI. This scenario highlights water bodies where flows are below the indicative flow requirement to help support Good Ecological Status (as required by the Water Framework Directive. Note: we are currently investigating water bodies that are not supporting GES/GEP). Water may be available for further licensing at high flows with appropriate restrictions. Water may be available if you can buy (known as licence trading) the amount equivalent to recently abstracted from an existing licence holder.
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. More detail if applicable can be found in <a href="#">section 4.2.1 Surface Water</a> . There may be water available for abstraction in discharge rich catchments, you need to contact the Environment Agency to find out more.

**Table 1 Implications of surface water resource availability colours**

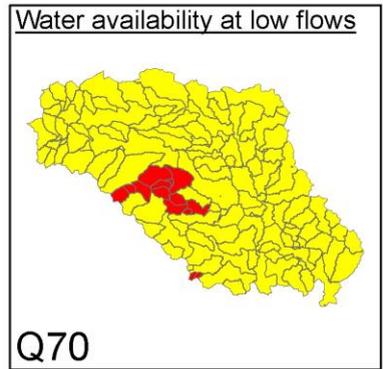
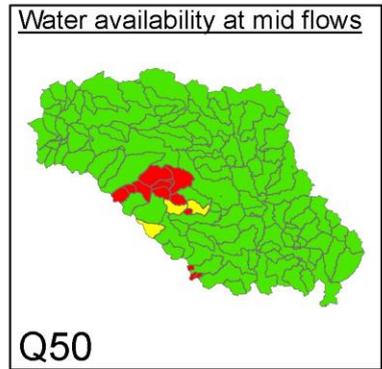
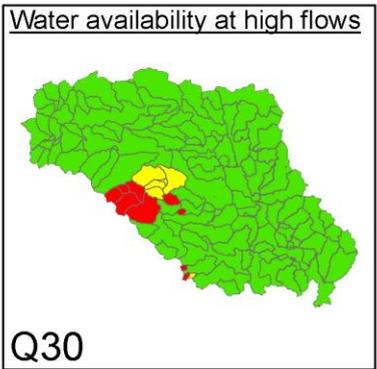
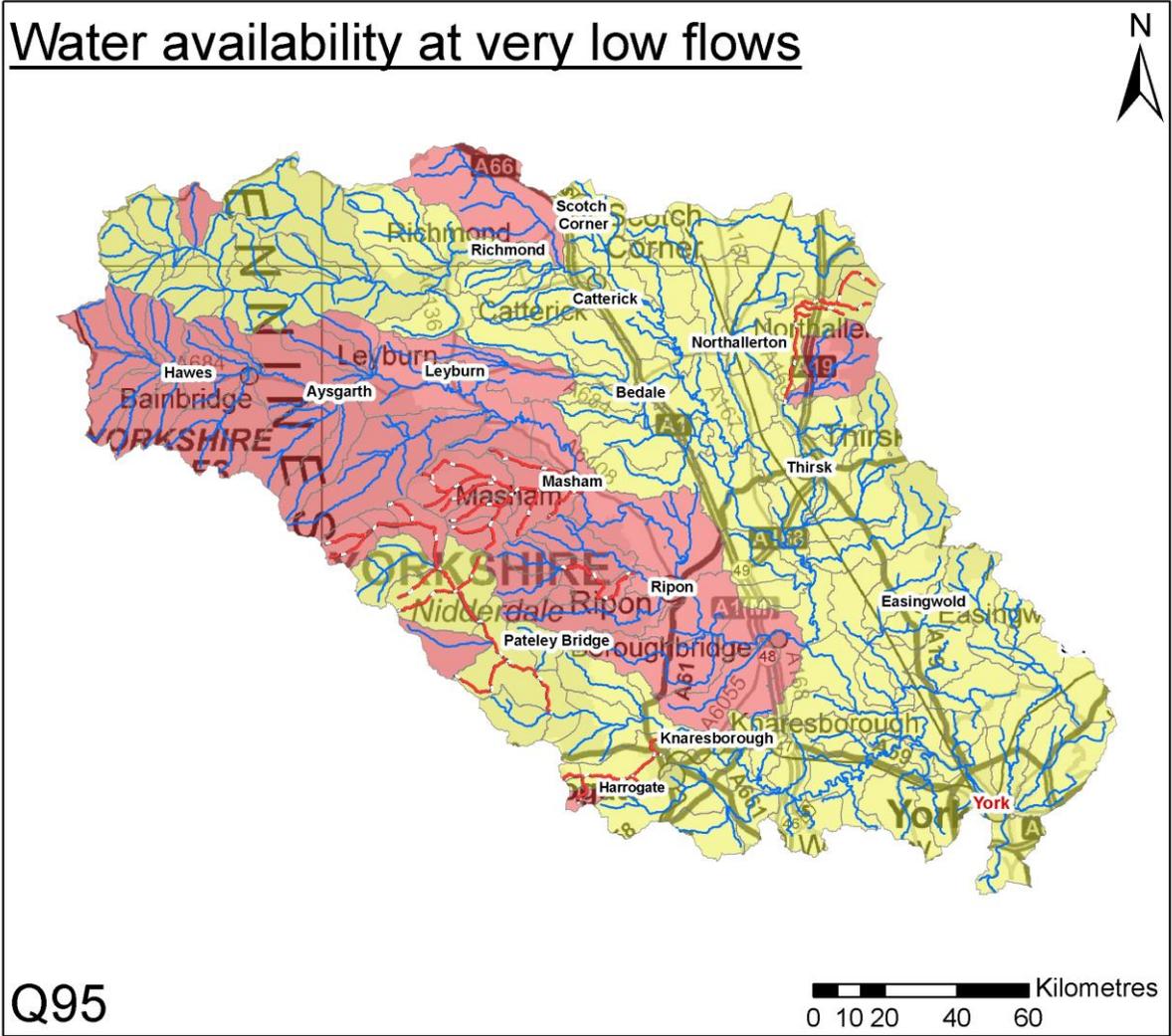
### 3.2.2 Groundwater

