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Drought plan for North East region Dales area

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Abbreviations

ADC	Area Drought Co-ordinator
ADM	Area Drought Manager
ADP	Area Drought Plan
ADT	Area Drought Team
AM	Area Manager
AMS	Agency Management System
AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
DEA	Drought Event Administrator
Defra	Department of Environment Food and Rural Affairs
DO	Drought Order
DP	Drought Permit
DSI	Drought Severity Index
DT	Drought Team
EN	English Nature
EU	European Union
HELP	Head Office Emergency Liaison Procedure
HOF	Hands Off Flow
IDB	Internal Drainage Board
IPPC	Integrated Pollution Prevention Control
LIFE	Lotic Invertebrate Index for Flow Evaluation
Met Office	Meteorological Office
MI	Megalitre (1 Million Litres)
MORECS	Meteorological Office Rainfall & Evaporation Calculation System
NFSoD	Non-financial scheme of delegation
NFU	National Farmers Union
NWL	Northumbrian Water Company Limited
PR	Public Relations
RD	Regional Director
SAC	Special Area of Conservation
SMD	Soil Moisture Deficit
SoS	Secretary of State
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest
YWS	Yorkshire Water Services Ltd

Glossary

Aerator	A machine deployed in a watercourse to increase oxygenation, and reduce the impact of discharges into low flow areas or where fish appear stressed.
Aquifer	A geological formation which is sufficiently porous to store water, and permeable enough to allow water to flow through them in usable quantities.
Biodiversity Action Plan	Principles laid down in the Biodiversity: The UK Steering Group Action Plan (1995) which aims to protect and enhance diversity between and within ecosystems and habitats, diversity of species, and genetic variation within individual species.
Critical Abstraction Licences	Abstraction licences are given a criticality based on the size or type of abstraction: Highly Critical: >10ML/day and/or YWS/NWL licence Critical: 1ML/day – 10ML/day and/or Spray Irrigation licence Less Critical: >20m³/day to 1 ML/day and/or industrial
Critical Compensation Flows	Water company licences that authorise abstractions from a reservoir may have conditions imposed, whereby a specified amount of water has to be released into the watercourse, downstream of the reservoir in order to compensate the river for the abstraction. These licences are also defined as critical.
Drought Order (DO)	An authorisation granted by the Secretary of State under Section 73 of the Water Resources Act 1991 when there are drought conditions, which impose restrictions upon the use of water, and/or allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis. A DO can be applied for by the Environment Agency for environmental reasons and by a Water Undertaker for Public Supply reasons. A DO generally lasts for 6 months but can be extended for a total of one year.
Drought Permit	An authorisation granted by the Environment Agency under drought conditions which allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis (generally for 6 months, but can be extended for a total of one year) under Schedule 8 of the Water Resources Act 1991.
Drought Severity Index (DSI)	Uses long-term rainfall records to identify potential change in drought conditions. The cumulative deficit below the mean rainfall for the previous three or six months is used to identify four categories of rainfall deficit (normal, moderate, serious and severe).

Emergency Drought Order	An authorisation granted by the Secretary of State under Section 75 of the Water Resource Act 1991 if the deficiency in water supplies becomes bad enough “ to impair the economic or social well being of persons in the area”. The additional powers of the Emergency Drought Order are to prohibit or limit any form of water use specified in the order or allow the company to supply by stand pipes or tanks (generally for 3 months but can be extended to a total of 5 months).
Hydrometric Monitoring	The science of the measurement of the quantity of water.
LIFE Method	This method considers the ratio of Observed over Expected LIFE Scores. The expected LIFE score is the seasonal score predicted to occur in the absence of any low-flow stress at individual river sites. If the Observed Score (O) is the same as the expected score (E), the O:E ratio will be 1.00. Increasing low flows will produce progressively lowered observed scores and therefore reduced O:E ratios
Macroinvertebrate	Macroinvertebrates are small, but visible with the naked eye, animals without backbones (insects, worms, larvae, etc.). Water bodies have communities of aquatic macroinvertebrates. The species composition, species diversity and abundance of the macroinvertebrates in a given water body can provide valuable information on the relative health and water quality of a waterway. Macroinvertebrates common in the Dales Area include Mayflies, Stoneflies and Caddisflies.
Q95	The flow that is equal to or exceeded 95% of the time, typical of normal summer low flows, and frequently the start of flow dependant conditions on abstraction licences
RAMSAR	Site of International Wetland Importance
Soil Moisture Deficit (SMD)	Given normal rainfall, the increasing temperatures and accelerating evaporative demands due to plant transpiration through the spring can lead to progressive drying of the soil profile and the creation of what is termed a SMD.

Summary

The contents of this document tell you how we will plan for and manage drought in the North East Region's Dales Area of the Environment Agency. It sets out:

- the Area's drought management structure;
- the drought monitoring that will be undertaken by the Area;
- the drought management actions that the Area Drought Team may need to take and the triggers for these actions;
- how the Area deals with drought permit and drought order applications;
- The Area's drought communications actions, including reporting during a drought.

The last significant drought in the region occurred in 1995/96, and experience gained in that event has been used to derive this Plan. It should be noted that no two droughts evolve in the same way and it is therefore not appropriate for the Plan to be too prescriptive.

1 Purpose

A drought is a natural event that we can't prevent. If a drought is likely, we will work with water companies and others to reduce its effects on people and the environment.

This document sets out the measures that the Dales Area in North East Region will take to plan for and manage droughts. It is aimed at a non-technical, external audience. Interested parties may also wish to read the Environment Agency's North East Regional Drought Plan and the drought plans produced by the water companies in the Dales Area.

The Dales Area covers Teesside, parts of County Durham, the majority of North Yorkshire, the City of York, and parts of East and West Yorkshire. It covers the catchments of the rivers; Tees, Derwent, Esk, Swale, Ure, Ouse, Nidd, and Wharfe.

This drought plan aims to:

- give a structured and flexible framework that recognise droughts can be of different type (for example groundwater or surface-water) and severity;
- set out a system of monitoring and reporting to identify and track the onset, progress and recovery from droughts.

We will update our drought plans annually to make sure they are up to date. We will review our plans fully every three years. We will also undertake drought exercises to make sure we are ready for drought. These exercises will be based on information from historic droughts and will test the actions in our plans.

