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Bristol Avon and North Somerset Streams WFD Management Area Abstraction Licensing Strategy

Bristol Avon, Little Avon, Axe and North Somerset Streams

CAMS

22nd December 2012

We are the Environment Agency. It's our job to look after your environment and make it **a better place** - for you, and for future generations.

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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 catchment and provides you with information on how we will manage existing abstraction licences and water availability for further abstraction.

In the South West region, we have decided to align our abstraction licensing strategies with Water Framework Directive (WFD) management Areas. These are often larger than individual CAMS areas, and by doing this we are creating fewer strategies and avoiding duplication.

WFD management Areas are an amalgamation of a number of smaller water bodies which provides a management unit at which actions are applied.

Andy Hicklin Environment Planning & Engagement Manager

Contents

1. About the Licensing Strategy

This **Licensing Strategy** sets out how water resources are managed in the Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management Area. It provides information about where water is available for further abstraction and an indication of how reliable a new abstraction licence may be. It supersedes the strategies of the Bristol Avon CAMS issued in 2005, the Little Avon CAMS issued in 2008 and the Axe and North Somerset Streams CAMS issued in 2006.

How CAMS contributes to achieving environmental objectives under the (WFD) Water Framework Directive
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 metres (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.

Sustainable abstraction
This licensing strategy has been produced using evidence and information gathered during the Catchment Abstraction Management Strategy (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 Bristol Avon, Little Avon, Axe and North Somerset Streams 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. Bristol Avon, Little Avon, Axe and North Somerset Streams

This new licensing strategy document amalgamates a number of previous CAMS areas so that the strategy aligns with the Water Framework Directive (WFD) boundaries. Due to this, some of the information in this document discusses them as separate areas.

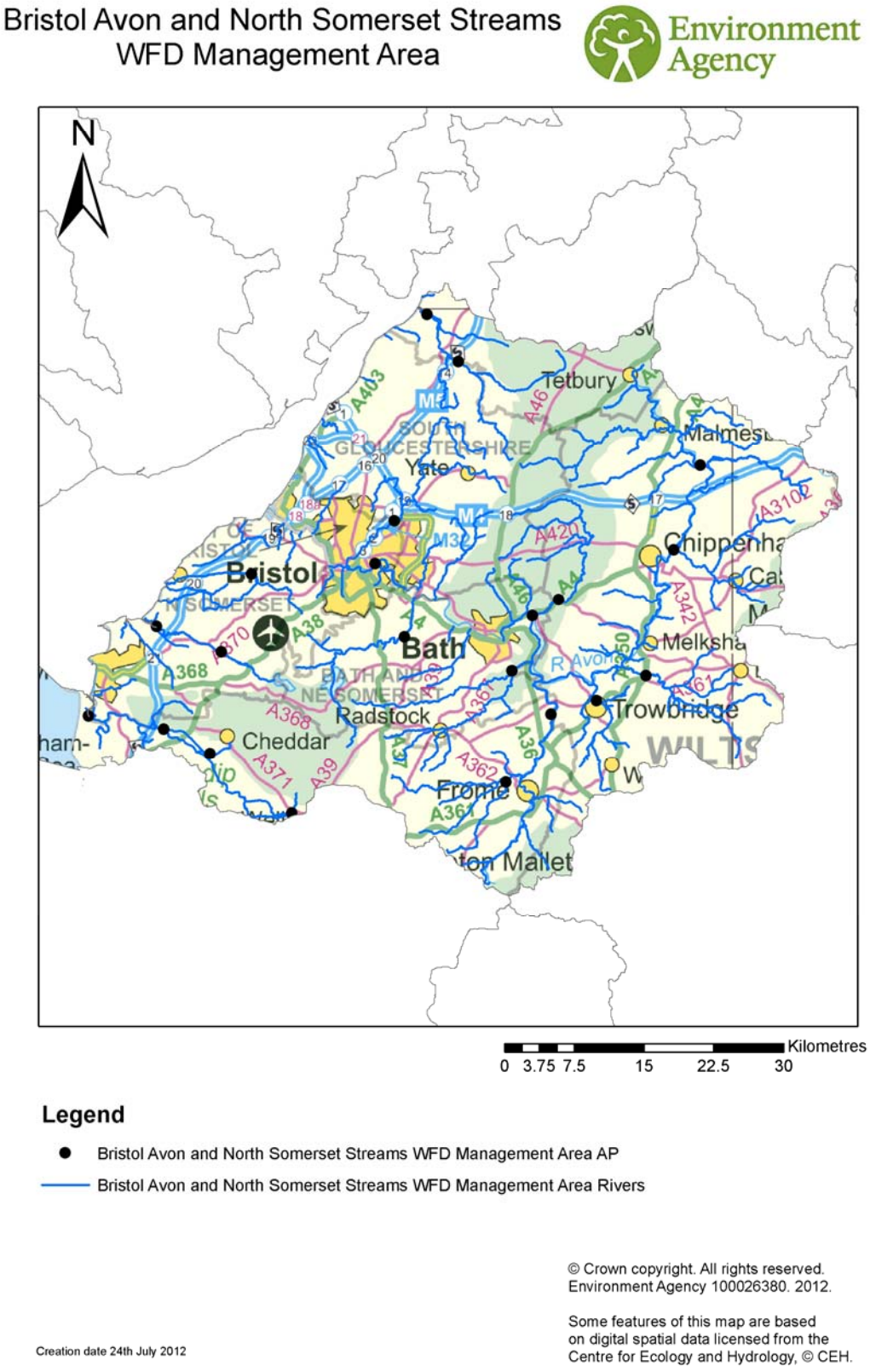
The Bristol Avon river has a large catchment area of approximately 2220km^2 encompassing the major cities of Bristol and Bath. The primary river flows south then west for approximately 134km from its source upstream of Malmesbury, through gentle rural landscapes and towns such as Bradford-on-Avon, before flowing through the Clifton Gorge to Avonmouth, and into the Severn Estuary. Significant tributaries in the catchment include from the Mendips; the Somerset Frome and River Chew, from Salisbury Plain; the River Marden and Semington Brook and from the Cotswolds; the Tetbury and Sherston Avon and the Bristol Frome. There are two canals in the Bristol Avon catchment, the Kennet and Avon Canal and the Wilts and Berks Canal, which includes the North Wilts Branch.