Groundwater availability is guided by the surface water resource availability colours unless we have better information on principle aquifers or are aware of local issues we need to protect. The availability of groundwater in relation to surface water varies in the Swale, Ure, Nidd and Upper Ouse CAMS area. In some parts of the catchment groundwater is in close contact with surface water so availability is similar. However in other areas thick drift deposits separate the groundwater from surface water and so availability here is different. Please refer to [section 4.2.2](#) for further information.

GWMU resource availability colour	Implication for 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 on surface water.
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 <b>OR</b> that abstraction may cause local impacts likely to occur on water dependent habitats, groundwater levels or cause intrusions.</p> <p>In restricted groundwater units licences will be issued on a case by case basis. Conditions may be applied to licences that link the groundwater abstraction to surface water flows and restrictions. Surface water availability may override groundwater availability. In other units there may be restrictions in specific areas e.g. in relation to saline intrusion.</p> <p>It may be appropriate to investigate the possibilities for reducing fully licensed risks. Water may also 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>Groundwater unit balance shows more water has been abstracted based on recent amounts than the amount available.</p> <p>No further consumptive licences will be granted.</p>

**Table 2 Implications of groundwater resource availability colours**

Map 2 Swale, Ure, Nidd and Upper Ouse  
CAMS Resource Availability Colours



- Legend**
- Swale, Ure, Nidd & Upper Ouse (SUNO) Rivers
  - Heavily Modified and Artificial Rivers
  - Heavily Modified and Artificial Lakes
  - SUNO CAMS Water Bodies
  - Water Available
  - Limited Water Available
  - No Water Available

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**Map 2 Water resource availability colours for the SUNO CAMS area**

### 3.2.3 About Map 2 SUNO CAMS Resource Availability Colours

Map 2 shows the water resource availability for the SUNO CAMS area at the four different flow values. Because flows in water bodies vary over time we have tried to show how water resource availability also varies. Map 2 shows this variability and how we are likely to apply restrictions, such as HOFs, to licences.

The largest map, Q95, shows where water is available at very low flows, for instance during dry periods. This represents water resource availability for 5% of the time – most of the time there is more water available than this. Q95 is when there is the least water available for consumptive use and shows where restrictions on licences come into force. Red coloured areas are those where we need licence-holders to stop abstracting at very low flows in order to protect the natural environment and other abstractors further downstream.

Gradually as the flows increase towards Q30, more water is available and can be licensed without risking ecological damage. The resource availability of water at Q30 shows what the situation is for about 30% of the time at high flows, such as when there has been a lot of rainfall. Most of the time there is less water available than this. Certain licences only allow abstraction at high flows, so in some areas there may actually be less water available when flows are high.

## 3.3 Resource reliability

If you want to apply for a licence, it is worth considering that in some areas a new, consumptive abstraction may not be 100% reliable. Reliability information is based on CAMS resource availability colours and is a way of presenting the reliability of new abstractions at all flows.

