water abstraction
getting the balance right

The Idle and Torne Catchment Abstraction Management Strategy

March 2007
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.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.
The Idle and Torne CAMS area overview
Forward

Water is an essential resource for life. Rivers and streams along with groundwater resources support a diverse range of wildlife and habitats, yet they are also subject to ever increasing pressure to meet human water supply needs.

These pressures have been highlighted in the Idle and Torne catchments, where the needs of the environment and important abstractions for public water supply, industry and agriculture must be balanced better. This strategy sets out how we will manage water resources in the Idle and Torne catchments over the next six years, laying the foundation for environmental improvements by using water more efficiently and in a more sensitive manner.

It is essential that we manage our water resources in a sustainable manner, to ensure that our activities today do not damage the environment or water supplies of the future.

We have a shared responsibility to use water wisely – in the home, at work and for recreational activities – a challenge this document will help us to meet.

Toby Willison
Area Manager for Lower Trent Area
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Your local CAMS</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>The CAMS area</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Main principles of abstraction licensing</td>
<td>8</td>
</tr>
<tr>
<td>3.1</td>
<td>National Principles</td>
<td>8</td>
</tr>
<tr>
<td>3.2</td>
<td>Catchment water resource availability</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Abstraction licensing strategy for the Idle and Torne CAMS area</td>
<td>14</td>
</tr>
<tr>
<td>4.1</td>
<td>Water Resource Management Unit 1 – Upper Meden</td>
<td>14</td>
</tr>
<tr>
<td>4.2</td>
<td>Water Resource Management Unit 2 – Upper Poulter</td>
<td>16</td>
</tr>
<tr>
<td>4.3</td>
<td>Water Resource Management Unit 3 – Oldcotes Dyke</td>
<td>18</td>
</tr>
<tr>
<td>4.4</td>
<td>Water Resource Management Unit 4 – River Idle</td>
<td>20</td>
</tr>
<tr>
<td>4.5</td>
<td>Water Resource Management Unit 5 – River Torne</td>
<td>23</td>
</tr>
<tr>
<td>5</td>
<td>Strategy actions</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Glossary</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>List of Abbreviations</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Appendix 1: Water efficiency contacts</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Appendix 2: Outline structure and information in technical document</td>
<td>34</td>
</tr>
</tbody>
</table>
Document structure and accompanying documents

What are CAMS?

Sections 1 and 2 outline what this strategy is for and the area that it covers.

The abstraction licensing strategy

This is the main part of the document. It is this section that outlines what this strategy will mean for you, whether you are an existing licence holder or if you are seeking to abstract water in the future.

Section 3 of this document outlines the main, national principles of abstraction licensing that we follow in the Idle and Torne catchments.

Section 4 outlines in more detail our abstraction licensing strategy for each part of the catchment.

Section 5 outlines how we are going to implement the strategy.

Technical information

Appendix 1 lists organisations that you can contact for information about using water more efficiently at home and at work.

The detailed technical information used to develop this strategy and information about how we made our decisions is included on a CD at the back of this document. A summary of the technical document structure is provided in Appendix 2.

Updates to this strategy

We will update this strategy every year. The update will be published on our website at www.environment-agency.gov.uk/cams. Please contact us on 08708 506506 if you want more information.
This strategy sets out how we will manage water resources in the Idle and Torne catchments providing you with information about how we will manage existing abstraction licences and future demands for further abstraction.

Your local CAMS

This is the Catchment Abstraction Management Strategy (CAMS) for the Idle and Torne catchments. It sets out how we will manage water abstraction until 2012. It outlines where we need to reduce current rates of abstraction. We also outline our policy on time-limited licences and how existing licences should be renewed and, if so, on what terms.

Once you have read this strategy, if you want to abstract water, you should contact us to find out if you need an abstraction licence. If you do require a licence we will advise on issues that could affect the likelihood of a licence being issued.

You can get more information about water availability and how to apply for an abstraction licence by contacting us on 08708 506506.

The Idle and Torne CAMS area stretches from central Nottinghamshire to southern Yorkshire. It covers an area of approximately 1300km², the landscape varying from Sherwood Forest and the wooded Dukeries in the south to the exposed Hatfield and Thorne Moors and valuable agricultural land of the Isle of Axholme in the north.

The Rivers Idle and Torne flow in a general north easterly direction, joining the River Trent at West Stockwith and Keadby, respectively. The River Trent is tidal here and the confluences with the Idle and Torne are artificially managed with water either pumped out of the tributaries at high tides or released by gravity at low tide. The Rivers Meden, Maun and Poulter meet near Gamston to form the River Idle, joined by the River Ryton downstream near Bawtry.

The rivers rise and flow through heavily urbanised areas including Mansfield, Sutton in Ashfield, Worksop, East Retford and the south-eastern outskirts of Doncaster. Heavy industry is present in the catchment but many collieries have closed in recent years due to the decline in coal mining. Peat has historically been extracted in the north, at Hatfield Moors. The practice has now ceased and work is underway to encourage regeneration of this important habitat.

The dominant land use is arable agriculture. Large areas in the north of the catchment are supported by a comprehensive system of land drainage to maintain their agricultural quality. Due to their low-lying situation these areas are also protected from flooding from the River Trent by extensive flood defences.

The above influences have seriously impacted wetland biodiversity in some areas of the catchment.

A technical document for the Idle and Torne CAMS, which contains the detailed technical information on which we have based this strategy, is available on the attached CD. You can also view a printed copy of this document at the address below.

The document Managing Water Abstraction: The Catchment Abstraction Management Strategy Process sets out both the national policy and the regulatory framework within which CAMS operates. A copy of this document is on the attached CD. If you would like to be sent a paper copy of Managing Water Abstraction please contact us at the following address.

Idle and Torne CAMS Project Manager
Water Resources Management
Environment Agency
Trentside Offices
Scarrington Road
West Bridgford
Nottingham
NG2 5FA

Office hours: Monday to Friday 8.30am to 5.00pm
National Customer Contact Centre: 08708 506506
Email: cams.lowertrent@environment-agency.gov.uk
Draining adjacent catchments, the Rivers Idle and Torne are two major tributaries of the tidal reach of the River Trent. The Rivers Maun and Meden rise west of Mansfield, in the south west of the CAMS area, flowing in a north–easterly direction. Turning northwards, at their confluence with the River Poulter near Gamston, south of Retford, the watercourse becomes the River Idle. After its confluence with the River Ryton south of Bawtry, the Idle takes an easterly course to its confluence with the River Trent at West Stockwith. The River Torne rises to the east of Maltby, flowing around the south-eastern outskirts of Doncaster before turning east to its confluence with the River Trent at Keadby.

Two major aquifers are present within the Idle and Torne CAMS area. Running north to south through the western area of the catchments, the Lower Magnesian Limestone aquifer outcrops, underlying the headwaters of the River Torne and the tributaries of the River Idle, providing baseflow to the surface watercourses. To the east the younger Triassic Sherwood Sandstone outcrops, overlying the limestone as the geology dips to the east. The Sherwood Sandstone is the dominant geology in the catchment. The aquifer provides a strategically important groundwater resource, the source of significant public water supply, industrial and agricultural abstractions.

Despite the strategic importance of the aquifer for public water supply, the average annual rainfall for the CAMS area is 620mm (based on rainfall data from the period 1961 to 1990), less than the average annual rainfall for England of 897mm.

The Idle and Torne catchments have been subject to significant river and floodplain modification over many years. The evolution and maintenance of a comprehensive land drainage system, primarily for arable agriculture has been to the detriment of the biodiversity interest of the catchment. Much of the land within the catchments has long since lost its original function as floodplain and is now heavily drained with land in the lower reaches lying at or below sea level. During periods of wet weather water is lifted from low-lying field drains by pumping stations which discharge into a network of high level carriers which convey water to the River Trent. During periods of water-scarcity the process can be reversed – referred to as ‘letback’ - at some pumping stations water can be returned from the high level carriers to the low-lying drains, principally undertaken to meet demand for water to irrigate agricultural crops.

