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Rother Abstraction licensing strategy

February 2013

A licensing strategy to manage water resources sustainably

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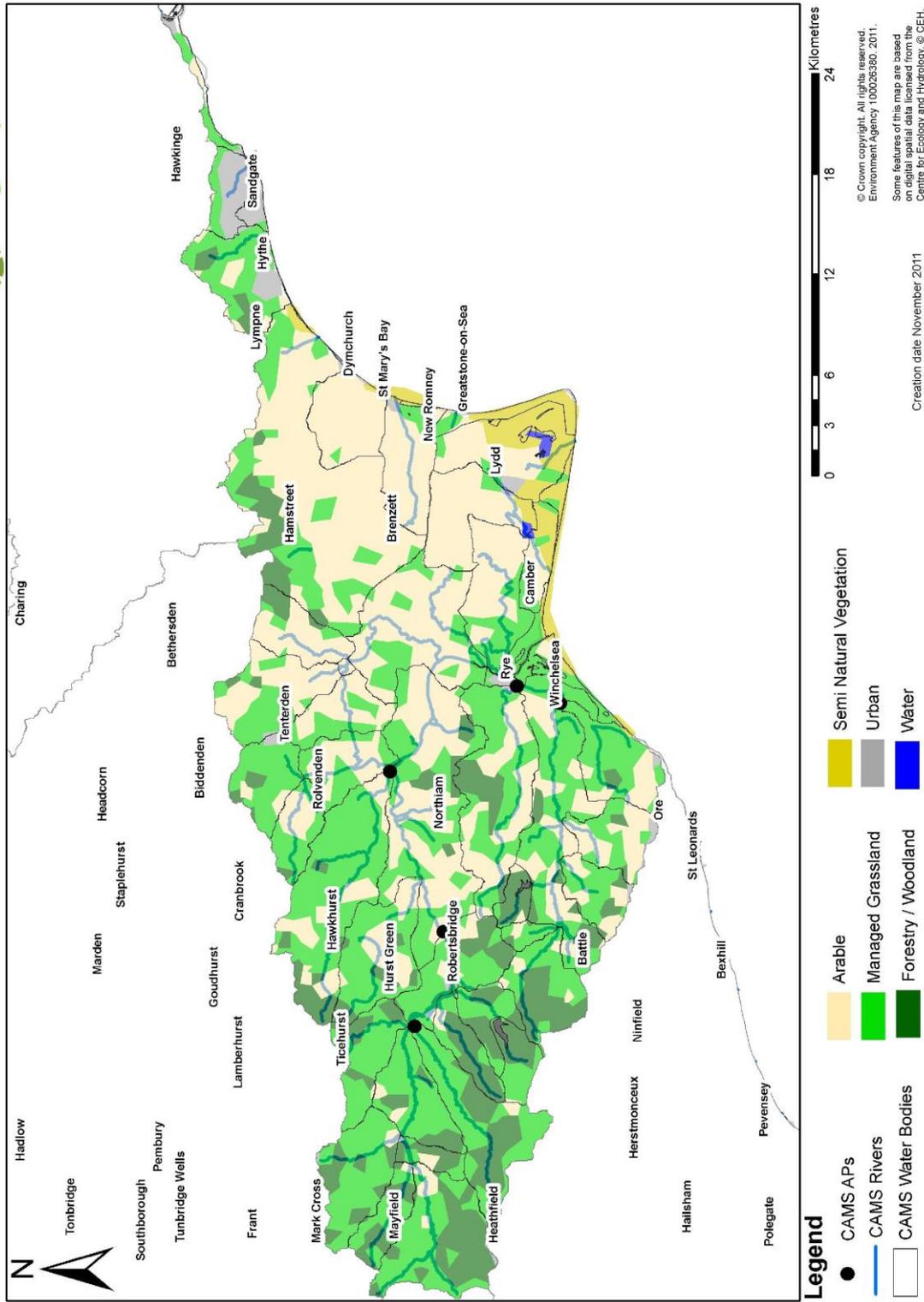
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Rother CAMS area



Rother CAMS (Catchment Abstraction Management Strategy) area

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Foreword

Kent and South London (KSL) is home to six million people and covers an area of 6,000km² with a diverse range of environments and related pressures. Proposed growth will continue to stretch the resources available to support this increasing population.