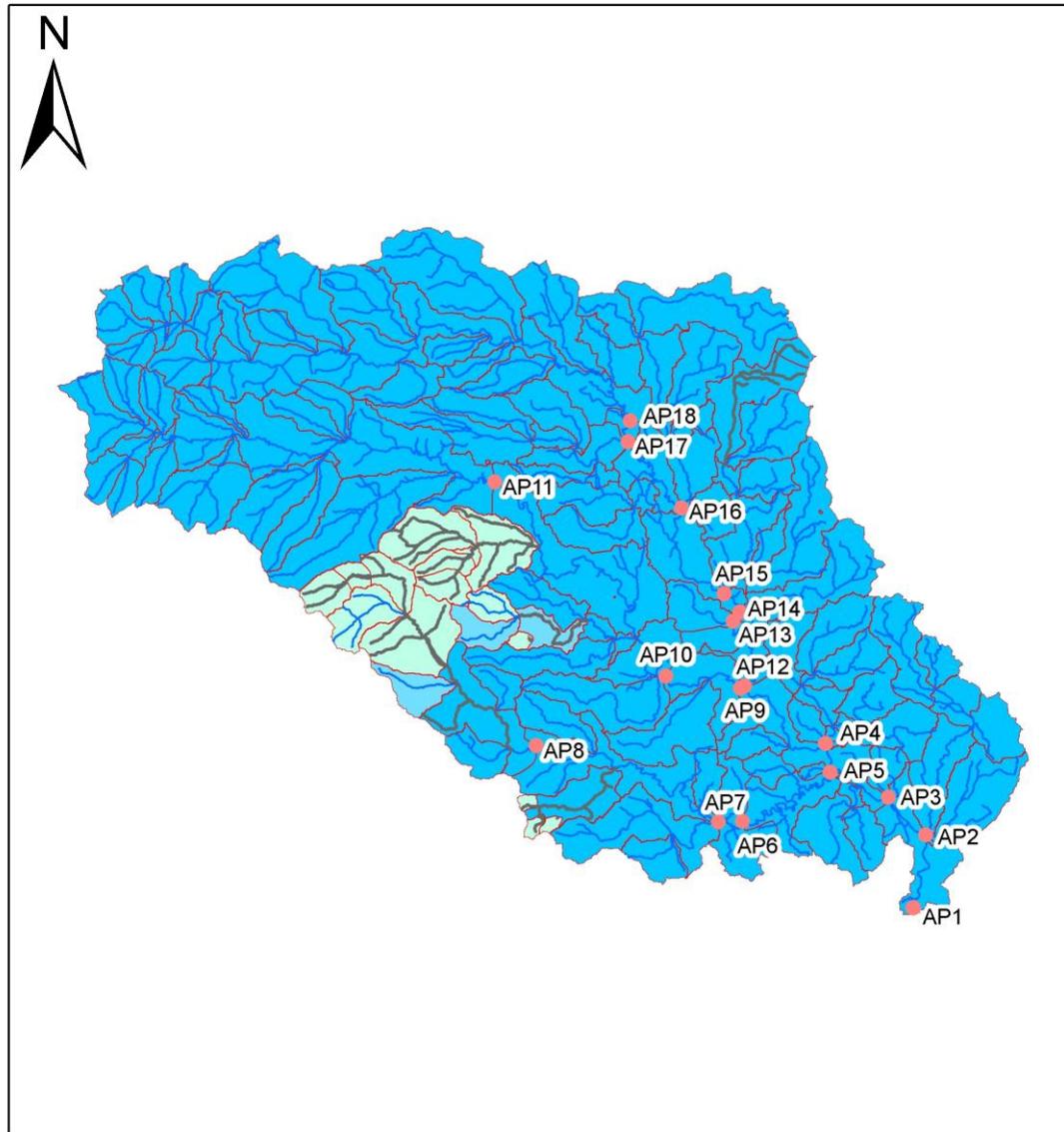
The availability of water for abstraction within a river varies greatly from high to low flows. By assessing the quantity of water available at different flows it is possible to see when there is a surplus or deficit of water and the associated reliability of an abstraction. This is an indication only; actual reliability of a licence will be discussed on application.

Table 3 shows the resource availability colour associated with the percentage reliability of consumptive abstraction. Map 3 gives an indication of the resource reliability in the SUNO CAMS area, expressed as percentage of time.

Resource	Percentage of the time additional consumptive resource may be available
	Consumptive abstraction available <b>less than</b> 30% of the time.
	Consumptive abstraction available <b>at least</b> 30% of the time.
	Consumptive abstraction available <b>at least</b> 50% of the time.
	Consumptive abstraction available <b>at least</b> 70% of the time.
	Consumptive abstraction available <b>at least</b> 95% of the time.
	Not assessed

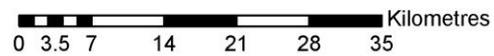
**Table 3 Percentage reliability of consumptive abstraction**

Map 3 Swale, Ure, Nidd and Upper Ouse  
CAMS Resource Reliability (% of the time)



**Legend**

- SUNO CAMS APs
- SUNO Rivers
- Heavily Modified and Artificial Rivers
- Heavily Modified and Artificial Lakes
- SUNO CAMS Water Bodies
- Water Resources available less than 30%
- Water Resources available at least 30%
- Water Resources available at least 50%
- Water Resources available at least 70%
- Water Resources available at least 95%



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**Map 3 Water resource reliability expressed as percentage of time available**

# 4. How we manage abstractions in the SUNO area

## 4.1 Principles

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 SUNO 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 20m<sup>3</sup>/day (4,400 gallons) from a 'source of supply' (river, stream, lake, well, groundwater, etc) must have an abstraction licence. The application process for abstraction is similar to the planning process in that 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 other users. In certain cases we may have to refuse the application. Any applicant who is not happy with our determination (decision) has the right to appeal against it.

### 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'll determine each application upon its own merits and any local impacts.

### A licence does not guarantee that water is available

It's important to understand that when we issue a licence we do not guarantee the supply of water. 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's more likely that conditions will come into effect and abstraction is more likely to be stopped.