Despite the extensive modification the catchments still boast some areas of valuable riverine and wetland habitat that support rare species. These areas have been designated as Sites of Special Scientific Interest (SSSIs). There are forty-five SSSIs with features that are water dependent to some degree, although many of these are degraded and require more sympathetic management to restore their former biodiversity value. There are also areas of internationally important wetlands with Thorne and Hatfield Moors Special Areas of Conservation (SACs) designated primarily for their lowland raised bog habitat that is currently being restored following the cessation of peat milling. Other areas that are notable at a local level have been designated Sites of Importance for Nature Conservation (SINCs).
The designated habitats are prime examples within the catchment, but it is vital that the wider countryside is also protected - smaller wetlands and less diverse stream reaches linking the larger more diverse areas and enabling wildlife to flourish throughout the catchments.

Floodplain wetlands would have dominated the landscape in these lowland catchments but today only remnants remain. The most significant modification in the Idle and Torne catchments is the established pumping regime of the lower reaches that has reduced the inundation of the floodplains, isolated from the watercourses in places by flood defences. The River Idle Washlands SSSI, located downstream of Bawtry, is the principal area of floodplain wet grassland in the catchment. Impacted by land drainage, flood defence and abstraction, work is underway under the National Environment Programme and Asset Management Plan (AMP) together with the production of a water level management plan to retain its wet grassland communities and associated wildfowl and wader interest.

The fishery of the tributaries of the River Idle is impacted by stretches of poor habitat, over-engineered channels and poor water quality. These issues are exacerbated by abstraction, noted to lead to exposure of spawning gravel and fry habitat together with sedimentation of spawning gravel – abstraction-suppressed winter flows unable to flush out sand and other fines that wash off agricultural land. Despite such issues, the upper reaches of both the Rivers Meden and Poulter and the River Ryton downstream of Worksop all support populations of brown trout. Whilst elsewhere within the Idle catchment cyprinid species dominate. The lower reaches of the River Ryton and River Idle support organised angling, with both fishing clubs and the Environment Agency having previously undertaken stocking programmes. The River Torne also supports a valuable fishery with a variety of angling clubs. The slow, deep water of the pumped system supports roach, pike and eels, amongst other species.

Ecological monitoring is undertaken throughout the catchments, with assessment methods focussing on the diversity of macroinvertebrates which determines the severity and possible causes of environmental stress through the tolerance of different species. Surveying of macrophytes (macroscopic plants) and diatoms (unicellular algae) are also undertaken in the catchment to assess the extent of any eutrophication (nutrient enrichment). The general ecological status, as represented by the macroinvertebrate fauna varies from good in the main rivers such as the Torne and Idle to moderate and poor in some of the level dependant areas towards the north of the CAMS area.

The largest consented discharges to the Idle and Torne catchments are from sewage treatment works, with 55 located across the CAMS area. Treatment at these works has improved over many years of water company Asset Management Programme (AMP) schemes, but they remain significant in terms of biochemical oxygen demand (BOD), ammonia and nutrients. The majority of industrial discharges are associated with mineral extraction, from quarries and collieries. Contributing large quantities of water to the rivers, they have the effect of depleting groundwater resources accelerating its removal from the catchments but typically benefit the water quality. Other trade effluents may be locally significant but are less so in a catchment-wide context.

Over fifty percent of the water licensed to be abstracted is for public water supply, with water drawn from the Sherwood Sandstone aquifer. The Idle and Torne CAMS area lies within the supply zone of three water companies – Anglian Water Services, Severn Trent Water and Yorkshire Water Services. Spray irrigation for agriculture and horticulture accounts for a further 15 percent of abstraction as does industrial abstraction – half of which is for use in the quarrying and mining sector.
This strategy provides the framework for any decision on an abstraction licence application.

Main principles of abstraction licensing

3.1 National Principles
This section outlines the principles of abstraction licensing that are applied nationally, providing the framework within which we determine abstraction licence applications. The availability of water is assessed on an individual catchment basis and the strategy for water resources management within the Idle and Torne CAMS area is set out in Section 4.

3.1.1 Licence determination
Anyone wanting to take more than 20 cubic metres per day (m³/day) of water 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 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 the strategy that we develop may conclude that water is available to be licensed in a catchment, this does not guarantee that all applications will be successful. Each application will be determined upon its own merits/impacts.

We split catchments into areas of water that can be managed as individual units. The Idle and Torne CAMS has five Water Resource Management Units (WRMU). These are shown on Map 2 on Page 9.

Where a proposal for an abstraction licence may have a potentially significant environmental effect, we may ask applicants to provide additional information about the likely environmental impact of the proposed abstraction with their applications.

Abstractions are managed to protect the environment
To protect the environment we may issue a licence with conditions. One type of condition is referred to as a ‘Hands-Off Flow’. This specifies that if the flow or level in the river drops below that which is required to protect the environment the abstraction must stop, hence ‘Hands-Off Flow’ (HOF).

A licence does not guarantee that water is available
It is 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, as described above. The licence holder needs to understand the implications of this as it affects the reliability of supply. For example, in drier years it is more likely that conditions will come into effect and abstraction is more likely to be stopped.

Water efficiency
We need to make the best use of our existing water resources. Adopting water efficiency measures can
Map 2 Water Resource Management Units

- WRMU 1 – Upper Meden
- WRMU 2 – Upper Poulter
- WRMU 3 – Oldcotes Dyke
- WRMU 4 – River Idle
- WRMU 5 – River Torne
help us achieve this goal. Water efficiency is one of the tests that need to be satisfied before we grant a new licence or renew a time-limited licence. We are currently consulting with interested parties on how best to implement water efficiency within the abstraction licensing system.

**Approach to time limiting of licences**

All new licences and variations will have a time limit imposed, unless it is a downward variation or minor variation with no environmental impact. CAMS are the mechanism for managing time limits on licences by indicating whether they should be renewed and, if so, on what terms. Where possible, the intention is to have all time limits on licences within a CAMS area expiring on the same date, known as the “common end date”. However, there may be situations where shorter or longer time limits may be justified. The next common end date for the Idle and Torne CAMS is 31 March 2014. The normal duration for a renewed licence will be 12 years.

We will notify licence holders 18, 12 and 6 months before the expiry of their licence. If you hold a time limited licence you will then need to apply for a renewal of that licence. There is a presumption that time limited licences will be renewed if:

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

We will also take into account any objections received to renewal of the licence. We will endeavour to give six years notice if a licence will not be renewed or is to be renewed on more restrictive terms that impact significantly on the use of that licence. In very exceptional circumstances we may also grant licences for longer than 12 years.

**3.1.2 Water rights trading**

We want to make it easier to trade water rights. Such trading refers to the transfer of licensable water rights from one party to another. Abstractors may be able to pass on this right to others. More detailed information is available in Section 4 of Managing Water Abstraction and Chapter 7 of the attached CD.

We sent licence holders a guidance leaflet – Water Rights Trading – in 2002. This explained the current opportunities for trading abstraction licences. In 2003 we consulted on more detailed proposals. We took the responses we received into account and will publish further information and guidance to coincide with the implementation of the relevant parts of the Water Act 2003. Further information is available on our website at www.environment-agency.gov.uk.

The trading of ‘sleepers’ or ‘part utilised’ licences could exacerbate over abstraction in the Idle and Torne catchments through the re-activation of currently dormant licensed resources. Trading within the Idle and Torne catchments will therefore require appropriate management, for example we may need to place conditions on new or varied licences to prevent damage to the environment occurring as a result of trading. However, where water rights trading will decrease the consumptiveness of the abstraction purpose authorised by the licence (ie less water will be lost from the catchment) or will cause no adverse environmental impacts, proposals will be welcomed, or promoted where the proposed trading of water rights will bring environmental benefits.