2 Drought management in the Dales Area of North East Region

2.1 Background information on the Area

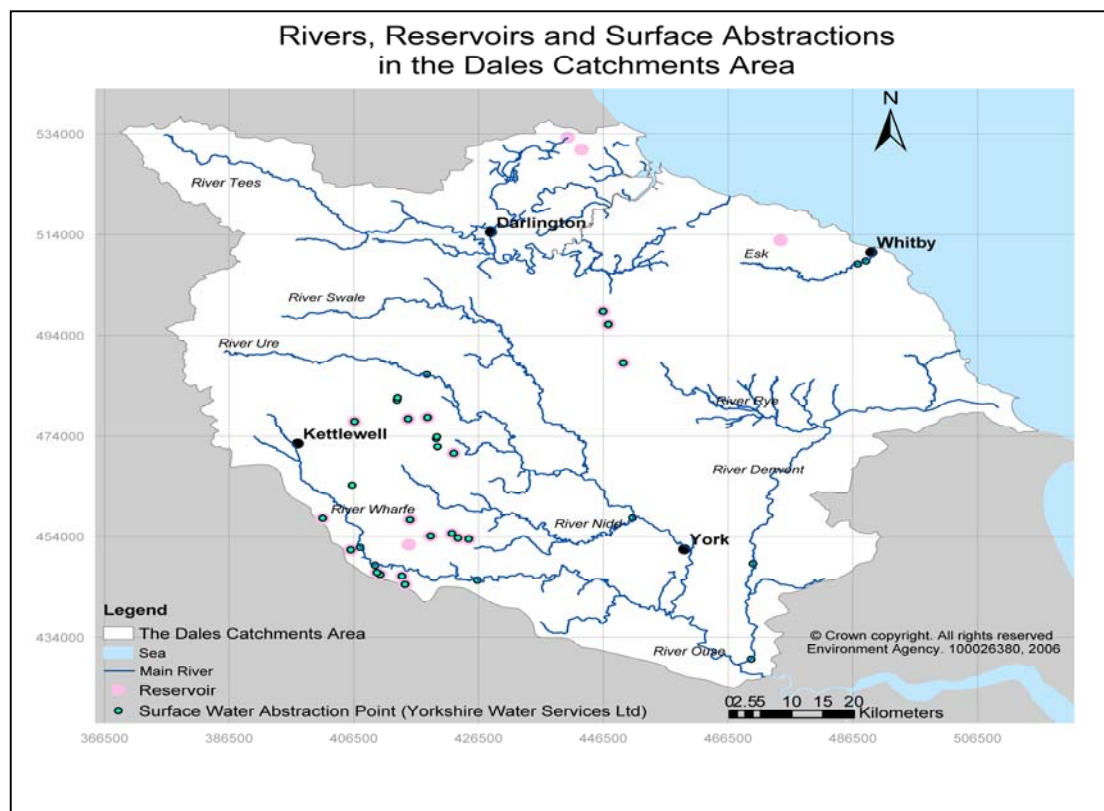
The Dales area is characterised by two major river basins;

- the Ouse system which includes the rivers Derwent, Swale, Ure, Nidd, and Wharfe; and,
- the Tees system, including the Skerne and Leven.

The rivers in Dales Area have significant abstractions for public water supply, industry and agriculture. They are an important source of drinking water for people who live outside of the Area.

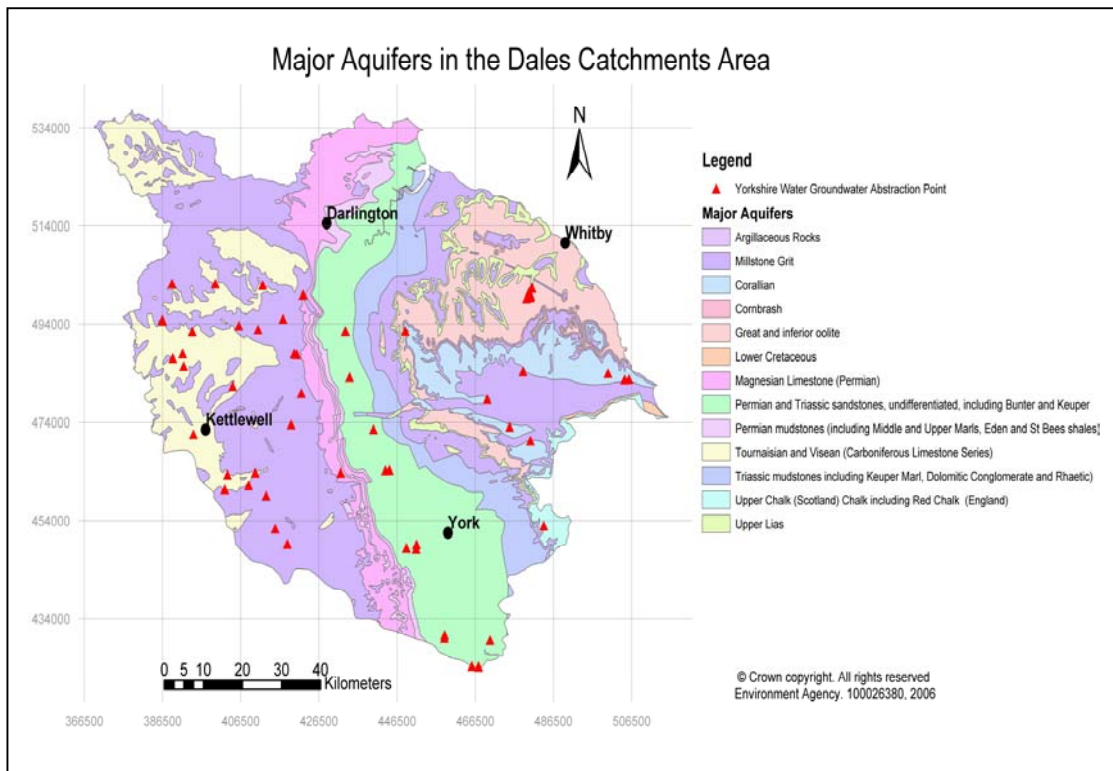
Many of these rivers have reservoirs at their headwaters, which provide compensation flows that are particularly important during low flows. Examples include; Cow Green Reservoir on the River Tees, Leighton on the Ure, Gouthwaite on the Nidd, and Grimwith and Lindley Wood Reservoirs on the Wharfe. A full list of critical compensation flow sites are included as Appendix 1. Figure 1, below, shows the main rivers, reservoirs and abstraction points in the Area.

Figure 1: Main Rivers, Reservoirs and Abstraction Points in Dales Area



Groundwater tends to be more important for people who have their own supply or in areas away from the main rivers. There are four major aquifers; the Magnesian Limestone, Sherwood Sandstone, Corallian Limestone and Chalk. The Minor aquifers include the Millstone Grit and Carboniferous Limestone. This can be seen in Figure 2, below.

Figure 2: Dales Area Hydrogeology and Groundwater Abstractions



Public Water Supply in the area is managed by three water companies:

- Northumbrian Water Limited (NWL);
- Yorkshire Water Services Limited (YWS); and,
- Hartlepool Water Company (HWC), a subsidiary of Anglian Water Services.

Northumbrian Water manage the transfer of water from Kielder Reservoir to the River Tees. Yorkshire Water operate the Yorkshire Grid, which allows the transfer of water via a network of pipelines between rivers and public water supply reservoirs, both across the Dales Area and to the adjacent areas of South, East and West Yorkshire. Hartlepool Water’s supply comes from groundwater in the Magnesian Limestone aquifer and is covered by our Northumbrian Area Drought Plan.

In the 1995/6 drought the main rivers that showed drought conditions and had implications for drought management included the Ouse, Ure and Wharfe. The Derwent is also susceptible to low flow conditions in its upper reaches. Furthermore, the Derwent between Ryemouth and Barmby has been designated as a Special Area of Conservation (SAC) for European Importance in relation to River and Sea Lamprey, Bullheads and an assemblage of aquatic plants. With this in mind we would only consider Drought Orders or Permits in this catchment as a last resort.