### Abstractions are managed to protect the environment

#### No ecological deterioration

We assess the impact of new applications for water to make sure that 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;
- will maintain the near pristine condition of high hydrological regime water bodies.

We'll also take action if necessary to limit the increase in current abstraction, if we think this will lead to deterioration of the ecology or the near pristine condition of our high hydrological regime water bodies.

These principles apply to the water body in which the abstraction is located and also to all downstream water bodies that may be affected by any reduction in abstraction related flow. Doing this means that we will maintain the water body status as reported in the River Basin Management Plans (2009) and ensure compliance with the European Union Water Framework Directive.

### Water efficiency and demand management

We need to make the best use of our existing water resources. Adopting water efficiency and demand management measures can help us achieve this goal. Water efficiency is one of the tests that will need to be satisfied before we grant a new licence or renew a time limited licence. We will promote the wise and efficient use of water and actions to limit demand (and reduce leakage) to curb the growth in abstraction and limit the impact on flows and any consequent impact on the ecology. For further details on our general approach to licensing please see the document [Managing Water Abstraction](#).

### **Impoundments**

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

### **Hydropower**

Water abstraction for hydropower schemes is non-consumptive, with all water used returned to the watercourse. Hands-Off Flow conditions and 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. For further information please refer to our [website](#).

## **4.2 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.

### **Time-limited licences**

In recognition of changing pressures on water resources all new licences and variations (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 a CAMS area have a **common end date** (CED) so they can be reviewed at the same time. 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. This means that the initial CED on a licence may be between six and 18 years duration. On replacement the normal duration will then usually be 12 years.

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.

14% of the licences in the SUNO CAMS are time-limited. CEDs occur every twelve years. The next CED for the SUNO CAMS is 31 March 2017 and the subsequent one is 31 March 2029.

Additional information about the replacement of time limited licences is available in [Managing Water Abstraction](#).

### **Hands-Off Flow conditions**

To protect the environment we may issue a licence 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'.

#### **4.2.1 Surface water**

We assess surface water flows at Assessment Points (APs) which are significant points on the river, often where two major rivers join or at a gauging station. Where flows fall below the EFI, new abstractions may be subject to HOFs.

Table 4 gives an indication of how much water is available for further abstraction and the associated restrictions that we may apply to new and varied abstraction licences from the main river. Tributaries to the main river may be subject to different restrictions and quantities.

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 4 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.

Reading from top to bottom in Table 4 are the APs in the SUNO CAMS 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 megalitres per day (MI/d) that may be available. In cases where there is water available at all flows we will apply a Minimum Residual Flow (MRF) to protect very low flows.

AP	Name	Water Resource Availability Colour at <a href="#">Q95</a>	HOF Restriction (MI/d)	Number of days per annum abstraction may be available	Approximate volume available at restriction (MI/d)	Is there a gauging station at this AP?	Additional restrictions AP name and restriction
1	Naburn (River Ouse)	Restricted water available for licensing	1341.5 HOF3	237	92.3	No (measured at Skelton)	Critical AP
2	Foss (conf with Ouse)	Water available for licensing	26.4	237	17.2	Huntington	This HOF is set to protect flows at critical AP1 downstream
3	Skelton GS (Ouse)	Water available for licensing	1395.3	237	134.5	Skelton	This HOF is set to protect flows at critical AP1 downstream
4	Kyle (conf with Ouse)	Water available for licensing	24.7	237	13.9	Newton-on-Ouse	This HOF is set to protect flows at critical AP1 downstream
5	Nidd (conf with Ouse, near Skip Bridge GS)	Water available for licensing	265.6	237	55.7	Skip Bridge	This HOF is set to protect flows at critical AP1 downstream
6	Hunsingore GS (Nidd)	Water available for licensing	619.5	95	154.1	Hunsingore	Critical AP
7	Crimple (conf with Nidd)	Water available for licensing	74.9	95	78.6	Black Stones	This HOF is set to protect flows at critical AP6 downstream
8	Birstwith GS (Nidd)	Water not available for licensing	407.5	77	37.9	Birstwith	Critical AP
9	Ure (conf with Swale)	Water not available for licensing	600.6	237	72.3	No (measured at Westwick)	This HOF is set to protect flows at critical AP1 downstream

(Continued overleaf)