**3.1.3 Environmental considerations**

**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, their nests, eggs and habitats.

Ramsar sites and Sites of Special Scientific Interest (SSSI) also carry a high level of environmental importance. Table 1 lists the related environmentally designated sites in this CAMS.

**Habitats Regulations**

Under the Habitats Regulations we have to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. These sites are known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

If your current licence is being reviewed under this legislation to assess its impact you will already have been sent a letter with information about the review. If you have not received a letter from us your licence is either not near a SAC/SPA or cannot have an impact on these sites.

If our assessment shows that a new application could have an impact on a SAC/SPA we will have to follow some 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 is so we can monitor the effect of the abstraction on a SAC/SPA and change the licence if necessary;
If it cannot be determined that your application will not affect the site we have to either put conditions on the licence so that it cannot effect 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 it in line with this CAMS.

### 3.1.4 The Water Act 2003

The Water Act 2003 introduced a new statutory framework for managing water resources that will be implemented into the water resources authorisation system over the next few years. The main changes that are still to be implemented include:

- new controls on previously exempt abstractions for mine and quarry de-watering, trickle and other forms of irrigation, transfers into canals and internal drainage districts;
- stronger powers for water resources planning and management;
- more flexibility to the licensing regulations to improve their efficiency and to encourage water rights trading;
- stronger powers on water conservation.

For more details on the Water Act 2003 and its implementation, see our website, www.environment-agency.gov.uk, or contact your local Environment Agency office on 08708 506506. The website will be updated to provide information as the Water Act 2003 is implemented.

#### 3.1.5 Exempt purposes and areas

Some abstractions do not need to be licensed: for example, those that do not exceed 20 cubic metres per day. Other abstractions are exempt because they take place in a part of the country where a general exemption has been given from the need for abstractions to be licensed. There are no such exempt areas within the Idle and Torne catchments.

#### 3.1.6 Impoundments

Applications for impoundments will be dealt with on a case-by-case basis to ensure that any proposed development does not compromise the abstraction licensing strategy for the Idle and Torne catchments.

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**Table 1 Presence of features that may affect water availability**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Present</th>
<th>WRMU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water related Sites of Special Scientific Interest (SSSI)</td>
<td>Hills and Holes and the Sookholme Brook, Pleasley Vale Railway</td>
<td>WRMU1 – Upper Meden</td>
</tr>
<tr>
<td>Water related Sites of Special Scientific Interest (SSSI)</td>
<td>Not applicable</td>
<td>WRMU2 – Upper Poulter</td>
</tr>
<tr>
<td>Water related Sites of Special Scientific Interest (SSSI)</td>
<td>Dyscarr Wood, Low Common, Roche Abbey Woodlands</td>
<td>WRMU3 – Oldcotes Dyke</td>
</tr>
<tr>
<td>Water related Special Area of Conservation (SAC)</td>
<td>Hatfield Moor SAC Thorne Moor SAC</td>
<td>WRMU5 – River Torne</td>
</tr>
<tr>
<td>Water related Special Protection Area (SPA)</td>
<td>No*</td>
<td></td>
</tr>
</tbody>
</table>

*NB: Thorne and Hatfield Moors SPA is designated for the presence of nightjar which is dependent on a dry heathland habitat. Consequently the interest feature is not water dependent and therefore does not directly relate to the CAMS process.*
3.1.7 Management of existing licences
We enforce licences through a programme of routine inspections to ensure that the abstraction conditions are understood and adhered to. We will continue to operate a rigorous enforcement policy and undertake regular licence inspections and site visits.

3.2 Catchment water resource availability
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 provide this information we have developed a classification system. This gives a “resource availability status” and 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 needs to be reduced.

Licence applications still have to go through the normal licensing process. More information on this process is in Annexe 2 of Managing Water Abstraction on the attached CD.

There are four categories of resource availability status, as shown in Table 2. The resource availability status and target status for each of the five WRMU in the Idle and Torne CAMS area is shown in Table 3 and Map 3.

### Table 2 Resource availability status categories

<table>
<thead>
<tr>
<th>Indicative resource availability status</th>
<th>Licence Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water available</td>
<td>Water is likely to be available at all flows including low flows. Restrictions may apply.</td>
</tr>
<tr>
<td>No water available</td>
<td>No water is available for further licensing at low flows. Water may be available at higher flows with appropriate restrictions.</td>
</tr>
<tr>
<td>Over-licensed</td>
<td>Current actual abstraction is such that no water is available at low flows. If existing licences were used to their full allocation they could cause unacceptable environmental damage at low flows. Water may be available at high flows, with appropriate restrictions.</td>
</tr>
<tr>
<td>Over-abstracted</td>
<td>Existing abstraction is causing unacceptable damage to the environment at low flows. Water may still be available at high flows, with appropriate restrictions.</td>
</tr>
</tbody>
</table>

### Table 3 Overview of the existing water resource availability and the target water resource availability at low flows for this CAMS.

<table>
<thead>
<tr>
<th>WRMU Name</th>
<th>Associated main river</th>
<th>Individual WRMU status</th>
<th>Resource Availability Status</th>
<th>Target status in 2010</th>
<th>Target status in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRMU 1 Upper Meden</td>
<td>River Meden</td>
<td>Water available</td>
<td>No water available</td>
<td>No water available</td>
<td>No water available</td>
</tr>
<tr>
<td>WRMU 2 Upper Poulter</td>
<td>River Poulter</td>
<td>Water available</td>
<td>No water available</td>
<td>No water available</td>
<td>No water available</td>
</tr>
<tr>
<td>WRMU 3 Oldcotes Dyke</td>
<td>Oldcotes Dyke</td>
<td>Water available</td>
<td>No water available</td>
<td>No water available</td>
<td>No water available</td>
</tr>
<tr>
<td>WRMU 4 River Idle</td>
<td>River Idle</td>
<td>Over abstracted</td>
<td>Over abstracted</td>
<td>Over licensed</td>
<td>Over licensed</td>
</tr>
<tr>
<td>WRMU 5 River Torne</td>
<td>River Torne</td>
<td>Over abstracted</td>
<td>Over abstracted</td>
<td>Over licensed</td>
<td>Over licensed</td>
</tr>
</tbody>
</table>
This section describes the licensing strategy and available water resource for each WRMU and GWMU in the Idle and Torne catchments.

4.1 Water Resource Management Unit 1 – Upper Meden

Water Resource Management Unit 1 (WRMU1) includes the River Meden and its tributaries upstream of the Environment Agency gauging station at Church Warsop, together with the Mansfield groundwater management unit (GWMU) of the Lower Magnesian Limestone. The Mansfield GWMU extends under the headwaters of the River Maun but the watercourse itself is included within the River Idle WRMU (WRMU4) – WRMU1 effectively underlies WRMU4. Consequently there is some overlap between map 4 and map 7. The upper reaches of the River Meden and the Mansfield GWMU were both classed as ‘water available’ under the resource assessment but this has been overridden to ‘no water available’ due to the resource availability status of the catchment downstream.

Our strategy

Map 4 shows the location of sites and features that may affect abstraction licence/water availability. As shown in Table 4 the target status for this WRMU in 2010 is to remain at no water available. The Upper Meden WRMU lies upstream of the River Idle WRMU. We need to maintain flows in the Upper Meden to prevent the deterioration of flows into the River Idle WRMU. We have therefore fixed the target status for water resource availability as no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the technical document on the attached CD.

Table 4 Existing low flow resource availability status and target low flow resource availability status for the Upper Meden Water Resource Management Unit.