The area contrasts between the green open spaces of the North Yorkshire Moors, Yorkshire Dales National Park and the Nidderdale Area of Outstanding Natural Beauty and the more urban areas of Teesside and York. There are several Sites of Special Scientific Interest (SSSIs), Ramsar sites, Special Protection Areas (SPAs), and Special Areas of Conservation (SACs) within the Dales area. These are listed in Appendix 5.

2.2 Area Drought Team roles and responsibilities

The main roles and responsibilities of the Area Drought Team are to:

- plan for and manage drought in the Area;
- ensure that monitoring is adequate to assess the impact of drought;
- implement Area drought management actions;
- communicate with local parties interested in drought management and
- keep the Area drought plan up-to-date;

Other activities and responsibilities:

- Collate local drought related information and keep internal staff informed of the drought situation;
- Advise external groups and individuals on potential drought impacts and ways to minimise water use;
- Set up and report on monitoring and impact assessments; and,
- Design appropriate conditions for drought permits and drought orders.

The Area has appointed a Drought Manager who will be responsible for the Area's Drought Plan and a Drought Co-ordinator to oversee day to day activities.

Table 1: Dales Area Drought Team

Role in team	Job title
Area Drought Manager	Area Environment Manager – Pennines
Area Drought Co-ordinator	Team Leader – Dales Area Groundwater & Contaminated Land
Environment Management Advisor	Team Leader Pennines South Environment Management
Water Resources Advisor	Team Leader – Dales Area Regulatory Water Resources
Fisheries & Ecology Advisor	Team Leader – Dales Area Ecological Appraisal
Biodiversity Advisor	Team Leader – Dales Area Biodiversity
Hydrology Advisor	Hydrologist
External Relations Advisor	External Relations Officer
Drought Event Administrator	Environment Officer

The activity matrix in Appendix 2 summarises the Area Drought Team members' roles and responsibilities.

Administration procedures

It is important that an accurate audit trail is kept throughout a drought event. Accurate records will aid communications, ensure actions have been taken and assist in producing post drought reports. Therefore, the Area Drought Team will keep a Key Actions and Decisions Log throughout a drought event and keep a record of drought related incidents, such as fish kills, pollution incidents and reports of illegal abstractions.

2.3 Responsibility and involvement in decision taking

There are some drought management decisions that can only be approved by certain staff, these are detailed in Table 2 overleaf .

Table 2: Specific Drought Management activities and responsibilities

Activity	Staff member authorised to approve
Approval of water company drought permits	Area Manager after consultation with Area Drought Manager and Regional Technical Expert Drought Team
Approval of our comments to the Secretary of State on water company drought orders	Regional Director
Approval of Environment Agency drought order applications	Regional Director
Approval of memorandums of understanding (MoU) that relate wholly to the Dales Area	Area Manager
Approval of memorandums of understanding (MoU) that are of regional concern	Regional Director

2.4 Resourcing

In a drought situation, additional monitoring and interpretation of a variety of data will need to be undertaken. This will have an impact on resources and the ability to manage our day to day responsibilities. In certain circumstances resources will be redirected to ensure that drought work is prioritised. Extensions to determination periods for licences and permits may be required and some activities may be contracted out. This will be co-ordinated via the Area Drought Team.

3 Drought monitoring

The Environment Agency carries out routine monitoring of the flow, level and quality of our rivers, reservoirs and aquifers. We also monitor our fisheries and other wildlife in order to report on a variety of EU Directives and the state of our environment. We call this our baseline monitoring.

During a drought or potential drought we will examine this baseline and start additional monitoring, i.e. more sites or increase frequency of visits.

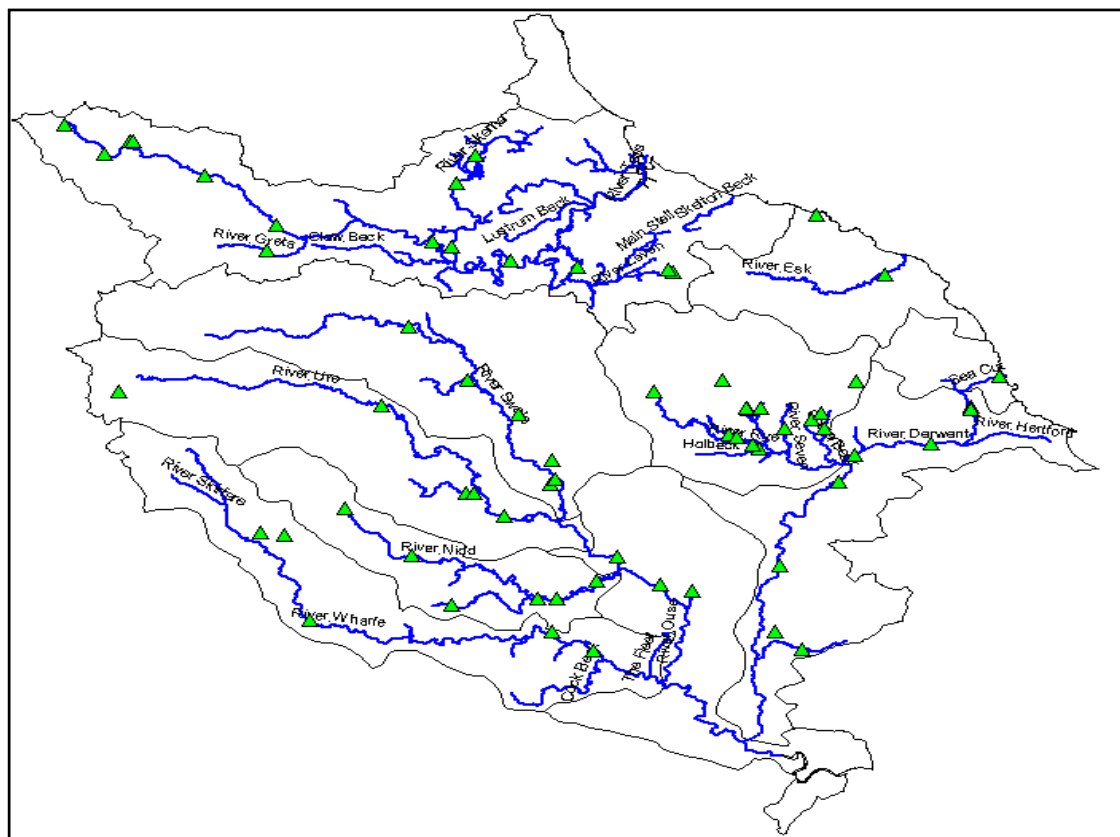
Yorkshire Water Services and Northumbrian Water Company also provide weekly water situation reports to us.

3.1 Hydrometric monitoring

We routinely measure and record a range of hydrometric data, including river flows and levels, groundwater levels and rainfall.

We operate river flow gauging stations, level recorders and raingauges across the Dales Area as shown in Figure 3, below, and detailed in Appendix 3.

Figure 3: Dales Area River Flow Gauging Stations (main rivers only shown)



Dales Area drought plan for North East Region

Routine weekly monitoring of representative flow gauging stations and raingauges is used to identify extended periods of low flow. Area Hydrologists will report this information to the Area Drought Team. We won't generally increase the frequency of data collection, at these sites, during a drought but will focus more on examining the data we already collect.