AP	Name	Water Resource Availability Colour at Q95	HOF Restriction (Ml/d)	Number of days per annum abstraction may be available	Approximate volume available at restriction (Ml/d)	Is there a gauging station at this AP?	Additional restrictions AP name and restriction
10	Westwick GS (Ure)	Water not available for licensing	589.3	237	53.3	Westwick	This HOF is set to protect flows at critical AP1 downstream
11	Kilgram GS (Ure)	Water available for licensing	387.7	237	77.0	Kilgram Bridge	This HOF is set to protect flows at critical AP1 downstream
12	Swale (conf with Ure)	Water available for licensing	698.6	237	143.0	No (measured at Crakehill)	This HOF is set to protect flows at critical AP1 downstream
13	Bat Bridge GS (Cundall Beck)	Restricted water available for licensing	5.5	237	1.5	Cundall Bat Bridge	This HOF is set to protect flows at critical AP1 downstream
14	Crakehill GS (Swale)	Water available for licensing	672.6	237	216.7	Crakehill	This HOF is set to protect flows at critical AP1 downstream
15	Cod Beck (conf with Swale, nr Dalton GS)	Water available for licensing	50.0	237	25.6	Dalton	This HOF is set to protect flows at critical AP1 downstream
16	Wiske (conf with Swale, nr Kirby Wiske GS)	Water available for licensing	35.1	237	21.0	Kirby Wiske	This HOF is set to protect flows at critical AP1 downstream
17	Bedale Beck (conf with Swale)	Water available for licensing	57.3	237	13.6	Leeming	This HOF is set to protect flows at critical AP1 downstream
18	Swale at Morton	Restricted water available for licensing	405.6	237	91.0	No (measured at Catterick Bridge)	This HOF is set to protect flows at critical AP1 downstream

**Table 4 HOFs for the assessment points of the SUNO CAMS**

### Assessment Point descriptions

The information below for each assessment point gives an indication of whether licences will be renewed or granted.

### Water available for licensing

The following APs have water available for licensing:

- **AP2 Foss (conf with Ouse)**
- **AP3 Skelton GS (Ouse)**
- **AP4 Kyle (conf with Ouse)**
- **AP5 Nidd (conf with Ouse, near Skip Bridge GS)**
- **AP6 Hunsingore GS (Nidd)**
- **AP7 Crimple (conf with Nidd)**
- **AP11 Kilgram GS (Ure)**
- **AP12 Swale (conf with Ure)**
- **AP14 Crakehill GS (Swale)**
- **AP15 Cod Beck (conf with Swale, nr Dalton GS)**
- **AP16 Wiske (conf with Swale, nr Kirby Wiske GS)**
- **AP17 Bedale Beck (conf with Swale)**

Using Table 4 and AP3 as an example, the following will apply where water is available for licensing:

For AP3, Skelton GS, there is 134.5 MI/d water available for licensing with the HOF condition of 1395.3 MI/d. Following this, further licences will be granted with progressively more stringent HOF conditions to protect flows.

This means that for **new** licences:

- There is water available for abstraction;
- We will continue licensing the available resource and implement the HOF conditions to protect flows at AP1 or AP6;
- There is a time limit of 31 March 2029.

For **existing** licences:

- There is a presumption of renewal, subject to the other renewal criteria and local considerations;
- Renewals may be subject to minor changes including the addition of water efficiency conditions.

### Restricted water available for licensing

The following assessment points have restricted water available for licensing:

- **AP1 Naburn**
- **AP13 Bat Bridge GS (Cundall Beck)**
- **AP18 Swale at Morton**

This means that for **new** licences:

- Water is only available during periods of medium to high flows with HOF conditions;
- There is a time limit of 31 March 2029.

For **existing** licences:

- There is a presumption of renewal, subject to the other renewal criteria and local considerations;

- Renewals may be subject to minor changes including the addition of water efficiency conditions.

### Water not available for licensing

The following assessment points have no water available for licensing:

- **AP8 Birstwith GS (Nidd)**
- **AP9 Ure (conf with Swale)**
- **AP10 Westwick GS (Ure)**

This means that for **new** licences:

- Water may only be available during periods of high flows with HOF conditions;
- There is low reliability of abstraction;
- There is a time limit of 31 March 2029.

For **existing** licences:

- Options may be developed with licence holders on how to improve sustainability where abstraction is causing environmental damage (see [section 4.5 Restoring Sustainable Abstraction](#) for more information).

### Heavily Modified Water Bodies

Several surface water bodies are designated as Heavily Modified for water resource purposes in the SUNO CAMS area. These may contain a public water supply reservoir or the flow regime may be substantially modified due to reservoir compensation releases. These flow modifications have some impact in AP6 and AP8 on the River Nidd and tributaries and in AP10 on the River Ure. Resource reliability in these areas is lower as the reservoir abstractions already take up most of the water available.

In addition to reservoirs, water is abstracted for public supply from springs, boreholes, and the Rivers Ure and Ouse. Some water from the River Ure is transferred to the Wharfe catchment and onwards to Eccup Reservoir to supply the population of Leeds. Table 5 details the main reservoirs in the SUNO CAMS area.

Reservoir Name	Compensates / Storage	AP impacted
Beaverdyke	Compensates	AP6 Hunsingore
Scargill	Storage	AP6 Hunsingore
John O'Gaunts	Storage	AP6 Hunsingore
Ten Acre	Storage	AP6 Hunsingore
Moor Monkton	Storage	AP6 Hunsingore
Scar House	Storage	AP8 Birstwith GS
Angram	Storage	AP8 Birstwith GS
Gouthwaite	Compensates	AP8 Birstwith GS
Roundhill	Storage	AP10 Westwick GS
Leighton	Compensates	AP10 Westwick GS
Thornton Steward	Storage	AP10 Westwick GS
Lumley Moor	Storage	AP10 Westwick GS
Cod Beck	Compensates	AP15 Cod Beck

**Table 5 Primary reservoirs within the SUNO CAMS**

### Important local features that may affect water availability

European 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. Further information can be found in [Section 4.5 – Restoring Sustainable Abstraction](#). The SUNO CAMS area includes a number of sites designated for their nature conservation importance, some at a European level, some at a national level and others at a local level. Table 6 lists these designated sites, where the water needs of the natural environment will be most closely safeguarded. Close to these sites additional licence restrictions may apply, particularly if these abstractions would impact on the water table.