Water is our most essential natural resource, and it is our job to ensure that we manage and use it effectively and sustainably. KSL is one of the driest parts of England and Wales and there are many catchments where there is little or no water available for abstraction during dry periods. Demand from agriculture and industry, and above average household consumption all add to this pressure and affect both the water environment and fresh supplies.

The latest population growth and climate change predictions show that pressure on water resources will continue to increase in the future. We have to act now to make sure that we continue to maintain and improve sustainable abstraction and balance the needs of people and the environment.

This licensing strategy sets out how we will manage water resources in the catchment, existing abstraction licences and water availability for further abstraction



Andrew Pearce

Kent & South London Area Manager

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Glossary of terms

List of abbreviations

1. About the Licensing Strategy

This **Licensing Strategy** sets out how water resources are managed in the Rother catchment. 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 2006.

When is an abstraction licence required?

You need a licence from us if you want to abstract more than 20 cubic metres (4 000 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
- or visit our website at www.environment-agency.gov.uk or our [Abstraction Licensing](#) web page

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 waterbodies. This means that we can provide more detailed information on the availability of water resources in the Rother 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.

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2. The Rother CAMS area

The Rother CAMS area covers approximately 970km². The wider Rother catchment includes the rivers Dudwell, Darwell, Brede and Tillingham among other smaller streams, and the Romney and Walland marshes.

Scots Float sluice, just north of Rye creates the tidal limit of the Rother and during high tide freshwater can back up as far as Bodiam, approximately 20km upstream.

The geology of the Rivers Rother, Brede and Tillingham is dominated by the Hastings Beds. The Hasting Beds group includes the Ashdown Beds (a secondary aquifer), the Wadhurst Clay and the Tunbridge Wells Sands (a productive aquifer). The Wadhurst Clay is a very heavy clay formation and is not productive for groundwater abstraction.

In the High Weald, where the rivers originate, the impermeable clay and silt layers of the Hasting Beds give rise to rapid runoff and quickly responding watercourses following rainfall events.

The relatively steep sided valleys of the High Weald and the predominance of grass and woodland are replaced to the east by the flat area of the Romney and Walland Marshes. The high quality agricultural land and nationally and internationally designated conservation sites of the marshes are dissected by a complex drainage system. This network of private ditches, Internal Drainage Board sewers and main rivers are controlled through the operation of sluices, pumps and other structures.

The main pressures from the public water supply network within the catchment are found in the east around Folkestone and Hythe and the shingle aquifer of Dungeness. Darwell reservoir is the largest public water supply reservoir in the catchment and there is a transfer of water from Bewl reservoir in the Medway catchment to Darwell reservoir. The largest concentration of non-public water supply abstraction pressure is seen in the marshes for agricultural purposes.

The catchment has a population of around 175,000 people. Larger settlements include Rye, Hythe and Folkestone on the coast and Tenterden further inland. The smaller towns and villages serving the largely rural surroundings include Heathfield, Wadhurst, Robertsbridge, Lydd and Appledore.

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3. Water resource availability of the Rother 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 known as the Ecological 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 (defined by the EFI) 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 green, yellow and red.

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 may 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. It's important to realise that artificial influences in a catchment (such as abstractions, discharges or releases from reservoirs) can act to both decrease and increase river flows at different times of the year. However, Hands Off Flows and other conditions that we might apply to licences can be used to protect vulnerable flows whenever they occur.

When assessing water availability we also 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.