The Little Avon CAMS area stretches along the coast from Sharpness in the north, to Avonmouth in the south west and inland to include the towns of Wotton-under-Edge, Thornbury and Berkeley. The Little Avon rises at Horton, on the edge of the Cotswold escarpment at a height of approximately 170m AOD (Above Ordnance Datum). There is a healthy invertebrate community that supports an excellent fish population with spawning grounds for Sea Trout in the lower reaches and Brown Trout and Grayling further upstream. There are also other species of conservation interest including Eels and Bullheads, several Red Data Book species and ten species listed as national priorities for conservation in the UK Biodiversity Action Plan (UKBAP) including the native white-clawed crayfish (*Austropotamobius pallipes*) and the water vole (*Arvicola terrestris*).

The only significant urban areas are found at Thornbury, Wotton-under-Edge and the more industrial area of Avonmouth The geology comprises a variety of rock types from a broad range of geological ages. The Carboniferous limestone and Jurassic limestone and sandstones strata are the most significant in terms of water resources. They are classified as principal aquifer units due to their regional and national significance as sources of public and private water supply.

The Axe and North Somerset Streams CAMS covers a relatively small area of 547km^2, including the towns of Portishead, Weston-super-Mare, Nailsea and Cheddar. Significant areas of this catchment form part of the Somerset Levels and Moors. The streams and rivers that flow through this area are level managed by sluice gates, pumps, ditches and rhynes. The geology of this catchment area generally comprises older Devonian sandstones and Carboniferous limestones and sandstones forming areas of high ground with vast tracts of intervening lowland formed by younger Permo Triassic mudstones. The area is popular for tourists, with towns such as Wookey and Cheddar attracting people to the caves and for the climbing opportunities. Water bodies such as Blagdon Lake and Cheddar reservoir attract recreation activities such as fishing, whilst the Somerset Levels and Moors and Mendip Hills attract walkers and wildlife enthusiasts.