<table>
<thead>
<tr>
<th>Associated main river</th>
<th>Resource Availability Status</th>
<th>Target status in 2010</th>
<th>Target status in 2016</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Meden</td>
<td>Individual WRMU status</td>
<td>Integrated WRMU status</td>
<td>Target status in 2010</td>
<td>Target status in 2016</td>
</tr>
<tr>
<td>River Meden</td>
<td>Water available</td>
<td>No water available</td>
<td>No water available</td>
<td>No water available</td>
</tr>
</tbody>
</table>

It is important to note that this strategy may not apply to licences that return abstracted water back close to the point of abstraction or result in a net benefit to the water environment.
Map 4 shows the location of sites and features that may affect abstraction licence/water availability in WRMU1 – Upper Meden.
Strategy for new and existing licences
The strategy for this WRMU is to remain at the status of no water available. This means that for new licences:

- there will be a presumption against the issue of new licences within the Upper Meden WRMU unless they can be demonstrated to be of net environmental benefit;
- any licence that is issued will be subject to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

and for existing licences:

- there will be a presumption of renewal subject to local considerations and the main principles of abstraction licensing, as described in section 3, above;
- licences will be issued to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

Summary
There will be a presumption against the issue of new licences and variations to existing licences that would increase the amount of water lost from the catchment (i.e., increase the consumptiveness of licences). Applications for new abstractions and variations to existing licences will be subject to the full determination process, as described in section 3.

Additional local information specific to this WRMU
Map 4 illustrates the boundaries of the WRMU, which includes the River Meden and its tributaries upstream of Church Warsop together with the Mansfield Groundwater Management Unit (GWMU) of the Lower Magnesian Limestone. Hills and Holes and the Sookholme Brook SSSI is located in the lower reaches of the WRMU. Natural England has identified the vulnerability of this designated site to damage as a result of abstraction and have produced a ‘Views About Management’ plan. The SSSI has also been included within our Restoring Sustainable Abstraction (RSA) Programme catalogue of work, under which monitoring of the impact of abstraction on the site is underway. Table 5 lists features present within the WRMU that could affect water availability at a local-scale.

4.2 Water Resource Management Unit 2 – Upper Poulter
Water Resource Management Unit 2 (WRMU2) includes the upper reaches of the River Poulter and its tributaries upstream of the Environment Agency gauging station at Cuckney, together with the Bolsover groundwater management unit (GWMU) of the Lower Magnesian Limestone aquifer. The Bolsover GWMU extends northwards to underlie the Millwood Brook and upper reaches of the River Ryton but does not include these watercourses – WRMU2 effectively underlies part of WRMU4 River Idle. Consequently there is some overlap between map 5 and map 7. The upper reaches of the River Poulter and the Bolsover GWMU were both classed as ‘water available’ under the resource assessment but this was overridden to give the integrated status of ‘no water available’ due to the resource status of the catchment downstream.

Our strategy
The water resource availability status of this WRMU is no water available. As shown in Table 6 the target status for this WRMU in 2010 is to remain at no water available. The Upper Poulter WRMU lies upstream of the River Idle WRMU. We need to maintain flows in the Upper Poulter to prevent the deterioration of flows into the River Idle WRMU. We have therefore fixed the target status for water resource availability as no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the technical document on the attached CD.

Strategy for new and existing licences
The strategy for this WRMU is to remain at the status no water available. This means that for new licences:

- there will be a presumption against the issue of new licences within the Upper Poulter WRMU unless they can be demonstrated to be of net environmental benefit;
- any licence that is issued will be subject to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

Table 5 Presence of features that may affect water availability in WRMU1 – Upper Meden

<table>
<thead>
<tr>
<th>Feature</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water related Site of Special Scientific Interest (SSSIs)</td>
<td>Hills and Holes and the Sookholme Brook Pleasley Vale Railway</td>
</tr>
</tbody>
</table>
Map 5 Shows the location of sites and features that may affect abstraction licence/water availability within WRMU2 – Upper Poulter.
and for existing licences:

- there will be a presumption of renewal subject to local considerations and the main principles of abstraction licensing, as described in section 3, above;
- licences will be issued to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

Summary
There will be a presumption against the issue of new licences and variations to existing licences that would increase the amount of water lost from the catchment (ie increase the consumptiveness of licences). Applications for new abstractions and variations to existing licences will be subject to the full determination process, as described in section 3.

Additional local information specific to this WRMU
Map 5 illustrates the boundaries of the WRMU, which includes the River Poulter and its tributaries upstream of Cuckney together with the Bolsover Groundwater Management Unit of the Lower Magnesian Limestone. No water dependent SSSIs have been designated within this WRMU, however, overall the upper reaches of the River Poulter are physically and ecologically diverse, including an area of wet woodland, a priority Biodiversity Action Plan habitat.

4.3 Water Resource Management Unit 3 – Oldcotes Dyke

Water Resource Management Unit 3 (WRMU3) includes the Oldcotes Dyke and its tributaries upstream of the Environment Agency gauging station at Blyth, together with the Maltby groundwater management unit (GWMU) of the Lower Magnesian Limestone aquifer. The Maltby GWMU extends northwards to underlie the upper reaches of the River Torne but does not include this watercourse – WRMU3 effectively underlies part of WRMU5 River Torne. Consequently some overlap is seen between map 6 and map 8. The Oldcotes Dyke and the Maltby GWMU were both classes as ‘water available’ under the resource assessment but this was overridden to give the integrated status of ‘no water available’ due to the resource status of the catchment downstream.

Table 6 Existing low flow resource availability status and target low flow resource availability status for the Upper Poulter Water Resource Management Unit.

<table>
<thead>
<tr>
<th>Associated main river</th>
<th>Resource Availability Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Poulter</td>
<td>Individual WRMU status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated WRMU status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target status in 2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target status in 2016</td>
<td>The target status is to ensure that the management of water resources within the WRMU will not adversely impact on WRMU4 – River Idle, downstream</td>
</tr>
</tbody>
</table>

Table 7 Presence of features that may affect water availability in WRMU2 – Upper Poulter.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water related Site of Special Scientific Interest (SSSIs)</td>
<td>There are no SSSIs designated for aquatic interest within the Upper River Poulter WRMU</td>
</tr>
</tbody>
</table>

Table 8 Existing low flow resource availability status and target low flow resource availability status for the Oldcotes Dyke Water Resource Management Unit.

<table>
<thead>
<tr>
<th>Associated main river</th>
<th>Resource Availability Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oldcotes Dyke</td>
<td>Individual WRMU status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated WRMU status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target status in 2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target status in 2016</td>
<td>The target status is to ensure that the management of water resources within the WRMU will not adversely impact on WRMU4 – River Idle, downstream</td>
</tr>
</tbody>
</table>
Map 6 Shows the location of sites and features that may affect abstraction/water availability in WRMU3 – Oldcotes Dyke.
Our strategy
The water resource availability status of this WRMU is no water available. As shown in Table 8 the target status for this WRMU in 2010 is to remain at no water available. The Oldcotes Dyke WRMU lies upstream of the River Idle WRMU. We need to maintain flows in the Oldcotes Dyke to prevent the deterioration of flows into the River Idle WRMU. We have therefore fixed the target status for water resources availability as no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the technical document on the attached CD.

Strategy for new and existing licences
The strategy for this WRMU is to remain at no water available. This means that for new licences:

- there will be a presumption against the issue of new licences within the Oldcotes Dyke WRMU unless they can be demonstrated to be of net environmental benefit;
- any licence that is issued will be subject to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

and for existing licences:

- there will be a presumption of renewal subject to local considerations and the main principles of abstraction licensing, as described in section 3, above;
- licences will be issued to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

Summary
There will be a presumption against the issue of new licences and variations to existing licences that would increase the amount of water lost from the catchment (ie increase the consumptiveness of licences). Applications for new abstractions and variations to existing licences will be subject to the full determination process, as described in section 3.

Additional local information specific to this WRMU
Map 6 illustrates the boundaries of the WRMU, which includes the Oldcotes Dyke and its tributaries together with the Maltby Groundwater Management Unit of the Lower Magnesian Limestone. Table 9 lists features present within the WRMU that could affect water availability at a local-scale.