3.2.2 Groundwater

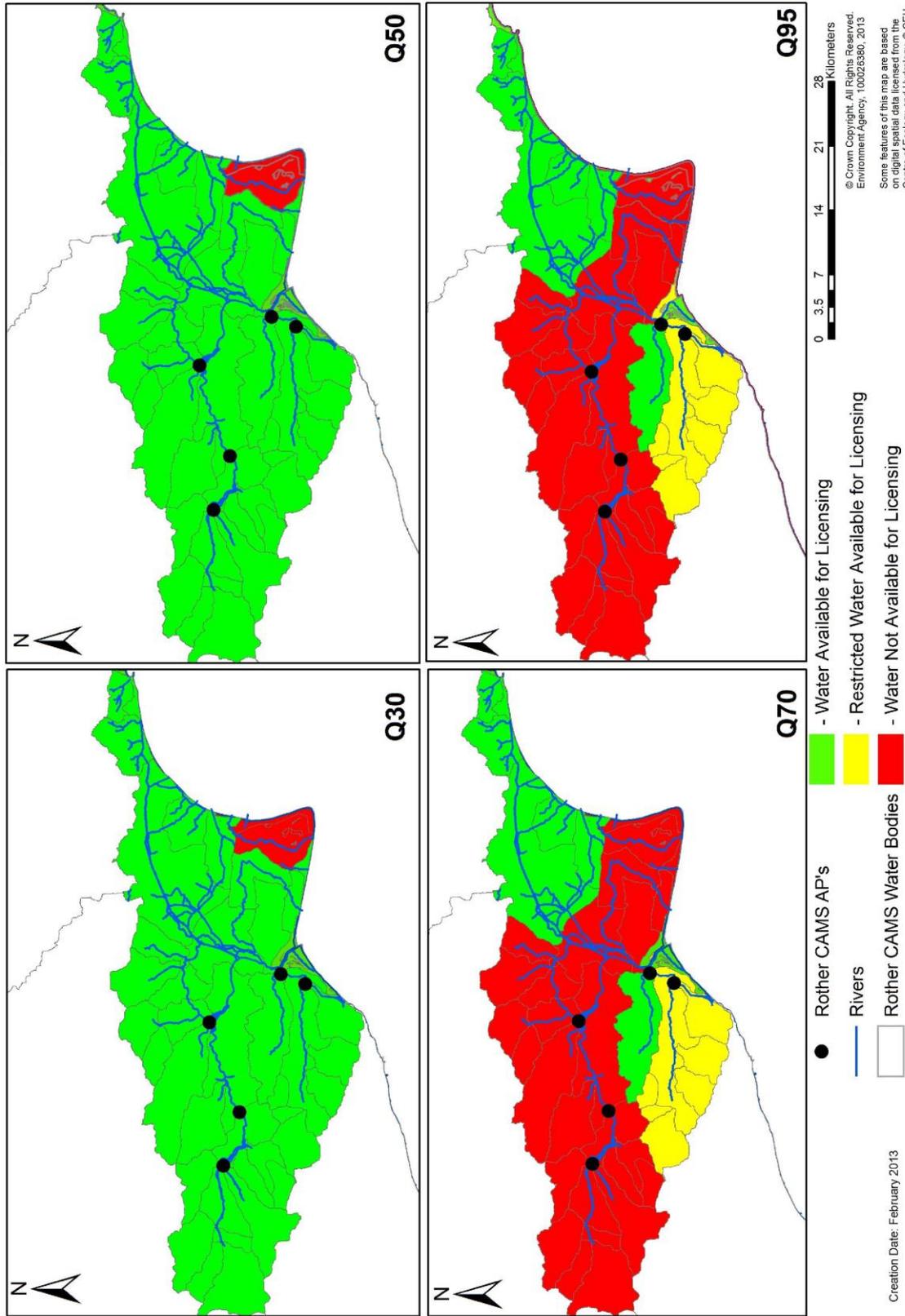
Groundwater availability is guided by the water resource availability colours unless we have better information on major aquifers or are aware of local issues we need to protect.

Map 2 shows the water resource availability colours in the Rother area. The same availability is applied to groundwater and surface water.

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. This scenario highlights water bodies where flows are below the requirement to meet Good Ecological Status (as required by the Water Framework Directive). No further consumptive licences will be granted. An economic appraisal of flow recovery and ecological benefit will be carried out. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder.
HMWBs	These water bodies have a modified flow that are influenced by reservoir compensation releases or they have flows that are augmented. These and 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.