Designation	Designated site name
Water related Sites of Special Scientific Interest (SSSIs)	Angram Bottoms Millholme Meadow Scar Closes Muker Meadows Pilmoor Gormire Lake Swale Lakes Walden Meadows Semer Water Aysgarth Freeholders Wood Lower Gill Moor Wetlands Askrigg Bottoms Pry and Bottom Meadows, Mid-Mosssdale Wanlass Grasslands River Ure Grasslands Marfield Fen Upper Dunsforth Carrs Bishop Monkton Ings Cow Myers River Ure Banks & Ripon Parks Upper Nidderdale Gouthwaite Reservoir Hay-a-Park Birkham Wood Kirk Deighton Farnham Mires Aubert Ings Askham Bog Heslington Tillmire Naburn Marsh Fulford Ings
Water related Special Areas of Conservation (SACs)	North Pennine Moors North Pennine Dales Meadows North York Moors Ox Close Strensall Common
Water related Special Protection Areas (SPA)	North Pennine Moors North York Moors

**Table 6 Important features that may affect water availability**

#### 4.2.2 Groundwater

Where groundwater abstractions directly impact on surface water flows, the impact is measured at the surface water AP. Restrictions may be applied to these licences. See Table 7.

On major aquifers we have divided the area into Groundwater Management Units (GWMUs). We use the information and assessments on these units to determine water availability and licence restrictions.

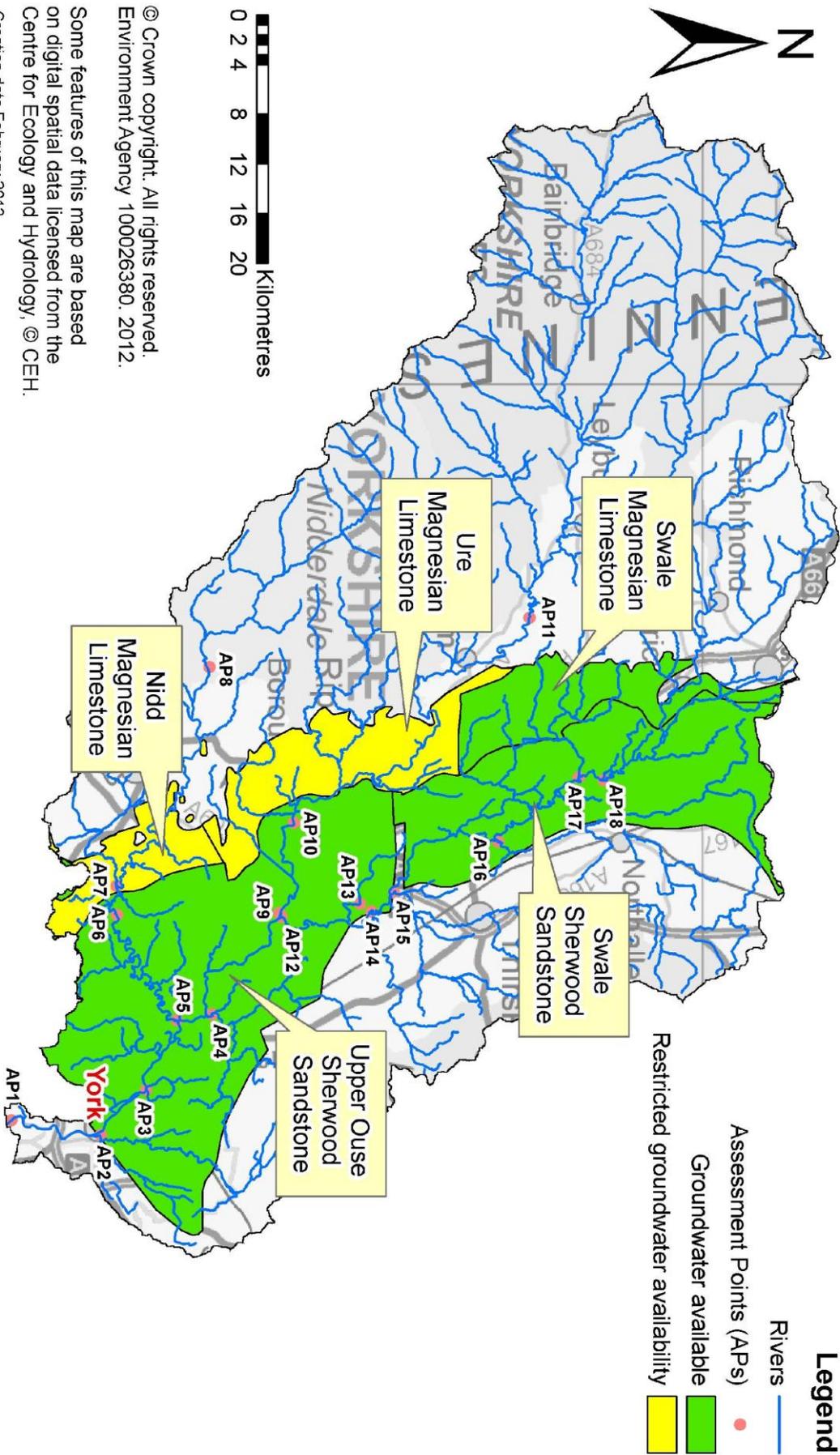
Where groundwater abstractions are likely to impact surface water features, or reduce baseflow to a river, a Hands-Off Level (HOL) condition may be applied to the abstraction. This is a groundwater level below which an abstractor is required to reduce or stop abstraction. There are currently no HOLs in the SUNO CAMS area.