4.4 Water Resource Management Unit 4 – River Idle
Water Resource Management Unit 4 (WRMU4) includes the River Idle and its tributaries the Rivers Maun, Meden, Pouler and Ryton, together with the Ravenshead (North), Thoresby, Retford and Blyth groundwater management units (GWMU) of the Sherwood Sandstone aquifer that underlies this area. In the west of the catchment, WRMU4 is partially underlain by the outcrop of the Lower Magnesian Limestone aquifer, which has been included in WRMUs 1, 2 and 3. The north of the WRMU is partially underlain by the Sherwood Sandstone Hatfield groundwater management unit (GWMU), the GWMU has been included in WRMU5 as it predominantly lies within the surface water catchment of the River Torne. Consequently some overlap is seen between WRMU4 and the other WRMUs. Map 7 shows the location of

Table 9 Presence of features that may affect water availability in WRMU3-Oldcotes Dyke

<table>
<thead>
<tr>
<th>Feature Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyscarr Wood, Maltby Low Common, Roche Abbey Woods</td>
</tr>
</tbody>
</table>

Table 10 Existing low flow resource availability status and target low flow resource availability status for the River Idle Water Resource Management Unit.

<table>
<thead>
<tr>
<th>Associated main river</th>
<th>Resource Availability Status</th>
<th>Target status in 2010</th>
<th>Target status in 2016</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Idle</td>
<td>Over abstracted</td>
<td>Over abstracted</td>
<td>Over licensed</td>
<td>Over licensed</td>
</tr>
</tbody>
</table>
Map 7 Shows the location of sites and features that may affect abstraction licence/water availability in WRMU4 – River Idle.
sites and features within WRMU4 that may affect water availability at a local-scale.

**Our strategy**
The water resource availability status of this WRMU is over abstracted, through most of the flow range not solely at low flows. As shown in table 10, the target status we wish to move towards for this WRMU in 2010 is over licensed. This would require a reduction in actual abstraction from both surface and groundwater sources.

The target status is the outcome of the sustainability appraisal process. If you would like more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the technical document on the attached CD.

**Strategy for new and existing licences**
The strategy for this WRMU is to move towards the status of over licensed. We will seek reductions in both licensed quantities and actual abstraction within the River Idle WRMU. This means that for **new licences:**

- there will be a presumption against the issue of new licences within the River Idle WRMU unless they can be demonstrated to be of net environmental benefit;
- any licence that is issued will be subject to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

and for **existing licences:**

- there will be a presumption of renewal subject to local considerations and the main principles of abstraction licensing, as described in section 3, above. Specifically, applicants will be required to demonstrate that quantities applied for are fully justified and how water will be used in an efficient manner;
- we will encourage licence holders to undertake water audits and implement water efficient technologies and techniques. We will provide timely and useful information to licence holders. Please see Appendix 1 Water efficiency contacts;
- we will continue to encourage and work with public water suppliers in investigating and implementing demand management techniques to benefit this WRMU. This work will need to be implemented through both the Environment Agency and water companies’ water resource plans. We will encourage the water companies in this CAMS area to undertake water efficiency initiatives and will ensure information is readily available to their customers. Please see Appendix 1 Water efficiency contacts;
- we will encourage licence holders to reduce licensed quantities in line with their actual abstraction needs;
- licences will be issued to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

**Summary**
There will be a presumption against the issue of new licences and variations to existing licences that would increase the amount of water lost from the catchment (i.e. increase the consumptiveness of licences).

Although there is a presumption of renewal for existing time-limited licences, as described in section 3, above, applicants will be required to demonstrate a continued justification of need for the licence and that the water will be used in an efficient manner.

From our work to-date it is evident changes are required to reduce abstraction to a sustainable rate within the River Idle Water Resource Management Unit. On-going work including the East Midlands and South Yorkshire Groundwater Model we are currently developing, together with site specific studies and water level management plans will help to determine how the changes we set out in this strategy can best be progressed. Information about further work to be undertaken to help us to implement this strategy is included in the table of Strategy Actions, section 5 of this document, as well as in the technical document.

**Additional local information specific to this WRMU**
Were licence holders to abstract the full quantities they are legally allowed to, in the lower reaches of the River

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**Table 11 Presence of features that may affect water availability in WRMU4-River Idle**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Comment</th>
</tr>
</thead>
</table>
Idle WRMU would be over abstracted for 87 percent of the time during an average year. This means that abstraction would take flow that has been assessed to be required for the environment, not solely during periods of low flow but also at medium to high flows. Through the CAMS process issues associated with abstraction during periods of high flow have also been highlighted rather than solely at low flows. For example the siltation of river gravels used by spawning fish in some of the tributaries of the River Idle can impact reproductive rates within the catchment leading to population decline.

Due to the over abstracted nature of this WRMU, we will seek to regain as much licensed water as possible for the environment in this area. The efficient use of water by both direct abstractors and public water supply customers will therefore be extremely important in achieving improvements with significant reductions in usage expected to be possible. We will encourage licence holders to reduce the quantities they are licensed to abstract to reflect their actual abstraction needs to reduce the risk of increases in actual abstraction.

4.5 Water Resource Management Unit 5 – River Torne

Water Resource Management Unit 5 (WRMU5) includes the River Torne and the drain network which combine to form Three Rivers, together with the Hatfield groundwater management unit (GWMU) of the Sherwood Sandstone aquifer that underlies this area. The Hatfield GWMU extends southwards beyond the surface water catchment boundary of the River Torne, partially underlying the surface water catchment of the River Idle that is included in WRMU4. The Maltby unit of the Lower Magnesian Limestone partially underlying the headwaters of the River Torne is included in WRMU3. There is therefore some overlap between the two WRMU, WRMU5 partially underlying WRMU4 and partially underlain by WRMU3. Consequently some overlap can therefore be seen between maps 6, 7 and 8. Map 8 shows the location of sites and features that may affect water availability at a local-scale.

Our strategy

The water resource availability status of this WRMU is over abstracted, through much of the flow range not solely at low flows. As shown in Table 12, the target status we wish to move towards for this WRMU in 2010 is over licensed. This would require a reduction in actual abstraction from both surface and groundwater sources.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the technical document on the attached CD.

Strategy for new and existing licences

The strategy for this WRMU is to move towards the status of over licensed. We will seek reductions in both licensed quantities and actual abstraction within the River Torne WRMU. This means that for new licences:

- there will be a presumption against the issue of new licences within the River Torne WRMU unless they can be demonstrated to be of net environmental benefit;
- any licence that is issued will be subject to the common end date for the Idle and Torne CAMS area, currently this is typically 31 March 2014.

and for existing licences:

- there will be a presumption of renewal subject to local considerations and the main principles of abstraction licensing, as described in section 3, above. Specifically, applicants will be required to demonstrate that quantities applied for are fully justified and how water will be used in an efficient manner;
- we will encourage licence holders to undertake water audits and implement water efficient technologies and techniques. We will provide timely and useful information to licence holders. Please see Appendix 1 Water efficiency contacts;
- we will continue to encourage and work with public water suppliers in investigating and implementing demand management techniques to the benefit of this WRMU. This work will need to be implemented through the Environment Agency and water companies’ water resource plans. We will encourage

<table>
<thead>
<tr>
<th>Associated main river</th>
<th>Individual WRMU status</th>
<th>Resource Availability Status</th>
<th>Target status in 2010</th>
<th>Target status in 2016</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Torne</td>
<td>Over abstracted</td>
<td>Over abstracted</td>
<td>Over licensed</td>
<td>Over licensed</td>
<td>Due to the large resource deficit we wish to move towards the target status</td>
</tr>
</tbody>
</table>
the water companies in this CAMS area to undertake water efficiency initiatives and will ensure information is readily available to their customers. Please see Appendix 1 Water efficiency contacts;

• we will encourage licence holders to reduce licensed quantities in line with their actual abstraction needs;
• licences will be issued to the common end date for the Idle and Torne CAMS area, currently typically 31 March 2014.