Rother CAMS Downstream Resource Colours



Map 2 Water resource availability colours for the Rother CAMS including downstream requirements
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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.

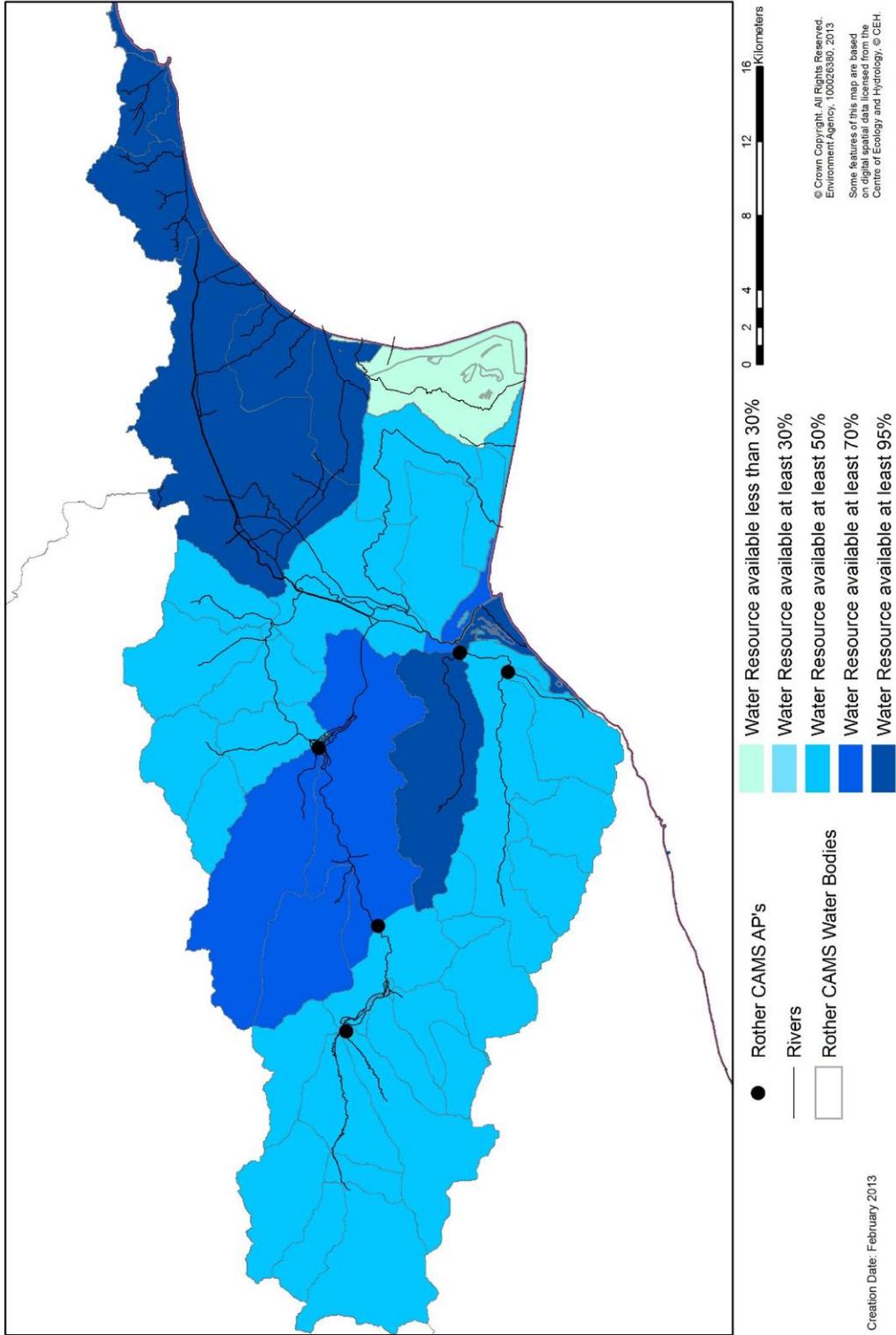
The availability of water for abstraction within a river varies greatly from high to low flows. By assessing the quantity of water available at different flows it is possible to see when there is a surplus or deficit of water and the associated reliability of an abstraction. This is an indication only,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

**Rother CAMS Resource Reliability
(% of the time)**



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

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4. How we manage abstractions in the Rother catchment

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 Rother catchment 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 20m³/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 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.