The only areas where more monitoring may take place is on rivers, where we don't have permanent recorders, and groundwater sites where we monitor at monthly intervals. The frequency and locations of this monitoring will be determined by the appropriate technical team, as conditions dictate.

The Hydrology team will produce a Dales Area Water Situation Report to collate this information and bring it to the attention of the Area and Regional Drought Teams. In normal conditions this will be produced monthly, increasing to weekly should the situation dictate.

3.2 Ecological monitoring

Ecological monitoring is carried out by our Ecological Appraisal Team and combines both biological monitoring and fisheries monitoring.

3.2.1 Biological Monitoring

We have a routine biological monitoring programme of 202 sites completed over a 3 year period. This is designed to provide an overview of long term changes in the biological water quality of the rivers in the Dales Area. We also have an additional programme of 69 sites, sampled annually in the spring and autumn, that is designed to provide information to assess the impacts of compensation flows from reservoirs, large potable water abstractions and reduced dilution of major sewage discharges on the river macroinvertebrate communities. The biological sampling sites in the Dales Area are included as Appendix 4. Figure 4, overleaf, depicts these sites.

On-going investigations carried out since the last drought in 1995/'96 have shown that macroinvertebrate communities in the main rivers of Dales Area are very robust, withstanding extended periods of low flow.

After the declaration of a drought, additional reactive biological sampling will be carried out at the discretion of the Ecological Appraisal Team and could include changes in the cover of aquatic plants and algae along river stretches.

Unless a drought is declared our Monitoring Officers will continue routine monthly sampling. If low dissolved oxygen meter readings (e.g. below 60%) are obtained, our officers are to inform the Area Drought Team's Environment Management representative and/or Fisheries representative to enable a site visit to be made.

When a drought is declared the Monitoring Officers will continue routine sampling, but in addition fortnightly field-testing may be carried out. In the event of Drought Orders or Permits being granted, extra sampling may be instigated at locations to be determined following consultation with Environment Management, Fisheries and Ecological Appraisal.

We also sample groundwater quality at over 150 locations across the Dales Area at three or six month intervals. We do not foresee a need to increase this monitoring frequency during a drought.

3.4.3 Critical Discharge Consents and Permits

We monitor consented discharges, placing greatest emphasis on those discharges we believe pose the biggest environmental risk. In most cases the existing monitoring programme will be sufficient to provide early warning of deteriorating quality of the discharge. The majority of these discharges will be from sewage treatment works, operated by the water companies.

The most significant discharges in the Dales Area are monitored on a weekly basis. Others are monitored fortnightly with the majority of discharges being sampled monthly. Significant discharges are included as Appendix 8.

We don't routinely monitor smaller discharges from holiday parks and the like, which are common in Dales Area. During a drought these discharges could be more significant, especially in the upper catchments. We will visit these more often. Should the discharges be outside the terms of the consent then appropriate enforcement action will be taken. After a drought we will consider a review of the consent.

In normal conditions Monitoring Officers will continue to sample critical discharges, inspect outfalls and take photographs of watercourses if any visible impacts are observed. In a drought, Environment Officers will sample critical discharges on a weekly basis. If a visible impact is noticeable, upstream and downstream sampling at the nearest river quality monitoring point will be carried out.

Integrated Pollution Prevention Control (IPPC) sites, where operators self monitor discharges, will be requested to give us their results as soon as they have them. In a drought these sites will be also spot sampled on a fortnightly basis by Environment Officers. Where appropriate we will negotiate an increased frequency of maintenance by the operator.

Water companies will report any operation of emergency overflows or storm overflows immediately to us. Should a significant impact be noted from any critical discharge an emergency meeting of the Area Drought Team will be convened. We will discuss the possible tightening and variation of discharge consent and or the positioning of aerators in the vicinity of outfalls.

3.4.4 Environmental Incidents

Reports of water pollution incidents in drought affected catchments will receive high attendance priority in order to attempt to minimise any potential impact during low flow conditions. We may also use fish kills or other indicators of environmental stress, such as streams drying up, to alert staff to potential problems.

4 Drought actions and triggers

Drought management is part of the range of water resources management activity. Drought impact varies from minor to very severe. Our drought plans cover the whole range of drought management activities and decisions. As droughts become more severe more time and effort is needed to manage our own activities.

Table 3: Environment Agency defined Drought Stages

Stage	Activity
Normal	Drought planning and routine monitoring is necessary.
Potential Drought	Drought teams need to be brought together, careful monitoring is necessary and there may be additional reporting.
Drought	Drought teams are working to manage the drought; other activities may be reduced or stopped.

There is no single piece of unique information that we can use to say when we are in a drought or potential drought. We need to establish pieces of information that we then use to make a decision. The starting point in any decision will be the hydrometric data. Table 4 below gives hydrometric circumstances which will trigger a decision. We will also use information from the catchment teams such as fish welfare, water quality and long term weather forecasts before taking drought actions. No two droughts are the same, therefore, we cannot specify a set of conditions which define when a drought will be called. Local judgement is an important part of drought management.

Table 4: Indicative Hydrometric Triggers

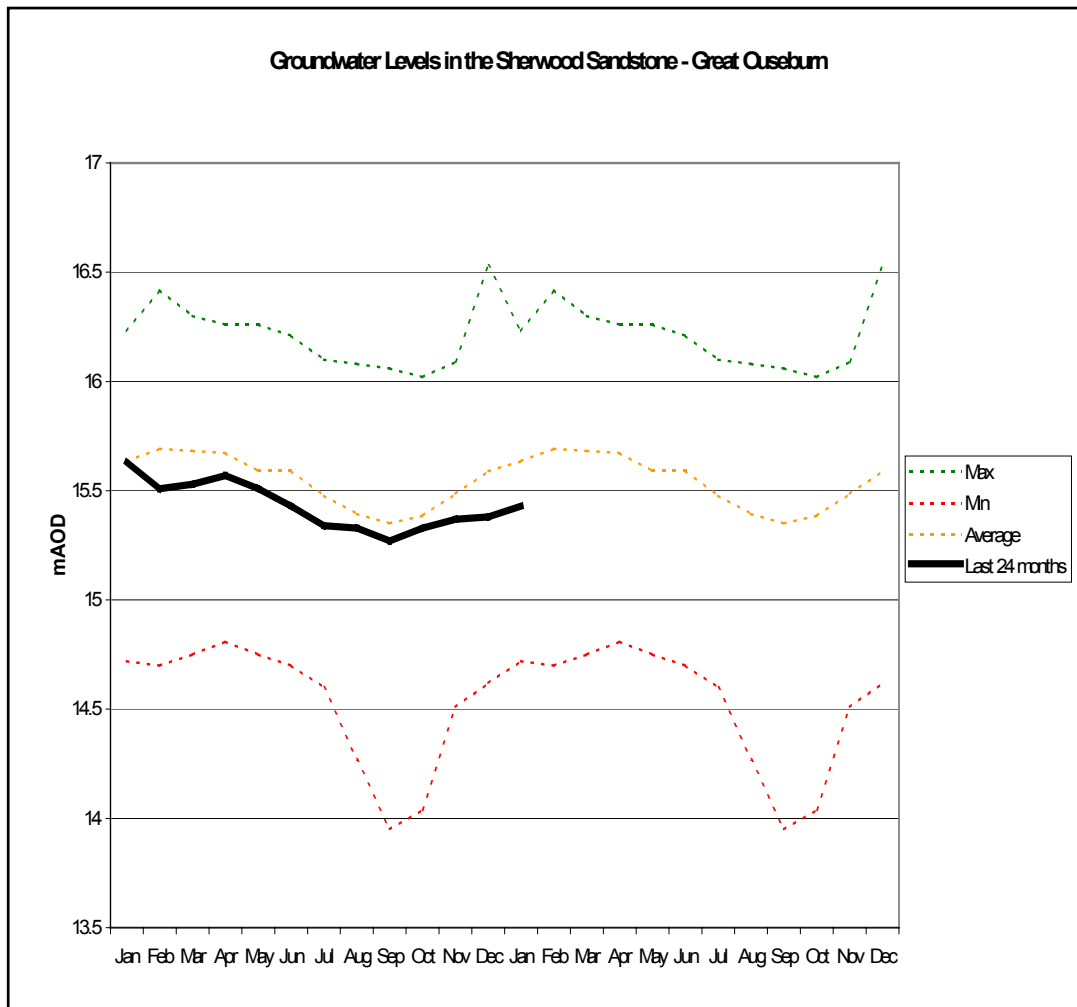
Parameter	Criteria	Indicative Trigger	Totals in previous drought years (for comparison purposes)	
			1989	1995
River Flow	Number of cumulative days below Q95	Tees at Middleton	72	18
		Derwent at Buttercrambe	102	75
		Ure at Kilgram	56	80
		Swale at Crakehill	99	67
		Wharfe at Addingham	66	105
SMD	No of weeks above 100 mm	Morecs Square 86	18	12
		Morecs Square 93	20	17