Map 1 shows the Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management Area.



Map 1. Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management Area

3. Water resource availability of the Bristol Avon, Little Avon, Axe and North Somerset Streams

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).

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 ground water units on which we carry out assessments and map results.

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 is 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'll base these on the water resource availability colours from high to low flows. Table 1 lists the implications for licensing for each water resource availability colour.

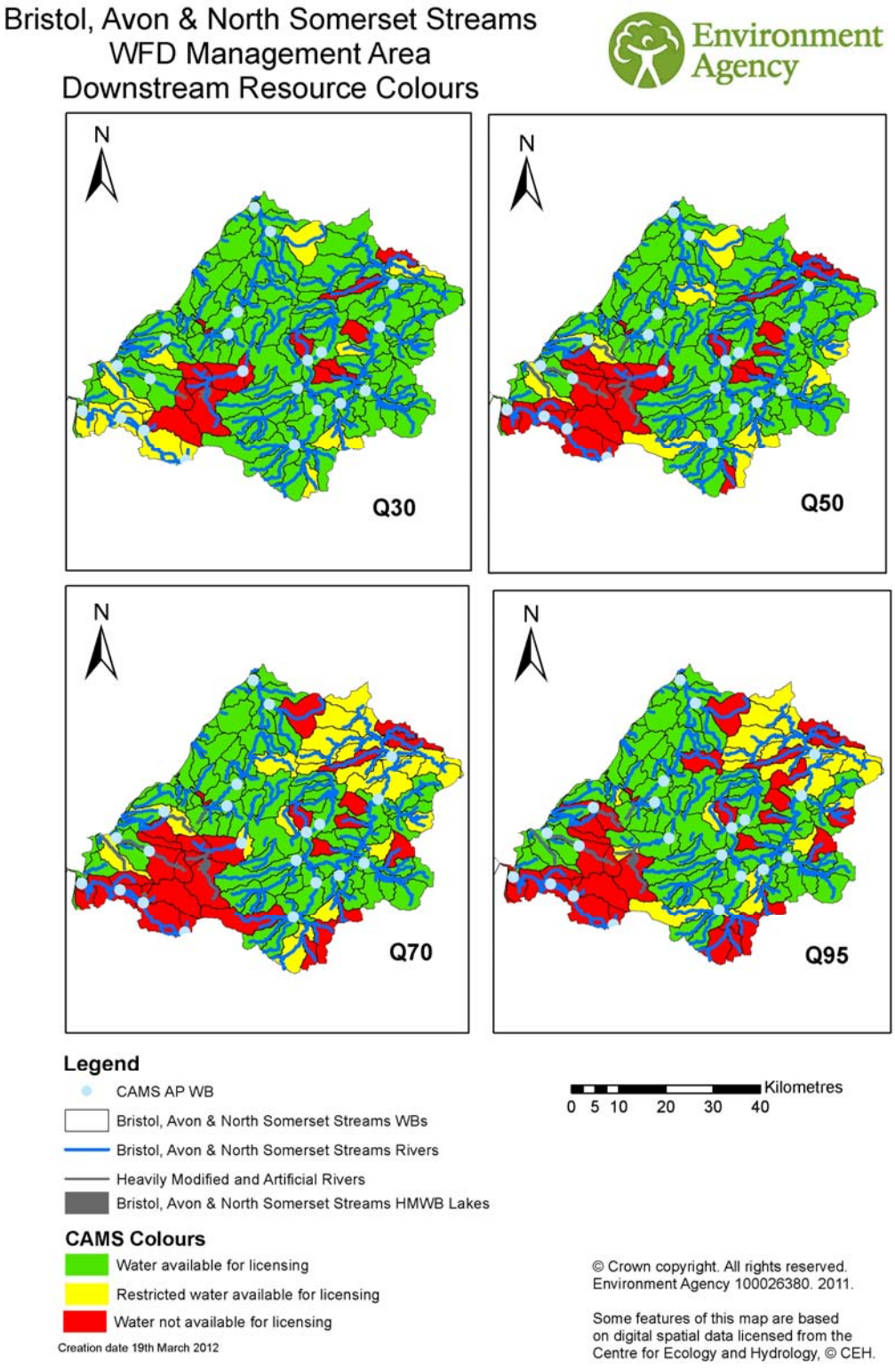
In cases where there is a flow deficit (RA is below the EFI) or risk of a flow deficit (FL below the EFI), there may be water available for abstraction at higher flows. This means that water may be scarce at low flows, but may be available to abstract at medium or high flows. A licence may still be granted 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. When assessing water availability we have to consider downstream requirements i.e. existing licences and environmental needs. To help us protect these downstream requirements we colour water bodies with the worst downstream resource availability colour, this is reflected in Map 2.