- Building Design

The South East is densely populated with household water use being the highest in the country at 164 litres per capita consumption (PPC) in comparison to the national average of 148 PCC. Throughout the area we are working closely with local authorities to ensure water conservation and efficient water use is embedded within their spatial strategic planning policies. One mechanism this can be achieved is through requiring all new homes and business units to be designed to achieve a minimum water efficiency levels. Water efficiency and the reduction in household water demand are crucial elements of good water resource management planning especially as the South East is under increased pressure from climate change and population growth. Local Authorities in Kent are signing the Climate Local commitment to share knowledge and work towards agreed targets that will support the quality of life for those living and working in Kent. Climate Local Kent includes targets to reduce water consumption and support retrofitting schemes www.kent.gov.uk/climatelocalkent

- Sustainable urban drainage systems (or SUDS)

SUDS is the practice of controlling surface water runoff as close to its origin as possible, before it is discharged to a watercourse or the ground. This involves moving away from traditional drainage systems to softer engineering solutions. The benefits are reduced flood risk, improved water quality and increased groundwater recharge. This water can also be collected and reused for non-potable purposes.

- Water audits

All businesses can use their water wisely. By investing a little time and money in implementing a simple water management plan, an organisation may reduce its water consumption by up to 80%, releasing money to be invested in other parts of the business and establishing 'green' credentials. Water audits allow the volume of water used during an average year to be calculated and suggest ways to reduce water use and therefore costs.

- Environment Agency

The Environment Agency provides a range of free guidance on water efficiency, including best practice case studies for agriculture, business, industry, public sector and the domestic consumer. Consult www.environment-agency.gov.uk/savewater.

- Water companies

For local water efficiency advice, contact your water company.

Southern Water www.southernwater.co.uk

South East Water www.southeastwater.co.uk

Affinity Water www.affinitywater.co.uk

- Water Regulations Advisor Service

WRAS provides advice on the Water Supply (Water Fittings) Regulations which prevents waste, misuse, undue consumption or contamination of wholesome water. Consult www.wras.co.uk or telephone 01495 248454.

Business/Commercial

- Waterwise

Waterwise is a UK NGO focused on decreasing water consumption in the UK and building the evidence base for large scale water efficiency. www.waterwise.org.uk/pages/save-water.html

Public sector

- Water Summit - Water Resilience Framework

Kent County Council and the Environment Agency are working in partnership to develop a Water Resilience Framework for Kent. In part this included a 'Water Summit' held in 2012 with water companies, public sector organisations, NGOs, businesses, community and local interest groups across Kent. The aim was to highlight local water resource pressures, drought issues and long-term local water risks, and establish a consensus on what needs to be done to develop a Water Resilience Framework for Kent which in turn would be of benefit to the local economy and jobs.

- Water in the School benchmarks

Water in the School is a website supported by a number of water companies aimed at National Curriculum Key Stage 2 and 3 pupils and their teachers. It provides a wealth of information for pupils on how to make savings. Consult www.waterintheschool.co.uk

- Hospitals

Water UK has collaborated with NHS Estates and Watermark to produce *Water Efficient Hospitals*, an information pack to help hospitals use water wisely and save money by cutting both water and energy bills. Consult www.water.org.uk/index.php?cat=3-4701

Agriculture & Horticulture

It is recognised there is a need to balance between people, business and the environment. We are working closely with Kent County Council and others on a programme to address the rapid growth of water demand within Kent's horticulture and agriculture sector which was an action from the Kent Environment Strategy.

- UK Irrigation Association (UKIA)

The UKIA provides information on irrigation to its members and runs technical workshops. Consult www.ukia.org

- DEFRA's Rural Development Service (RDS)

DEFRA's Rural Development Service provides grants for agricultural water resources management schemes under its Rural Enterprise Scheme. Consult www.defra.gov.uk/rural/rdpe/ or telephone 0845 9335577.