Appendix 9 shows a map of the North East region identifying the relevant Morecs squares.

Types of hydrometric data we would use include: the Drought Severity Index (DSI), river flows, rainfall, soil moisture deficits and reservoir levels.

- Drought Severity Index (DSI) – Uses long-term rainfall records to identify potential change in drought conditions. The cumulative deficit below the mean rainfall for the previous three or six months is used to identify four categories of rainfall deficit (normal, moderate, serious and severe). These categories help determine the drought status of the catchment; normal, potential drought, drought and post drought
- River flows – As flows approach Q95, the Hydrology Team will increase monitoring and situation reporting. Q95 is the flow that is equal to or exceeded 95% of the time, typical of normal summer low flows, and frequently the start of flow dependent conditions on abstraction licences.
- Soil Moisture Deficit (SMD) – Occurs when the water content of the soil becomes depleted. It is quantified by the amount of water required to return the soil to field capacity. The Met Office provides SMD data. The accumulating SMD is monitored, with levels in excess of 100mm indicating dry conditions.
- Reservoir Data – is supplied weekly by water companies. This information details the overall resource available as well as the situation in individual and small groups of reservoirs. Reservoir amounts, levels, and rate of use are monitored and then compared to control rules and historical minimum. However, reservoir stocks alone do not give an indication of available water supplies.
- Groundwater Levels - we have identified a number of key boreholes which are representative of the water level conditions in our major aquifers. Triggers which are flagged to the Area Drought team will be when levels fall below average, reach halfway to minimum and reach a historical minimum. An example is provided in Figure 8, overleaf.

Figure 8: Example hydrograph of groundwater levels in Sherwood Sandstone



The Environment Agency is also developing some ecological drought triggers based on LIFE (Lotic Invertebrate Index for Flow Evaluation) scores of macroinvertebrates. This will require biologists to identify the macroinvertebrates before analysis is done using the LIFE method. This method reflects the effects of high and low flow on different types of river fauna.

4.1 Actions and Triggers during normal conditions

Table 5: Normal Condition Status

Actions during normal conditions	When	Who makes the decision on whether to take the action ?	Who is responsible for taking the action?
Review and update Area Drought Plan	February of each year	Area Drought Co-ordinator	Area Drought Manager
Convene Area Drought Team for annual review	March of each year	Area Drought Co-ordinator	Area Drought Manager
Review drought triggers	March to April	Area Hydrologists	Hydrology Team Leader
Produce Water Resource Situation report	Monthly. April to October	Area Hydrologists	Hydrology Team Leader
Review Water Company Drought Plans	March of each year	Regional Water Resource Planners	Regional Water Resource Planning Team Leader
Liaison with water company to be aware of abnormal circumstances	All year	Regional Drought Co-ordinator	Regional Drought Manager
Review routine hydrological, ecological and water quality monitoring	All year	Relevant team members	Relevant team leaders

4.2 Actions and triggers during a potential drought

Table 6: Potential Drought Status

Actions during a potential drought	When	Who makes the decision on whether to take the action ?	Who is responsible for taking the action?
Notify Area Drought Co-ordinator that hydrometric trigger levels are close to being met.	As and when hydrometric trigger levels are close to being met.	Area Hydrologists	Hydrology Team Leader
Confirm Potential Drought	After considering Indicative Triggers and Environmental information	Area Drought Team	Area Drought Manager
Convene the Area Drought Team	Potential drought stage reached	Area Drought Co-ordinator	Area Drought Manager
Indicate concerns to Regional Drought Team, initiate more frequent liaison	Potential drought stage reached	Area Drought Co-ordinator	Area Drought Manager
Closer monitoring of abstractions	Potential drought stage reached	Environment Officers	Team Leader Environment Management
Review PR plan	Potential drought stage reached	Area External Relations Officer	Area Drought Manager
Review dissemination of drought information	Potential drought stage reached	Area Drought Co-ordinator	Area Drought Manager
Consider initiating low flow surveys at <Q95	Potential drought stage reached	Area Hydrologists	Team Leader Hydrology
Increase surveillance of abstraction licences with 'hands off' flow conditions and any voluntary restrictions in place	Potential drought stage reached	Environment Officers	Team Leader Environment Management
Plan for additional Environmental Monitoring	Potential drought stage reached	Area Drought Co-ordinator	Area Drought Manager

4.3 Actions and triggers during a drought

Table 7: Drought Status

Actions during a drought	When	Who makes the decision on whether to take the action ?	Who is responsible for taking the action?
Confirm Drought Status	After consideration of Drought trigger information	Area Drought Co-ordinator	Area Drought Manager
Review and escalate monitoring, analysis and dissemination as necessary	Drought established	Area Drought Co-ordinator	Area Drought Manager
Review human and financial resources	Drought established	Area Drought Manager	Area Manager
Initiate Agency PR plan including water-saving publicity	Drought established	Area External Relations Officer	Area Drought Manager
Prepare for drought orders and permits	Drought established	Area Drought Co-ordinator	Area Drought Manager
Increased consultation with outside organisations	Drought established	Area External Relations Officer	Area Drought Manager
Ensure water company actions in line with plan	Drought established	Regional Drought Co-ordinator	Area Drought Manager
Environmental mitigation measures initiated as necessary (e.g. fish rescues)	As necessary	Environment Officers & Ecological Appraisal Officers	Relevant team leaders
Monitoring of key surface water flows and relevant flows with restrictions in force.	Throughout Drought	Area Regulatory Water Resources Officer & Area Hydrologists	Relevant team leaders