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	Full Licensed flows fall below the EFIs. No new consumptive licences would 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.
Water not available for licensing	Recent actual flows are below the EFI. Although flows do not directly determine Good Ecological Status, if flows are identified as being below the EFI, these sites are then reviewed to confirm that this is not affecting ecological wellbeing. No further consumptive licences will be granted. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder.
Heavily Modified Water Bodies	These water bodies have modified flows that are 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.

Table 1. Implications of water resource availability colours.

3.2.2. Groundwater

We have defined and assessed a number of Groundwater Management Units (GWMUs) within this WFD Management Area. Groundwater contributes to surface water flows and represents a significant proportion of flow, particularly during times of low flow. The information from the assessments on these units determines water availability and licence restrictions. Groundwater availability is guided by the surface water resource availability colours, unless we have better information on major aquifers or are aware of local issues. Please refer to section 4.2.2 for further information.



Map 2. Water resource availability colours for Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management Area including downstream requirements

3.3. Resource reliability

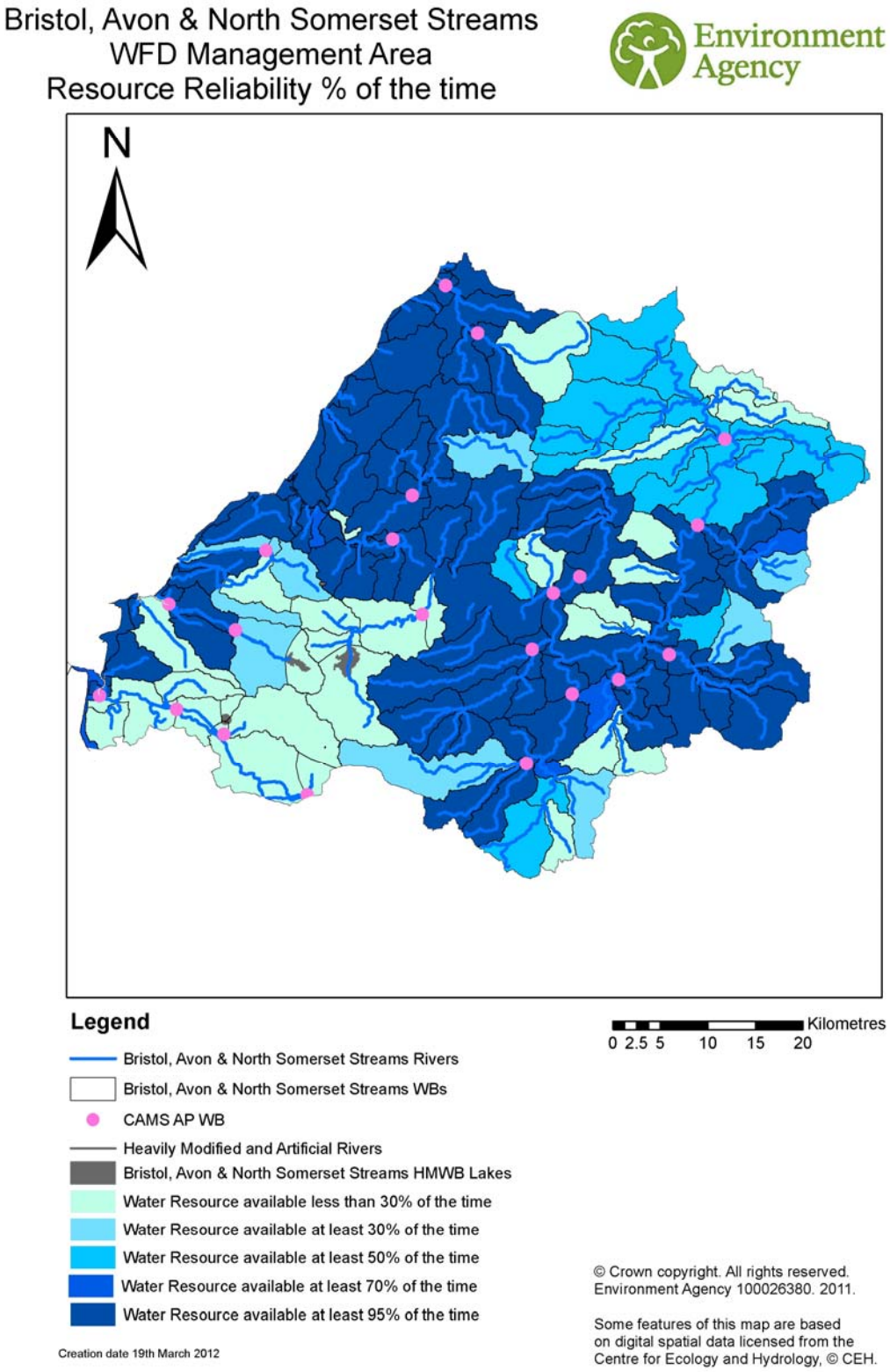
If you want to apply for a licence, it is worth considering that in some areas a new, consumptive abstraction may not be 100% reliable. Reliability information is based on CAMS resource availability colours and is a way of presenting the reliability of new abstractions at all flows.