- Linking Environment & Farming (LEAF)

LEAF promote and develop integrated farm management, this includes whole farm water savings. Consult www.leafuk.org or telephone the Kent LEAF office 01580 712488.

Impoundments

Applications for impoundment licenses will be dealt with on a case-by-case basis but the Environment Agency is generally opposed to in-stream impoundments as they can have significant impact on the flow regime and the natural ecology. An impoundment is a dam, weir or other construction in an inland waterway that obstructs or impedes flow and/or raises water levels.

Hydropower

Anyone wishing to abstract for hydropower should refer to the hydropower information on 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.

Most licences within a CAMS 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 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 Rother CAMS are time-limited. CEDs occur every twelve years. The next CED for Rother CAMS is 2019 and the subsequent one is 2025.

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

Time-limited licences may be renewed with more restrictive terms and conditions to protect the environment, i.e.:

- Licensed quantity may be reduced to reflect actual abstraction rates;
- We will endeavour to provide licence holders notice of significant changes to their abstraction permission. These could include:
 - A Hands Off Flow (HOF) may be imposed
 - And/or, a hands-off groundwater level may be imposed.
 - Increased monitoring of abstraction volume, and/or monitoring of surface/ groundwater levels.

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 or where two major rivers join. Where flows fall below the EFI, new abstractions may be subject to HOFs.

Table 3 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 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.

The surface watercourses within the freshwater marshes found in the lower Rother catchment cannot be assessed in the same way as the naturally flowing main rivers and tributaries. The amount of water within these ditches, drains and IDB watercourses is a balance between not only normal catchment processes like rainfall, spring flow and overland flows but also the operation of transfers, pumps, sluices and managed discharges to sea. Abstractions that use this water are often carefully controlled to manage very local impacts on the environment and other local water users.

Reading from top to bottom in Table 3 are the APs in the Rother 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 MI/d that may be available. 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	Resource Reliability	HOF Restriction	Number of days abstraction may be available	Approximate volume in MI/d	Additional restrictions AP name and restriction
1	Rye – River Tillingham	Consumptive abstraction available at least 70% of the time.	2	361	0.3	
2	Hexden Confluence – Middle Rother and the Hexden Channel	Consumptive abstraction available at least 50% of the time.	36.4	321	3.5	
3	Winchelsea – River Brede	Consumptive abstraction available at least 30% of the time.	26.4	200	13	
4	Udium – Middle River Rother	Consumptive abstraction available at least 30% of the time.	44.6	200	6.8	Udium is a key gauging station and is used as a reference point for licences across the catchment – not only those within the middle River Rother.
5	Etchingam – Upper River Rother	Consumptive abstraction available at least 30% of the time.	49.8	200	17.5	

Table 3 HOFs for the assessment points of the Rother CAMS.

Assessment Points at a glance

Rye (AP1) – the River Tillingham

The Rye assessment point is representative of the River Tillingham and is located just upstream of Rye before the river's confluence with the Brede. This sub-catchment is not heavily drawn on for abstraction and has been assessed with a status of "water available for licensing". Applications for new licences to abstract within this catchment would still have to demonstrate responsible use of water and any licence would be designed with the protection of existing water users in mind during periods of lower flow.

Winchelsea (AP3) – the River Brede

The Winchelsea assessment point, representing the River Brede is located just upstream of the confluence of the Brede and the Royal Military Canal. The main tributaries to the river include the River Line, the Forge Stream and the Doleham Ditch. Powdermill reservoir impounds the Powdermill Stream and represents the main public water supply influence within this sub-catchment. The majority of licensed abstraction is accounted for by public water supply, although this changes when we consider the actual proportion of these licences that has been utilised over recent years. Under this scenario the relative influence of agriculture on water demand becomes more significant.