Table 7 continued

Actions during a drought	When	Who makes the decision on whether to take the action ?	Who is responsible for taking the action?
Discuss possibility of voluntary restrictions with key abstractor groups and consider the possibility of enforcing Section 57 Spray Irrigation restriction.	Throughout drought if HOF's in force and levels are still falling	Area Regulatory Water Resources & Environment Officers	Area Drought Manager
Environment Management to make additional resources available to monitor areas with section 57 in force	When Section 57 notices in place	Environment Officers	Area Drought Manager

4.4 Actions and triggers post drought

Table 8: Actions to be carried out once Normal Conditions are Re-established

Post drought actions	When	Who makes the decision on whether to take the action ?	Who is responsible for taking the action?
Post drought review and update Area Drought Plan	Following a return to Normal Conditions	Area Drought Co-ordinator	Area Drought Manager
Gather together all records kept by Area Drought Team members	Following return to Normal Conditions	Area Drought Co-ordinator	Area Drought Manager
Review Key Actions and Decisions Log	Following return to Normal Conditions	Area Drought Co-ordinator	Area Drought Manager
Review information gathered during drought to complete Lessons Learned Log	Following return to Normal Conditions	Area Drought Co-ordinator	Area Drought Manager

5 Drought permits and drought orders

5.1 Water company drought permits and drought orders

This section sets out the Area's approach to dealing with water company drought permit applications and responding to drought order applications.

The Water Resources Act 1991, as amended by the Environment Act 1995, allows for three mechanisms for dealing with drought situations: ordinary drought orders, emergency drought orders and drought permits. It is the Secretary of State who grants drought orders and the Environment Agency that grants drought permits.

In order for an application for a drought order or permit to proceed the Secretary of State or the Environment Agency must be satisfied both that:

- *a serious deficiency of supplies of water in any area or such a deficiency in the flow or level of water in any inland waterway as to pose a serious threat to any flora or fauna which are dependent on those waters exists or is threatened,*

and that

- *the reason for this deficiency is an exceptional shortage of rain*

Drought Permits and Drought Orders can authorise abstraction from specified sources, and can modify or suspend restrictions or obligations relating to the (existing) abstraction of water from any source.

Drought Order/Permit applications will be managed and processed by a Technical Expert Drought Team reporting to the Regional Drought Team.

To allow any potential environmental impacts of an application to be assessed there is a need for the water company to undertake baseline, drought and post drought ecological, hydrological, water quality monitoring. Monitoring sites and methodologies to be used are decided in consultation with the Area Drought Team.

As part of the application procedure water companies must submit Environmental drought permit reports which assess the potential impacts of the operation of the drought permit and detail the monitoring and mitigation that the water company will undertake to minimise the impact of the drought permit. The water company may request data/information for drought permit/order environmental reports.

The types of information requested include:

- Hydrometric data
- Ecological data
- Water quality data
- Details of abstractions and discharges
- Cross sectional survey information
- Details of water users

The Area Drought Team will comment on draft environmental reports before final drought permit applications are submitted.

During the application procedure the Drought Permit has to be advertised once in a local paper(s) and the London Gazette. Interested parties or individuals can object to the application within seven days of the drought permit being advertised. If objections are received there may be a need to hold a public hearing and if a drought permit is refused by the Environment Agency the water company can appeal to the Secretary of State (Defra).

5.1.1 Drought Permit/Order Stipulations for Rivers in the Dales Area

In the event of an application for a drought order or permit by YWS or NWL, we would seek to impose conditions. These conditions would be made specific to each application once the full details of the application are known and we have considered the following matters:

- Additional monitoring required in order to assess the immediate impacts of the drought order or permit, identify any mitigation necessary and address the public's and/or other interested parties perception of environmental damage to those rivers. Additional reactive monitoring may be necessary should specific problems occur such as compensation flows be reduced to a 'trickle' or be made up of water heavily laden with solids originating from the bed of the reservoirs. The monitoring programmes would cover flow, water quality, fisheries and biology;
- Restoration of spawning areas damaged by low flows;
- Compensation to fishery owners and operators for (a) loss of fish stock (b) loss of angling caused by the order or permit;
- Provision of screens to prevent fish entrainment at any abstraction point not currently protected;
- Reimbursement of costs of any fish rescue required as a result of the impact of the order or permit;

- The installation of aerators to maintain dissolved oxygen concentration above critical levels in the river reaches impacted by the order;
- The provision of dissolved oxygen facilities on standby and
- The maintenance of all water company assets such as wastewater treatment works and combined storm overflows in order to maximise their performance.

Yorkshire Water have identified several potential locations for Drought Order/ Permit applications within the Dales Area should the need arise. These may include:

- River Ouse at Moor Monkton;
- River Wharfe at Lobwood;
- River Wharfe at Arthington;
- Variation of Reservoir Compensation Releases on the Rivers Swale, Ure and Wharfe; and,
- Other smaller drought orders/permits that could change prescribed flow conditions on abstraction licences in rural areas.

There is also an option to transfer water from Northumbrian Water to Yorkshire Water, via a Tees-Wiske transfer, although the infrastructure for this is not yet in place.

Northumbrian Water's Drought plan does not envisage the need for Drought Orders.

5.2 Environment Agency drought order applications

Under the Water Resources Act 1991 the Environment Agency is able to apply to the Secretary of State for an 'environmental' Drought Order (DO) to restrict or stop abstraction to safeguard the environment.

'Environmental' Drought Orders will only be necessary in a severe drought event, where it can be proved a Designated site is at risk of being severely or permanently damaged if abstraction continues. Potential 'Environmental' Drought Order sites will be continually assessed during a drought and may vary depending on changing environmental conditions.

The criteria for selecting sites are:

- the relative environmental significance of the site, i.e. whether it is designated, for example as a Special Area of Conservation, Special Protection Area, RAMSAR site or a Site of Special Scientific Interest;

- the significance of species threatened by drought impacts on a site, i.e. the presence of Biodiversity Action Plan species or where species are so isolated that recolonisation following loss is very unlikely.

6 Drought communications

6.1 External communications

We have produced a communication plan and this forms part of the Regional Drought Plan.

The regional Corporate Affairs team will take the lead on producing and reviewing the regional drought communications plan. The regional communication plan has been developed for the region and includes regional and area communications both for within the Environment Agency and with our external stakeholders.

Our regional plan will link directly to our national drought communications strategy to ensure our position and messages are nationally consistent.

Local Resilience Forums co-ordinate planning activities during a civil emergency. Droughts are not emergencies unless there is a serious threat of restrictions to public water supply such as standpipes or rota cuts. We will work with Local Resilience Forums to make sure that water companies have assessed the risk of drought early and are taking the right steps to avoid standpipes or rota cuts.

6.2 Internal communications

The main aims of the Area's internal communication plan is to:

- ensure Area staff are clear on our drought position
- ensure that managers are aware of the drought management resource commitments and that any issues are raised in good time
- ensure that the Regional Drought Team is kept informed of the situation in the Area including any risks and issues or actions that are taken.