Summary
There will be a presumption against the issue of new licences and variations to existing licences that would increase the amount of water lost from the catchment (ie increase the consumptiveness of licences).

An exception to the above presumption exists within a small area around Doncaster town centre which has been subject to rising groundwater levels, following reductions in industrial abstraction from the Sherwood Sandstone aquifer. This area covers part of the Sherwood Sandstone Hatfield groundwater management unit (GWMU) in the Idle and Torne CAMS and extends into the Don and Rother CAMS area. The area is collectively referred to as the Doncaster Sub-Unit. The rising groundwater in this area contrasts with the remainder of the Hatfield unit, where historical abstraction has led to a fall in groundwater levels and depletion of baseflow. Within this small area, we will consider applications for new licences up to a maximum licensable resource of 1Ml/d. This figure will be reviewed when we complete the East Midlands and South Yorkshire groundwater model in 2008. Any changes made will be reported via the annual updates for this CAMS. Any licences issued in the Doncaster Sub-Unit will be time limited to a CAMS common end date, currently this is 31 March 2014.

Although there is a presumption of renewal for existing time-limited licences, as described in section 3, above, applicants will be required to demonstrate a continued justification of need for the licence and that the water will be used in an efficient manner.

From our work to-date it is evident changes are required to reduce abstraction to a sustainable rate within the River Torne Water Resource Management Unit. On-going work including the Nottinghamshire-South Yorkshire Groundwater Model we are currently developing, together with site specific studies and water level management plans will help to determine how the changes we set out in this strategy can best be progressed. Information about further work to be undertaken to help us to implement this strategy is included in the table of Strategy Actions, section 5 of this document, as well as in the technical document.

Additional local information specific to this WRMU
Were licence holders to abstract the full quantities they are legally allowed to, in the lower reaches the River Torne WRMU would be over abstracted for 63 percent of the time during an average year and would not, therefore, be solely confined to the summer period. This means that abstraction would take flow that has been assessed to be required for the environment.

Due to the over abstracted nature of this WRMU, we will seek to regain as much licensed water as possible for the environment in this area. The efficient use of water by both direct abstractors and public water supply customers will therefore be extremely important in achieving improvements. We will encourage licence holders to reduce the quantities they are licensed to abstract to reflect their actual abstraction needs to reduce the risk of increases in actual abstraction.

The East Midlands and South Yorkshire groundwater model currently under development, will inform our decision-making process and will enable us to target our efforts to ensure the best results are achieved.

The process of ‘letback’ from the high level carriers to low-level and field drains during periods of water scarcity will continue to be important both for abstractors and biodiversity. High, stable water levels are important to maintain the biodiversity-interest of these drains.

**Table 13 Presence of features that may affect water availability in WRMU 5 – River Torne.**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water related Special Area of Conservation (SAC)</td>
<td>Thorne Moors SAC, Hatfield Moors SAC.</td>
</tr>
<tr>
<td>Water related Special Protection Area (SPA)</td>
<td>No*</td>
</tr>
</tbody>
</table>

*NB: Thorne and Hatfield Moors SPA is designated for the presence of nightjar which is dependent on a dry heathland habitat. Consequently the interest feature is not water dependent and therefore does not directly relate to the CAMS process.*
Map 8 Shows the location of sites and features that may affect abstraction licence/water availability in WRMUS – Rover Torne.
These are the actions that we will undertake in the next 6 years to implement this strategy

### Strategy Actions

<table>
<thead>
<tr>
<th>Description, aim and comments</th>
<th>WRMU/GWMU</th>
<th>Start</th>
<th>Finish</th>
<th>External partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>A groundwater model of the East Midlands and South Yorkshire is currently under development by the Environment Agency, updating and replacing the existing Nottinghamshire-Doncaster groundwater model. This work is due to be completed in early 2008 and will be used to assist us in the implementation of this strategy. The information from this groundwater model will assist us in future reviews of the Idle and Torne CAMS.</td>
<td>All</td>
<td>Ongoing</td>
<td>2007</td>
<td>Licence holders</td>
</tr>
<tr>
<td>The long-term and significant abstraction pressures within the Idle and Torne catchments have led to a complex system of hands off flow conditions. This has been highlighted by the CAMS as an area that needs to be investigated with a view to rationalising the existing abstraction controls within the catchment by simplifying and streamlining the number of conditions. Due to the complexity and extent of the work that would be required it would be inappropriate for us to propose and implement a revised system were we to have insufficient confidence. We therefore propose that a parcel of work should be undertaken with the aim of enabling a revision of the existing system when this CAMS is reviewed.</td>
<td>All</td>
<td>2006</td>
<td>2010</td>
<td>Licence holders</td>
</tr>
<tr>
<td>We will continue to review the pressures associated with individual abstraction licences through the Restoring Sustainable Abstraction (RSA) Programme. Work under the RSA Programme will assist us in reducing both licensed and actual abstraction within the Idle and Torne catchments – detailed studies and site investigations will enable us to target our resources to maximise the benefits to the catchments. From the work undertaken and presented through the CAMS process it is evident we need to reduce abstraction in the Idle and Torne Water Resource Management Units to a sustainable rate. This strategy provides a framework within which we will be able to progress our RSA work.</td>
<td>All</td>
<td>Ongoing</td>
<td>Ongoing</td>
<td>Natural England Licence holders</td>
</tr>
<tr>
<td>We will continue the Review of Consents under the Habitats Directive for Hatfield and Thorne Moors SACS. Stage 3 of the Review of Consents has been signed off for these sites, with a number of abstraction licences to be progressed through to Stage 4 of the process. Detailed studies and site investigations, together with the development of the East Midlands and South Yorkshire Groundwater Model (see above) will assist this work.</td>
<td>WRMU5 – River Torne</td>
<td>Ongoing</td>
<td>2008</td>
<td>Natural England</td>
</tr>
</tbody>
</table>
We will continue to work with our partners on the development and implementation of the River Idle Washlands SSSI Water Level Management Plan (WLMP). The implementation of the WLMP aims to achieve favourable condition for the site by 2010 and will detail the actions required in order to achieve its objectives. It is intended that the Idle and Torne CAMS will provide a framework within which this can be achieved.

We will continue to promote water efficiency to licence holders with the aim of reducing abstraction within the CAMS area. We will provide useful and timely information about water audits and water efficiency to licence holders and will seek to highlight the savings that can be made – in terms of both water and financial savings. This work will help us to achieve reductions in licensed and actual abstractions.

We will continue to measure flows within the Idle and Torne catchments and ensure the data collected is properly quality reviewed to ensure a robust dataset is available for the review of these catchments during the second CAMS cycle.

Routine sampling programmes to monitor fisheries, macrophytes and macroinvertebrates will continue and will be subject to evaluation and review in order to provide the best information for CAMS.

Together with British Waterways we will review our Memorandum of Understanding about the operation of the Chesterfield Canal and its interaction with the Rivers Ryton and Idle.