Applications for new abstractions within this unit will be carefully assessed because of the need to protect the ecological importance of low flows and existing water rights

Etchingam (AP5) – the Upper River Rother

The main headwater tributaries feeding the Upper Rother are the Tide Brook and the Rivers Limden and Dudwell. The majority of abstraction from the Upper Rother catchment is for the purpose of public water supply, with most coming from groundwater sources in the Ashdown Formation.

In authorising new abstraction licences in these upper reaches, be they from surface or groundwater sources, we have to take account of the increased abstraction pressure downstream in the middle and lower portions of the Rother catchment.

Udiam and the Hexden Confluence (AP4 & AP2) – the middle River Rother

The area upstream of the assessment point at Udiam, on the middle reaches of the River Rother includes Darwell Reservoir, the largest public water supply reservoir in the catchment. Downstream of Udiam, the river changes in character to a lowland stream where the rolling hills and steep valleys widen into a broad floodplain.

This middle to lower section of the Rother extends as far as the confluence with the Hexden Channel. Downstream, the Lower Rother is a highly managed system which has undergone extensive modification and floodplain drainage.

The gauging station at Udiam is the principle reference point for Hands Off Flow conditions for licences on the Rother itself as well as abstractions on the Romney and Walland marshes, which depend on water from the River Rother.

In assessing applications for new abstraction within this unit, we will seek to protect the ecological status of the river and the downstream freshwater marshes and existing water users within the catchment. For this reason, this unit has a status of "water not available for licensing".

New abstraction licences will almost certainly be controlled by a hands off flow condition referring to our gauging station at Udiam and will most likely be restricted to periods of greater river flow.

Catchment-wide strategy

Use of the “precautionary principle - Where there has been uncertainty over the impacts of a proposed abstraction, we have refused licences, or issued them with time limits on the grounds of the “precautionary principle”.

Encouraging Reservoir storage - Where possible, potential abstractors are encouraged to apply to take water during high flow periods, not necessarily restricted by season, to provide reservoir storage for subsequent re-use during drier months. This allows abstractors to use water for consumptive purposes during summer months when other surface water resources are unavailable.

Strategic Guidance for the Irrigation of Golf Courses - In assessing abstraction licences for golf courses, we generally allow only sufficient water for irrigating greens and tees. There is a “presumption against” the irrigation of fairways and approaches. As with licence applications this allocation of water will have to be backed by reasonable need.

4.2.2 Groundwater

Where groundwater abstractions directly impact on surface water flows, the impact is assessed at the surface water APs. Further to this, we have identified and assessed the two most important groundwater management units within the Rother catchment. The Hastings Beds, and the Denge Gravels.

The Hastings Beds refer to the grouping of the Ashdown Sands, the Wadhurst Clay, and the Tunbridge Wells Sands formations. Although there are a number of small abstractions from the Tunbridge Wells Sands, the majority of groundwater abstraction within the Hastings group is from the Ashdown Sands. It is thought that as a generalisation, the Tunbridge Wells Sands provide the largest contribution to the baseflow component of river flow, whilst the underlying Ashdown Formation constitutes the major resource.

On a catchment scale, a comparison of estimated aquifer recharge and licensed abstraction shows a theoretical surplus of water within this groundwater management unit. Our tests on this broad scale suggest that only in the upper reaches of the Rother, are existing licensed groundwater abstractions likely to have the potential to significantly reduce baseflow in our surface watercourses. However, geological faulting and structural complexity within this groundwater unit can interrupt and change expected groundwater flow paths and create discrete units.

With this in mind, although our assessment suggests that overall abstraction within the Hastings group is currently sustainable on a sub-catchment scale, potentially localised impacts of groundwater abstractions mean that applications for new abstraction within this unit must be assessed on a case specific basis.

The Denge Gravels aquifer, also referred to as the Dungeness or Lydd Gravels, forms the largest shingle system in Britain, covering 22 km². This environment is highly valued in terms of water supply as well as providing a distinctive habitat for flora and fauna due to its thinly developed topsoil as well as extensive bodies of open water created by aggregate excavations.

The groundwater levels influence vegetation and the water levels of lakes, which are important for wintering birds. A balance between abstractions and recharge is particularly important for this aquifer, not only to safeguard stable groundwater levels, but also because changing groundwater level can influence saline intrusion into the aquifer, affecting water quality and the viability of the aquifer as a source for public water supply.