Internal groups to communicate with include:

- the Area management team
- the Regional drought team
- Ridings and Northumbria Area Drought Teams in event of cross boundary issues affecting Yorkshire Water Services
- Other Area and Catchment teams, for example, Fisheries, Environment Management

- Other key contacts, including the SEP Principal Officer for Water Resources, Regional Technical Specialists and the Supra Regional Water Resources Planning Team
- Local Environment Agency committees, for example the Area Environment Group

Regional Corporate Affairs Team.

Dales Area Drought Plan Appendices

Appendix 1: Dales Area Critical Compensation Flows

Water company licences that authorise abstractions from a reservoir may have conditions imposed, whereby a specified amount of water has to be released into the watercourse, downstream of the reservoir in order to compensate the river for the abstraction. These licences are also defined as critical.

River Catchment	Location
Tees	Moorhouse
Tees	Cow Green Reservoir
Tees	Harwood
Tees	Langdon
Tees	Middleton
Tees	Barnard Castle
Tees	Rutherford Bridge
Tees	Broken Scar
Tees	Bradbury
Tees	Preston-Le-Skerne
Tees	South Park
Tees	Low Moor
Tees	Easby
Tees	Leven Bridge
Tees	Tees Barrage
Esk	Scaling Reservoir
Swale	Cod Beck Reservoir
Swale	Lower Oakdale Reservoir
Ure	Leighton Reservoir
Ure	Lumley Moor Reservoir
Nidd	Gouthwaite
Nidd	Eagle Level
Nidd	Beaverdyke
Wharfe	Grimwith
Wharfe	March Ghyll
Wharfe	Carr Bottom
Wharfe	Lindley Wood

Appendix 2 – Area drought activities matrix

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep	
Memorandum of Understanding	Delegated sign off powers for MoU's that apply to the area only.												
Area Drought Plan [ADP]	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Produce draft and circulate to relevant parties. Review and update annually [April following team meeting] and as necessary	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA	Evaluate and feed back to DEA
Set up and review of Area Drought Team		Identify Area drought team [DT] members and review at the beginning of each year.	Co-ordinate annual DT meeting [April.]	Update ADP to reflect changes									

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser	
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep		
Maintain up to date list of catchment stakeholders and key water users [external]			Ensure any changes are noted and details forwarded to DEA to update ADP	Update ADP to reflect changes										
Monitoring of drought triggers and notification of potential drought							Review monitoring data and notify ADC of potential drought							
Drought management & coordination- onset			Declare onset of drought and convene DT members.		Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	Advise ADC of resource requirements	
Instigate additional biological, flow and water quality monitoring			Instigate additional monitoring via liaison with DT and Field Data Services		Instigate additional monitoring via liaison with ADC					Instigate additional monitoring via liaison with ADC	Instigate additional monitoring via liaison with ADC			

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser	
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep		
Water Company Monitoring			Negotiate increased surveillance monitoring of NWL Assets [WWTW's]											
Interpret monitoring data			Incorporate feedback into Drought Reports and records log via liaison with DEA		Interpret monitoring data via liaison with DT and feedback to ADC	Interpret monitoring data via liaison with DT and feedback to ADC	Interpret monitoring data via liaison with DT and feedback to ADC	Interpret monitoring data via liaison with DT and feedback to ADC	Interpret monitoring data via liaison with DT and feedback to ADC	Interpret monitoring data via liaison with DT and feedback to ADC	Interpret monitoring data via liaison with DT and feedback to ADC			
Drought event records/log			Liaise with DEA for record keeping purposes	Keep log & administrative records of drought management and progress										
Authorisation and Allocation of Resources		Determine and authorise resources as necessary	Liaise with DT and ADM to secure appropriate allocation of resource		Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	Advise ADC of changes in resource requirements	

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep	
Drought management & co-ordination-during		Apprise AM of ongoing situation	Coordinate 'day to day' activities of DT. Apprise ADM of ongoing situation.		Coordinate additional Provide relevant expertise and feedback to ADC	Provide relevant expertise and feedback to ADC	Coordinate additional monitoring and spot flow gauging Interpret data/findings. and feedback to ADC	Provide relevant expertise and feedback to ADC	Ensure baseline monitoring is as scheduled and initiate additional monitoring Interpret data/findings and feedback to ADC	Provide relevant expertise and feedback to ADC	Provide relevant expertise and feedback to ADC	Provide relevant expertise and feedback to ADC	
Principle Point of Contact During & Outside Drought Situation			Act as principle contact during and outside of drought situation. Liaise with RDC, ADM & DT as necessary										
Drought situation reports			Produce drought situation reports and circulate to National & Regional Drought Coordinators and DT and AM										

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep	
Liaison with external stakeholders		Attend external liaison meetings	Liaise with Corporate Affairs Officer for press releases etc.. Co-ordinate and chair external liaison meetings		Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	Attend meetings as specialist representative where required	
Respond to external enquiries			Provide daily status reports to Customer Services Rep									Respond to external enquiries via liaison with ADC	
Conduct media interviews			Represent the Agency at media interviews via liaison with the Agency Corporate Affairs Officer										
'HELP' Procedures			Initiate HELP procedures where applicable [using AMS guidance]										

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep	
Internet based communications			Provide relevant information to Regional Drought Manager [who appoints persons to update and maintain Internet site]										
Enforcement of Abstraction Licences [Hands Off Flows] and Discharge Consents			Liaise with EM Rep to enforce Licences [HOF] and Consents. Liaise with abstraction licence holders to recommend water conservation		Coordinate additional visits to 'Critical Abstractors' Enforce abstraction Licenses & Discharge Consents via liaison with ADC and other DT members								
Enforcement of Pollution incidents caused by drought			Manage pollution incidents caused by drought via liaison with EM rep		Manage pollution incidents caused by drought via liaison with ADC								

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep	
Environment Agency [EA] drought order [DO] applications		Determine requirement for DO applications via liaison with ADC and apprise AM.	Determine requirement for DO applications via liaison with ADM										
Approval of EA DO applications		Forward DO applications to Regional Director for 'sign off'											
Approval of Area comments to SoS re: water company DO's		Liaise with ADC, formulate comment on DO applications and forward to RD for approval	Liaise with ADM, formulate comment on DO applications and forward to RD for approval										
Water company drought permit [DP] applications	Delegated NFSoD sign off powers for DP applications.	Determine DP applications via liaison with ADC & DT	Determine DP applications via liaison with ADM & DT. Coordinate Public Hearings		Determine DP applications via liaison with ADM, ADC & DT	Determine DP applications via liaison with ADM, ADC & DT	Determine DP applications via liaison with ADM, ADC & DT	Determine DP applications via liaison with ADM, ADC & DT	Determine DP applications via liaison with ADM, ADC & DT	Determine DP applications via liaison with ADM, ADC & DT	Determine DP applications via liaison with ADM, ADC & DT		

Role Activity	Area Manager [AM]	Area Drought Manager [ADM]	Area drought co-ordinator [ADC]	Drought Event Administrator or [DEA]	Specialist Regulatory Drought Support Team								Legal Adviser
					Environment Management Rep	Water Resources Rep	Hydrology Rep	Groundwater Rep	Ecological Appraisal Rep	Fisheries Recreation & Biology Rep	Water Quality Rep	Customer Services Rep	
Approval of Water Company DP's		Liaise with Regional Director [sole responsibility for approval]	Liaise with Regional Director [sole responsibility for approval]										
Convening and closure of Area Drought Team		Declare 'end' of drought	Coordinate meeting & closure of DT										
Post drought review			Coordinate meeting of DT & Post Drought Review.	Incorporate any necessary amendments to ADP									