<table>
<thead>
<tr>
<th>Description, aim and comments</th>
<th>WRMU/GWMU</th>
<th>Start</th>
<th>Finish</th>
<th>External partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>We will continue to work with our partners on the development and implementation of the River Idle Washlands SSSI Water Level Management Plan (WLMP). The implementation of the WLMP aims to achieve favourable condition for the site by 2010 and will detail the actions required in order to achieve its objectives. It is intended that the Idle and Torne CAMS will provide a framework within which this can be achieved.</td>
<td>WRMU4 – River Idle</td>
<td>Ongoing</td>
<td>2010</td>
<td>Natural England Nottinghamshire Wildlife Trust Internal Drainage Boards</td>
</tr>
<tr>
<td>We will continue to work with our partners on the Hatfield Moors SSSI Water Level Management Plan (WLMP). The implementation of the WLMP aims to achieve favourable condition for the site by 2010. The implementation of the WLMP aims to achieve favourable condition for the site by 2010 and will detail the actions required in order to achieve its objectives. It is intended that the Idle and Torne CAMS will provide a framework within which this can be achieved.</td>
<td>WRMU5 – River Torne</td>
<td>Ongoing</td>
<td>2010</td>
<td>Natural England Internal Drainage Boards Yorkshire Water Services</td>
</tr>
<tr>
<td>We will continue to promote water efficiency to licence holders with the aim of reducing abstraction within the CAMS area. We will provide useful and timely information about water audits and water efficiency to licence holders and will seek to highlight the savings that can be made – in terms of both water and financial savings. This work will help us to achieve reductions in licensed and actual abstractions.</td>
<td>WRMU4 – River Idle and WRMU5 – River Torne</td>
<td>Ongoing</td>
<td>Ongoing</td>
<td>Licence holders</td>
</tr>
<tr>
<td>We will continue to measure flows within the Idle and Torne catchments and ensure the data collected is properly quality reviewed to ensure a robust dataset is available for the review of these catchments during the second CAMS cycle.</td>
<td>All</td>
<td>Ongoing</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>Routine sampling programmes to monitor fisheries, macrophytes and macroinvertebrates will continue and will be subject to evaluation and review in order to provide the best information for CAMS</td>
<td>All</td>
<td>Ongoing</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>Together with British Waterways we will review our Memorandum of Understanding about the operation of the Chesterfield Canal and its interaction with the Rivers Ryton and Idle.</td>
<td>WRMU4 – River Idle</td>
<td>Ongoing</td>
<td>2009</td>
<td>British Waterways</td>
</tr>
</tbody>
</table>
Glossary

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

Abstraction - actual
The volume of water actually abstracted as opposed to the volume of water that may be abstracted under the terms of an abstraction licence. Most individual abstraction records are reported to the Environment Agency each year.

Abstraction charges
The charges payable on an annual basis to the Environment Agency under the terms of an abstraction licence.

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

Aquifer
A geological formation that can store and transmit groundwater in significant quantities.

Assessment Point (AP)
Critical point in a catchment at which an assessment of available resources is made. Assessment Points are located at the extremities of identified reaches and Water Resource Management Units.

Asset Management Plans (AMP)
Asset Management Plans are produced by water companies for Ofwat and set out the investment programme for the water industry. These plans are drawn up through consultation with the Environment Agency and other bodies to cover a five-year period and have to be agreed by Defra and Ofwat.

Baseflow
The component of river flow that is derived from groundwater sources rather than surface run-off.

Biodiversity
The living component of the natural world. It embraces all plant and animal species and communities associated with terrestrial, aquatic and marine habitats. It also includes genetic variation within species.

Biodiversity Action Plans
At the Earth Summit in Rio in 1992, governments from across the world pledged to take urgent action to secure the future of the earth’s resources. In the UK, a national strategy has been developed for the conservation of biological diversity through the UK Biodiversity Action Plan.

Borehole
Well sunk into a water bearing rock from which water will be pumped.

Canal
An artificial watercourse used for navigation.

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

Confluence
The point where two or more streams or rivers meet.

Consumptive use / Consumptiveness
Use of water where a significant proportion is not returned, either directly or indirectly, to the source of supply after use, e.g. spray irrigation.

Cubic metre (m³)
Equivalent to 219.969 gallons or 1,000 litres.

Designated water dependent sites
Nationally or internationally important (habitat) sites that have been legally recognised, which could be affected by water management or water quality issues.

Discharge
The release of substances (i.e. water, sewage, etc.) into surface waters.

Discharge consent
A statutory document issued by the Environment Agency, which defines the legal limits and conditions on the discharge of effluent into controlled waters.

Drought
A general term covering prolonged periods of below average rainfall resulting in low river flows and/or low recharge to groundwater, imposing significant strain on water resources and potentially the environment.

Ecological River Flow Objectives / Level Requirements
The minimum river flows (or water levels) required to protect ecological objectives.

Effective rainfall
Rainfall which is used for recharge of aquifers or to support river flows after 'losses' due to evaporation and take-up by plants.

Effluent
Liquid waste from industrial, agricultural or sewage plants.

Environmental allocation
The amount of water that is required to support the ecology of a river.

Floodplain
Land adjacent to a watercourse that is subject to flooding.

Gauging station
A site where the flow of a river is measured.

Groundwater
Water that is contained in underground rocks.

Groundwater baseflow
The contribution that groundwater makes to the flow of rivers. It maintains the flow of rivers during extended periods of dry weather.
Groundwater catchment
The area from which groundwater will collect and flow to a specific river or over a specific discharge boundary.

Groundwater Management Units (GWMU)
Administrative sub-divisions of aquifers, defined on geological and hydrogeological criteria, which form the basis for groundwater resource management and licensing policy decisions.

Habitat
Place in which a species or community of species live, with characteristic plants and animals.

Habitats Directive

Hands-Off Flow (HOF)
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 artificial body of water or wastewater such as a pond or dam for collection or storage of water for future use.

Internal Drainage Board (IDB)
Statutory authorities established in low-lying areas of England and Wales where flood protection and land drainage are necessary to sustain agricultural and developed land use and the natural environment.

Irrigation
The artificial distribution and application of water through man made systems in order to stimulate crop growth.

Land drainage
Includes defence against water (including sea water), irrigation other than spray irrigation, warping and the carrying on, for any purpose, of any other practice, which involves management of the level of the water in a watercourse.

Licence
Formal permit allowing the holder to engage in an activity (in the context of this report, usually abstraction), subject to conditions specified in the licence itself and the legislation under which it was issued.

Licence application
Formal request by an individual or organisation to the competent authority for a licence. For abstraction licences, the competent authority is the Environment Agency.

Low flow
It is usually determined at a given value of ‘Q95’, which means that flow falls below this level 5% of the time.

Managing Water Abstraction
Document produced in May 2001 about the CAMS process. It was updated in July 2002.

Net use
Proportion of abstracted water that is not returned to the river system nearby. For example, irrigation abstractions have 100% net use because no water is returned to the river.

Non-consumptive
This is where all abstracted water is returned to the source a relatively short distance downstream of the abstraction point. E.g. hydropower generation, fish farming.

Precautionary principle
Where data within an area is incomplete but there is potential for significant environmental damage, all decisions err on the side of caution in order to protect the environment.

Precipitation
Deposition of moisture including dew, hail, rain, sleet and snow.

Prescribed flow
A generic term for any flow set down as a rule or guide to be followed under statute or regulation.

Presumption against
It cannot be taken for granted that a licence will be issued for abstraction from this area. A licence application will be fully assessed and it is highly likely that it will have some constraints.

Public Water Supply (PWS)
Term used to describe the supply of water provided by a water company.

Q50
The flow of a river which is exceeded on average for 50% of the time.

Q95
The flow of a river which is exceeded on average for 95% of the time.
**RAM Framework**  
Resource Assessment and Management Framework – a technical framework for resource assessment (for the definition and reporting of CAMS) and subsequent resource management (including abstraction licensing).

**Recharge**  
Water which percolates downward from the surface into groundwater.

**Restoring Sustainable Abstraction Programme (RSA)**  
The programme for resolving environmental problems caused by unsustainable abstraction in certain catchments.

**Review of consents**  
The procedure by which the Environment Agency as a competent authority will apply the Habitats Regulations to review all relevant existing discharge consents, abstraction licences, permissions and activities that are likely to affect a designated European site.

**River Flow Objectives (RFOs)**  
The minimum river outflows required to protect ecological objectives within the area. It also considers effluent dilution requirements, navigation and other in-river needs.

**Site of Special Scientific Interest (SSSI)**  
An area given a statutory designation by English Nature or the Countryside Council for Wales because of its nature conservation value.

**Special Area of Conservation (SAC)**  
An area classified under the EC Habitats Directive and agreed with the EU to contribute to biodiversity by maintaining and restoring habitats and species.

**Special Protection Area (SPA)**  
An area classified under the EC Birds Directive to provide protection to birds, their nests, eggs and habitats.