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 2 shows the resource availability colour associated with the percentage reliability of consumptive abstraction. Map 3 gives an **indication** of the resource reliability in the Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management Area expressed as percentage of time.

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

Table 2. Percentage reliability of consumptive abstraction.



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

4. How we manage abstractions in the Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management 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 Bristol Avon, Little Avon, Axe and North Somerset Streams WFD Management 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^3/day from a 'source of supply' (river, stream, lake, well, 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 needs 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.

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 of Flows 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. Anyone wishing to abstract for hydropower should refer to the hydropower information on our website.

Applying for an abstraction licence
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 506506
- by email at enquiries@environment-agency.gov.uk
- or visit our website at www.environment-agency.gov.uk where information on 'abstraction' can be found through the keyword search facility.

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 6 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 6 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.

CAMS	Next CED	Subsequent CED
Bristol Avon	31st March 2017	31st March 2029
Little Avon	31st March 2015	31st March 2027
Axe and North Somerset Streams	31st March 2013	31st March 2025

Table 3. CAMS Common End Dates

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 'Hand-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, that is often where two major rivers join, or at a gauging station. Where flows fall below the EFI, new abstractions may be subject to HOFs.

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. 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.

Tables 4a and 4b give 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. In cases where there is water available at all flows we may apply a Minimum Residual Flow (MRF) to protect very low flows. We'll decide this on a case by case basis.

AP	Name	HOF Restriction	Potential reliability of a licence (%)	Approximate volume available in Ml/d	Additional restrictions
1	Great Somerford	4	56	28.9	
2	River Marden	-	70	10.9	Results at this AP have been overridden to the shown quantities to protect the catchment. A cost benefit analysis has been completed to justify this decision.
3	Semington Brook	MRF	100	4.2	
4	River Biss at Trowbridge	1	100	1.5	
5	River Mells at Vallis	d/s critical			Refer to AP6 results.
6	Somerset Frome at Tellisford	3	68	5.7	
7	Midford Brook	MRF	100	4.9	
8	By Brook at Middle Hill	MRF	100	2.5	
9	Middle River Avon at Bathford	MRF	100	1.4	
10	River Chew at Compton Dando	-	15	15.3	
11	Bristol Frome at Frenchay	MRF	100	1.1	
12	Lower Avon at Netham Dam (Tidal Limit)	MRF	100	25.2	
13	Upper Little Avon at Damery Bridge	5	37	5	
14	Lower Little Avon at Oakhunger Bridge	MRF	100	0.6	

Table 4a. HOFs for the assessment points of the Bristol Avon and Little Avon CAMS area.