There are two major aquifers in the SUNO CAMS area, the Sherwood Sandstone Group and Magnesian Limestone. The minor aquifers are the Millstone Grit and Carboniferous Limestone. The major aquifers are able to support large groundwater abstractions while the minor aquifers provide good localised yields. The thickness of drift over the aquifers determines whether the groundwater is connected to surface water and rivers. If the drift is thin and permeable, groundwater can often be in direct connection with a river and be a valuable source of baseflow, especially in summer. Map 4 shows the SUNO CAMS GWMUs and their associated license restrictions. Table 7 details the restrictions that might be applied to abstractions likely to impact on groundwater dependent environments.

Groundwater management unit	Licence restriction
Ure and Nidd Magnesian Limestone	<b>Restricted groundwater availability</b> see <a href="#">Magnesian Limestone</a> for further details
Swale Magnesian Limestone	<b>Groundwater available</b>
Swale Sherwood Sandstone	<b>Groundwater available</b>
Upper Ouse Sherwood Sandstone	<b>Groundwater available</b>

**Table 7 Licence restrictions on groundwater abstractions in the SUNO CAMS area**

# Map 4 Swale, Ure, Nidd and Upper Ouse CAMS Area Groundwater Resource Availability



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Creation date February 2013

**Map 4 Groundwater resource availability in the SUNO CAMS area**

### **Magnesian Limestone**

In the SUNO CAMS area, the drift deposits over the Magnesian Limestone in the River Ure and Nidd catchments are thin (generally less than 3m) and therefore the groundwater and surface water are hydraulically connected. These units therefore take on the same resource assessment status as the overlying surface water Assessment Points. In contrast the Magnesian Limestone in the Swale catchment is covered by thick drift deposits that isolate the aquifer from surface waters. This means that the groundwater resource availability is different to that of surface waters in the same location.

### **Sherwood Sandstone**

The Swale and Upper Ouse Sherwood Sandstone units cover a large area of the catchment. These are assessed together because, although separated by the natural boundary of the Topcliffe fault, they share similar geological characteristics. In most places the drift cover prevents water getting into the aquifer so connection with the surface water is poor. Groundwater resource availability in these areas is therefore independent of surface water availability.

### **4.2.3 Estuaries and coastal**

The tidal limit of the River Ouse is at AP1, Naburn. From here the River Ouse flows into the Humber Estuary. There are therefore no tidal effects within the SUNO CAMS area that would impact on licensing.

## **4.3 Opportunities for licence 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 WFD water body status both within the water body/bodies where the trade will take place or to downstream water bodies. The table below provides a guide to the potential for trading in water bodies of a particular CAMS water resource availability colour, as shown on Map 2.

<b>CAMS water resource availability colour</b>	<b>Our approach to trading</b>
<b>High hydrological regime</b>	Opportunities for trading water rights will be limited.
<b>Water available for licensing</b>	Allow trades of recent actual abstraction and licensed abstraction, but little demand for trading expected within water body as water available for new abstractions.
<b>Restricted water available for licensing</b>	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.
<b>Water not available for licensing</b>	We will only trade recent actual abstraction but no increase in recent actual abstraction is permitted in water body. Licensed abstraction will be recovered for the environment.
<b>HMWBs</b>	Opportunities for trading will depend on local operating agreements and local management.

**Table 8 Resource availability colours and our approach to licence trading**

To find out more about licence trading please go to our [website](#).

## 4.4 New Authorisations

The Water Act 2003 brought all significant water abstraction under licensing control. This will result in trickle irrigation, dewatering of mines, quarries, engineering works and construction sites, abstractions related to Internal Drainage Districts, navigation abstraction and abstraction for ports and harbour authorities and other local exemptions coming into the licensing regime.

As a result we'll be able to manage water resources more effectively by ensuring that all significant activities influencing the availability of water and its impact on the environment are undertaken in a sustainable manner.

Government are still developing their policies as to how to resolve some of the issues raised during the consultation process. Government will publish their proposals before new regulations are implemented and expect to do this at least three months before commencement so that we can issue guidance to those affected by the changes.