**Spray Irrigation**  
Abstracted water sprayed onto grassland, fruit, vegetables, etc. During the summer period it has a high impact on water resources.

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

**Time Limited Licence**  
Licence with specified end date.

**Washlands**  
Extensive areas of semi-natural floodplain next to a river where water is stored during floods to protect developed areas downstream.

**Water Level Management Plans**  
These provide a framework by which the water level requirements of a particular site can be discussed in order to incorporate and integrate a range of activities. The Agency has a responsibility to be involved in the production of these plans in consultation with other interested bodies such as English Nature, Internal Drainage Boards, conservation groups and landowners.

**Water Rights Trading**  
The transfer of licensable water rights from one party to another for benefit.

**Wetland**  
An area of low lying land where the water table is at or near the surface for most of the time, leading to characteristic habitats.

**Water Resource Management Unit (WRMU)**  
An area that has similar groundwater and/or surface water characteristics and is managed in a similar way.

**Water Resources Strategies**  
Strategy for Water Resource planning in England and Wales over the next 25 years which will ensure sustainable use and sufficient water for all human uses with an improved water environment. The strategies predict demand using different social and economic scenarios.
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMP</td>
<td>Asset Management Plan produced by the Water Companies for OFWAT. It sets out the investment programme by the water industry.</td>
</tr>
<tr>
<td>GWMU</td>
<td>Groundwater Management Unit</td>
</tr>
<tr>
<td>HOF</td>
<td>Hands-Off Flow</td>
</tr>
<tr>
<td>m³/s</td>
<td>Cubic metres per second</td>
</tr>
<tr>
<td>MI</td>
<td>ML = megalitres = 1,000,000 litres = 1,000 cubic metres = 1,000 m³ = 220,000 gallons</td>
</tr>
<tr>
<td>MI/d, MI/day</td>
<td>ML/d = ML/day = ML per day, = thousand cubic metres per day (tcmd).</td>
</tr>
<tr>
<td>ML/a</td>
<td>ML/a = Megalitres per year.</td>
</tr>
<tr>
<td>Q50</td>
<td>Flow exceeded 50% of the time period considered.</td>
</tr>
<tr>
<td>Q95</td>
<td>Flow exceeded 95% of the time period considered.</td>
</tr>
<tr>
<td>RQO</td>
<td>River Quality Objective.</td>
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<tr>
<td>SAC</td>
<td>Special Area of Conservation.</td>
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<tr>
<td>SPA</td>
<td>Special Protection Area.</td>
</tr>
<tr>
<td>SSSI</td>
<td>Site of Special Scientific Interest.</td>
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<td>WRMU</td>
<td>Water Resource Management Unit.</td>
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</tbody>
</table>

**AOD (also mAOD)**: Above Ordnance Datum: Land levels are measured relative to the average sea level at Newlyn in Cornwall. This average level is referred to as “Ordnance Datum”. Contours on Ordnance Survey maps of the UK show heights above AOD in metres, hence mAOD.
Appendix 1

Water efficiency contacts

General / all sectors

Environment Agency
We provide a range of free guidance on water efficiency, including best practice case studies for agriculture, business, industry, public sector and the domestic consumer.
Website: www.environment-agency.gov.uk/savewater
Email: savewater@environment-agency.gov.uk
Telephone: 08708 506 506 or 01903 832275

Water companies
For local water efficiency advice your water company can provide guidance. The Idle and Torne CAMS lies within the supply zone of Anglian Water Services, Severn Trent Water and Yorkshire Water Services.
www.anglianwater.co.uk
www.stwater.co.uk
www.yorkshirewater.co.uk

Water Regulations Advisory Scheme
WRAS provides advice on the Water Supply (Water Fittings) Regulations 1999, which prevents waste, misuse, undue consumption or contamination of wholesome water. Information is available on products and the scheme provides a list of approved plumbers.
www.wras.co.uk or telephone: 01495 248454

Waterwise
Waterwise is a non-governmental organisation focussed on decreasing water consumption in the UK by 2010 and are the leading authority on water efficiency in the United Kingdom. The project team is able to provide information about water efficient technology and products as well as a range of useful water-saving tips for the home and garden.
www.waterwise.org or telephone: 020 7344 1883

Linking Environment and Farming
LEAF promote and develop integrated farm management including whole farm water savings
www.leafuk.org or telephone 0247 6413 911

East Midlands Rural Business Desk
Provides access for rural and agricultural businesses to information about business support, grant aid and training. The project is supported under the England Rural Development Programme by Defra and the European Agricultural Guidance and Guarantee Fund.
www.ruralbiz.net or telephone 0845 450 0630

Natural England
Encompassing the former Rural Development Service, Natural England provides advice to farmers and other land managers. The Enquiry Service can provide a range of information including Environmental Stewardship, catchment sensitive farming and managing land for wildlife.
www.naturalengland.org.uk or via the Enquiry Service on 0845 600 3078

Business & commercial water users

Envirowise
Envirowise is a Government programme offering free, independent advice on practical ways for industrial and commercial small and medium sized enterprises (SMEs) to minimise waste and convert turnover into profit. Envirowise has a specific water section on their website called ‘Waternet’, which includes links to guidance published around the world and a benchmarking tool.
www.envirowise.gov.uk/waternet or telephone the Environment and Energy helpline on 0800 585 794

Agriculture & horticulture

UK Irrigation Association
The UKIA provides information on irrigation to its members and runs technical workshops and seminars.
www.ukia.org
Hospitals

Water UK
Water UK is the association that represents the UK water industry nationally and within Europe. The industry association has collaborated with NHS Estates and Watermark to produce Water Efficient Hospitals, an information pack to help hospitals use water wisely. The resource aims to save money through water and energy efficiency.
www.water.org.uk or telephone 020 7344 1844

Mineral extraction

Envirowise
Envirowise is a Government programme offering free, independent advice on practical ways for industrial and commercial small and medium sized enterprises (SMEs) to minimise waste and convert turnover into profit. Envirowise has a specific water section on their website called ‘Waternet’, which includes links to guidance published around the world and a benchmarking tool.
www.envirowise.gov.uk/waternet or telephone the Environment and Energy helpline on 0800 585 794

Public sector

Watermark
Watermark is an initiative for public sector organisations from OCGbuying.solution, part of the Office of Government Commerce in the Treasury. It has produced benchmarks for a wide range of public sector buildings and offers access to a shared savings scheme for the installation of new, water efficient devices.
www.watermark.gov.uk or telephone 0845 410 2222

Water in the School
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 information for pupils on how to make savings.
www.waterintheschool.co.uk
Appendix 2: Outline structure and information in technical document

1 Background Information
   CAMS background

2 Resource Assessment
   CAMS Resource Assessment
   Overview of Resource Assessment process
   CAMS Resource Assessment ledger

3 Sustainability Appraisal
   CAMS Sustainability Appraisal
   Overview of Sustainability Appraisal process
   Sustainability Appraisal tables

4 Consultation
   CAMS Consultation
   Overview of Consultation process
   Records of consultation

5 Links to relevant strategies
   Strategies relevant to this CAMS

6 CAMS Documents
   Awareness raising leaflet

7 Managing Water Abstraction and the Licensing Process
   Managing Water Abstraction
   Managing Water Abstraction Interim Update leaflet
   The Water Act 2003 – Modernising the Regulation of Water Resources leaflet
   Licence trading information

Other Documents
   Glossary
Notes
This CD-ROM contains the Soar CAMS Technical Document in a printable PDF format and can be viewed in Adobe Acrobat. If you have any problems with the CD, please contact

Soar CAMS Project Manager
Water Resources Management
Environment Agency
Trentside Offices
Scarrington Road
West Bridgford
Nottingham NG2 5FA
Would you like to find out more about us, or about your environment?

Then call us on
08708 506 506 (Mon-Fri 8-6)

email
enquiries@environment-agency.gov.uk

or visit our website
www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)
floodline 0845 988 1188