AP	Name	HOF Restriction	Potential reliability of a licence (%)	Approximate volume available in Ml/d	Additional restrictions
1	River Axe at Henley Gauging Station	d/s critical			Refer to AP 5 results
2	Cheddar Yeo	-	4	26.8	
3	Congresbury Yeo at Iwood Gauging Station	5	38	5.7	
4	Land Yeo at Wraxall Gauging Station	5	41	3.6	
5	Middle River Axe	-	20	71.2	
6	Lower River Axe at Diamond Farm	5	30	9.4	
7	Congresbury Yeo at Yeo Bank Farm	4	52	16.2	

Table 4b. HOFs for the assessment points of Axe and North Somerset Streams CAMS area.

4.2.2. Groundwater

Although there are groundwater management units (GWMUs) in this WFD Management Area, we assume all groundwater abstractions impact on surface water flows. No abstraction licence constraints have been defined as a result of GWMU assessments. The licensing strategy set out in section 4.2.1 applies to groundwater and surface water applications. Where groundwater abstractions directly impact on surface water flows, 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. The impact is still measured at the surface water AP.

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.

CAMS 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.
Water not available for licensing	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.
Heavily Modified Water Bodies	Opportunities for trading will depend on local operating agreements and local management.

Table 5. CAMS approach to 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 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 3 months before commencement so that we can issue guidance to those affected by 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

The Restoring Sustainable Abstraction programme has been running for a number of years. It has been used to investigate sites where abstraction may be affecting the ecological wellbeing of various water courses. This programme has been responsible for the review of large numbers of licences and in this WFD area, and it has led to the revocation for a range of activities including Public Water Supply abstraction and fish farming. Revocation is only one option and RSA initially endeavours to amend licences to ensure that license holders can still operate but that any impact on the environment is minimised.

Further information on how licences in the RSA programme are dealt with can be found in our website.

Investigation Water Framework Directive Water Bodies

In addition to the RSA programme, we are investigating whether reduced water flow may be causing problems under the Water Framework Directive (WFD). About 4 per cent of rivers are failing to support WFD good ecological status due to pressures from over abstraction.

We are, or have been, investigating around 1,000 river water bodies (including 300 heavily modified), and 350 lake/reservoir water bodies where hydrology may not be supporting good ecological status or good ecological potential. Half of the river water body investigations are already complete. Of these, around half required no further action.

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 on designations can be found on the Natural England website.

Habitats Directive

Under the Habitats Regulations we have assessed the effects of existing abstraction licences on water dependent SAC's and SPA's, and will assess new applications to make sure they are not impacting on these internationally important nature conservation sites. 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.

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	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 ecological 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.
Non consumptive abstraction	Abstraction where 100% of water abstracted is returned to the water course from which it was taken.
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^3/d.
Surface water	This is a general term used to describe all water features such as rivers, streams, springs, ponds and lakes.
Temporary Licence	For abstractions over 20 cubic metres a day over a period of less than 28 days.
Transfer licence	A licence to abstract water from one source of supply over a period of 28 days or more for the purpose of; 1. transferring water to another source of supply; or, 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); 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	Ecological Flow Indicator
FL	Full Licensed (scenario)
GEP	Good Ecological Potential
GES	Good Ecological Status
GW	Groundwater
HES	High Ecological Status
HMWB	Heavily Modified Water Body
HoF	Hands off Flow
HoL	Hands off Level
LDE	Level Dependent Environment
maOD	Metres above ordnance datum
Q95	The flow of a river which is exceeded on average for 95% of the time.
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

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