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

## 4.5 Restoring Sustainable Abstraction

Where water abstractions cause or potentially cause actual flows to fall short of the EFIs and result in environmental damage, we may need to change or even revoke existing abstractions in order to achieve a sustainable abstraction regime. Within the SUNO CAMS there are 19 water bodies in which recent actual flows have fallen below the EFI. The abstraction licences within these water bodies that cause these issues are being investigated under the Water Framework Directive (WFD) and may then go forward to become part of the Restoring Sustainable Abstraction (RSA) programme. Investigations into the impact caused by these licences, individually or cumulatively, will result in options being developed with licence holders on how to improve sustainability. Investigations will include a cost/benefit analysis. Information on how licences in the RSA programme are dealt with can be found in our [Step by Step guide](#) on our website.

### Investigation of Water Framework Directive water bodies

In addition to the RSA programme, we are investigating whether reduced water flow may be causing problems under the WFD. About four per cent of rivers are failing to support WFD good ecological status due to pressures from over-abstraction.

### Habitats Directive

Under the Habitats Regulations we have assessed the effects of existing abstraction licences and will assess new applications to make sure they are not impacting on internationally important nature conservation sites. These sites are known as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). If your current licence has been reviewed under this legislation to assess its impact you will already know about the review. If we haven't contacted you yet then your licence is either not near a SAC/SPA or isn't having an impact on these sites. If our assessment shows that a new application could have an impact on a SAC/SPA we have to follow strict rules in setting a time limit for that licence. These are:

- we may be able to grant the licence but only with a short time limit. This allows us to monitor the impact of the abstraction on a SAC/SPA and change the licence if necessary;
- if we can't determine that your application will not affect the site we have to either put conditions on the licence so that it cannot affect the site or refuse the application. If we grant the licence we may ask you to monitor its impact;
- if our assessment shows that there isn't an impact on the site we will manage the application according to the principles in this document.

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Thank you for taking the time to read this Licensing Strategy. If you have any questions about it, or if you want to apply for an abstraction licence or make changes to a licence that you already have, then please contact us:

- by telephone on 03708 506 506
- by email at [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)
- or visit our website at [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

# Glossary of terms

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 Unit	Point at which the flow from upstream catchment is assessed.
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 (i.e. water, sewage, etc.) into surface waters.
Environmental flow indicator	Flow indicator to prevent environmental deterioration of rivers, set in line with new UK standards set by UKTAG.
Full licence	A licence to abstract water from a source of supply over a period of 28 days or more.
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.
Hands-Off Level	A river flow or borehole (groundwater) level below which an abstractor is required to reduce or stop abstraction.
Impoundment	An impoundment is a structure that obstructs or impedes the flow of inland water, such as a dam, weir or other constructed works.
Protected right	Means a right to abstract, which someone has by virtue of the small abstractions exemptions defined in the Water Act 2003 or by virtue of having an abstraction licence. The right protected is the quantity that can be abstracted up to that allowed by the exemption or the terms of the licence. The small abstraction exemptions defined by the Water Act 2003 are for domestic and agricultural purposes (excluding spray irrigation) not exceeding 20 m <sup>3</sup> /d.
Surface water	This is a general term used to describe all water features such as rivers, streams, springs, ponds and lakes.
Transfer licence	A licence to abstract water from one source of supply over a period of 28 days or more for the purpose of; <ol style="list-style-type: none"> <li>1. transferring water to another source of supply; or,</li> <li>2. transferring water to the same source of supply, but at another point, in the course of dewatering activities in connection with mining, quarrying, engineering, building or other operations (whether underground or on the surface);</li> </ol> without intervening use.
Water body	Units of either surface water or groundwater at which assessments are completed for WFD.

# List of abbreviations

AMP	Asset Management Plans
AP	Assessment Point
ASB	Abstraction Sensitivity Bands
AWB	Artificial Water body
CAMS	Catchment Abstraction Management Strategies
CED	Common End Date
Defra	Department of Environment Fisheries and Rural Affairs
EA	Environment Agency
EFI	Environmental Flow Indicator
FL	Full Licensed (scenario)
GEP	Good Ecological Potential
GES	Good Ecological Status
GW	Groundwater
GWMU	Groundwater Management Unit
HES	High Ecological Status
HMWB	Heavily Modified Water Body
HOF	Hands-Off Flow
HOL	Hands-Off Level
LDE	Level Dependent Environment
MI/d	Megalitres per day
mAOD	Metres above ordnance datum
Q95	The flow of a river which is exceeded on average for 95% of the time
MRF	Minimum Residual Flow
RA	Recent Actual (scenario)
RSA	Restoring Sustainable Abstraction
RBMP	River Basin Management Plans
SAC	Special Areas of Conservation
SPA	Special Protection Areas
SSSI	Sites of Special Scientific Interest
SW	Surface water
UKTAG	United Kingdom's Technical Advisory Group
WB	Water body
WFD	Water Framework Directive
WRGIS	Water Resources Geographical Information System

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