Public water supply accounts for the vast majority of abstraction from this groundwater unit, and licensed abstraction is carefully controlled to protect against saline intrusion. Applications for further abstraction within this groundwater unit would therefore come under close scrutiny and would be assessed with groundwater quantity and quality being given equal weight.

4.2.3 Level Dependent Environment

The Rother CAMS contains water level dependent environments. We have divided the area into units, known as level dependent management units. We have completed an assessment on each of these units.

The surface watercourses within the freshwater marshes found in the lower Rother catchment cannot be assessed in the same way as the naturally flowing main rivers and tributaries. The amount of water within these ditches, drains and IDB watercourses is a balance between not only normal catchment processes like rainfall, spring flow and overland flows but also the operation of pumps, sluices and managed discharges.

The Reading Sewer level dependent management unit includes the Newmill Channel and the Reading Sewer between Potmans Heath and Shirley Moor pumping stations. During the winter months, excess water is discharged into the Rother. During the drier summer months water is retained and also augmented by pumping from the River Rother to the Newmill Channel at Potmans Heath. From here, water drains to feed the Reading Sewer.

The Romney Marsh and Walland Marsh level dependent management units receive the majority of their water supply from the Royal Military Canal (RMC). The RMC receives water pumped directly from the River Rother at Iden Lock, and indirectly via the Reading Sewer.

Assessed in isolation, the Reading Sewer and Romney Marsh units have a greater availability of water than the Walland Marsh as their water inputs are naturally augmented by smaller tributaries receiving a steady baseflow from permeable geologies. The Walland Marsh however is entirely dependent on direct rainfall and the management of water fed through from the RMC leaving this unit with a status of “no water available for licensing”. Due to the dependency the Walland Marsh has on water transferred into the RMC from the Rother, flows upstream need to be protected.

Abstractions that use this water (dominated by agricultural purposes) are often carefully controlled to manage very local impacts on the environment and other local water users with licence Hands Off Levels. These reflect the local state of water availability, but many licences are also controlled with a Hands Off Flow at our gauging station at Udiam further upstream on the River Rother. This reflects the availability of water within the wider catchment and therefore our ability to replenish lower levels within the marshes through pumping at Iden Lock and Potmans Heath.

This is a clear example of how our assessment of each abstraction licence must account for the demands and stresses it might place on the wider catchment.

4.2.4 Estuaries/coast

The tidal limit of the Rother catchment is marked by Scots Float Sluice. The quantity and frequency of freshwater flows passing downstream of this point influences the ecology and morphology of the transitional and coastal waters that follow. The transfer of water from the Lower Rother into the level dependent environments of the Reading Sewer, and the Romney and Walland Marshes has been known to greatly reduce this outflow. These transfers are found below the most downstream assessment point on the River Rother itself at the Hexden Confluence, but of course all abstractions further upstream also contribute to this reduction in flow.

For this reason, any application for a new licence to abstract from the Rother catchment will take account of the impact they may have on the estuary.

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	Initially, we will allow trades of recent actual abstraction and licensed abstraction but post trade recent actual abstraction must remain sustainable. The current level of recent actual abstraction means there is a risk that in the future we may only be able to trade recent actual abstraction.
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.
HMWBs	Opportunities for trading will depend on local operating agreements and local management.

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 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 Rother CAMS there are 2 water bodies in which recent actual flows are not sufficient to support their ecology. The abstraction licences within these water bodies that cause these issues are being investigated. Investigations into the impact caused by these licences, individually or cumulatively, may result in options being developed with licence holders on how to improve sustainability. 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 Water Framework Directive (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.

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
- or visit our website at www.environment-agency.gov.uk or our [Abstraction Licensing web page](#)

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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 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 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 ³ /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; <ul style="list-style-type: none"> 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.

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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)
GES	Good Ecological Status
GW	Groundwater
HES	High Ecological Status
HMWB	Heavily Modified Waterbody
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
WB	Water body
WFD	Water Framework Directive

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