Appendix 3: River Flow Gauging Stations in the Dales Area

River Catchment	Station Name	NGR
Tees	Broken Scar	NZ25901370
Tees	Barnard Castle	NZ04701660
Tees	Middleton	NY95002500
Tees	Cow Green	NY81302880
Tees	Moorhouse	NY75903360
Tees	Rutherford Bridge	NZ03401220
Tees	Harwood	NY84903090
Tees	Low Moor	NZ36401050
Tees	South Park	NZ28401290
Tees	South Park, Fish P	NZ28401290
Tees	Preston-Le-Skerne	NZ29202380
Tees	Bradbury	NZ31802850
Tees	Leven Bridge	NZ44501220
Tees	Low Easby	NZ57800900
Tees	Easby	NZ58500870
Derwent	Scarborough	TA02809080
Derwent	Forge Valley	SE98508570
Derwent	West Ayton	SE99008530
Derwent	Snainton Ings	SE93607940
Derwent	Low Marishes	SE83307740
Derwent	Cherry Farm	SE65207020
Derwent	Malton A64 Road Br.	SE81207310
Derwent	Buttercrambe	SE73105870
Derwent	Thornton Lock	SE76004440
Derwent	Sandhills Bridge	SE72504750
Esk	Briggswath	NZ87300820
Swale	Catterick Bridge	SE22609930
Swale	Moulton Spring GB.	NZ23300300
Swale	Bellerby Beck SP NO1	SE11009290
Swale	Leeming	SE30609020
Swale	Kirby Wiske	SE37508440
Swale	Dalton	SE42207660
Swale	Crakehill, Topcliffe	SE42507330
Swale	Bat Bridge, Cundall	SE41907240
Ure	Low Houses	SD83308830
Ure	Kilgram, Middleham	SE19008600
Ure	Ripon	SE30107100
Ure	Alma Weir, Ripon	SE31607090
Ure	Rhodes Field Lock	SE32507010

River Catchment	Station Name	NGR
Ure	Westwick	SE35606710
Ure	Whitwell Spring	SE44006420
Ouse	Newton-on-Ouse	SE50906020
Ouse	Skelton	SE56805540
Ouse	Huntington	SE61205430
Nidd	Gouthwaite	SE14106830
Nidd	Birstwith	SE23006030
Nidd (River Crimple)	Burn Bridge	SE28405190
Nidd (River Crimple)	Blackstones Farm	SE40205300
Nidd	Hunsingore	SE42805300
Nidd	Skip Bridge	SE48205610
Wharfe	Netherside Hall	SD98506495
Wharfe (River Dibb)	Grimwith	SE05806390
Wharfe	Addingham	SE09204940
Wharfe	Flint Mill, Wetherby	SE42204730
Wharfe	Tadcaster	SE47704410

Appendix 4: Dales Area Biological Sampling Sites

River Catchment	Location	NGR
Tees	Widdy Bank Farm	NY83802970
Tees	Egglestone Abbey	NZ06401520
Tees	Low Coniscliffe	NZ24801360
Tees	D/S Blackwell Ps	NZ27201160
Tees	Croft	NZ29000970
Tees	D/S Hury Reservoir	NY96901950
Tees	Cotherstone	NZ01202010
Tees	B6277 Bridge	NY95902410
Tees	Bridge House	NZ37703070
Tees	Holdforth Bridge	NZ34803140
Tees	U/S Heworth	NZ28802320
Tees	Aycliffe	NZ28602260
Derwent	Yedingham	SE89407950
Derwent	Loftsome Bridge	SE70503010
Derwent	Forge Valley	SE98508660
Derwent	Malton	SE78907140
Derwent	Howsham Bridge	SE73206250
Derwent	Stamford Bridge	SE71005550
Derwent	U/S Dyon Drain	SE70303280
Derwent	Barmby Barrage	SE68802890
Derwent	West Ayton	SE98880480
Derwent	Above Elvington Intake	SE70404850
Derwent	Low Hutton	SE76406770
Derwent	Sherburn	SE96207960
Derwent	Bubwith	SE70603640
Derwent	Bubwith	SE70903640
Derwent	Wilberfoss	SE73205060
Derwent	Hagg Bridge	SE71704520
Derwent	Nunburnholme	SE85204830
Derwent	U/S All Nunburnholme Discharges	SE85224840
Derwent	D/S Footbridge (Nunburnholme)	SE84574730
Derwent	Toft House Farm	SE80104570
Derwent	Pocklington Wood	SE81205060
Derwent	Hagg Bridge	SE71704510
Derwent	Church Bridge	SE78504520
Derwent	Scrayingham	SE73406030
Derwent	Hayton Grange	SE81304540
Derwent	Ganton	SE98207900
Derwent	South Duffield	SE69303330

River Catchment	Location	NGR
Swale	Maunby Demesne	SE33608760
Swale	Morton On Swale	SE31909180
Swale	Catterick	SE24209860
Swale	Hudswell	NZ14500070
Swale	Skipton On Swale	SE36407980
Swale	Thornton Bridge	SE43307150
Swale	Above Cundall STW	SE41907240
Swale	U/S Oakdale Beck	SE46009670
Swale	U/S Cod Beck	SE45909650
Swale	Nr Warlaby Nook	SE35509060
Swale	Yafforth	SE34609450
Swale	Kirby Wiske	SE37708480
Swale	Little Smeaton	NZ35000370
Ure	Wensley	SE09208940
Ure	West Tanfield	SE27007870
Ure	Jervaulx	SE16608600
Ure	D/S Kilgram Bridge	SE20108580
Ure	Masham	SE22608110
Ure	D/S Lumley Moor Res	SE23357065
Ure	Healey	SE18708010
Ure	Leighton	SE16607930
Ure	Aldwark Toll Bridge	SE46706220
Ure	Boroughbridge	SE39706700
Ouse	Newton Upon Ouse	SE50906020
Ouse	Acaster Malbis	SE59004530
Ouse	Scarborough Railway Bridge	SE59605210
Ouse	Cawood	SE57803780
Ouse	Naburn Marina	SE59804620
Ouse	A64 Road Bridge	SE60204840
Ouse	D/S Nidd Mouth	SE52105810
Ouse	D/S Moor Monkton	SE53605690
Ouse	Beningbrough Hall	SE51305860
Ouse	U/S York	SE57205440
Ouse	U/S Clifton Bridge	SE58905290
Ouse	Nether Poppleton	SE55705520
Ouse	Castle Mill Lock	SE60605130
Ouse	Lilling Green	SE64406350
Nidd	New Houses	SE09507670
Nidd	Wath	SE14406780
Nidd	Pateley Bridge	SE15706550
Nidd	Hampsthwaite	SE26105910
Nidd	Thornton Beck	SE28505960

River Catchment	Location	NGR
Nidd	Scotton	SE31605860
Nidd	Knaresborough	SE35005650
Nidd	Ornamental Bridge	SE39605350
Nidd	Walshford Bridge	SE41205320
Nidd	Pot Bridge	SE26905430
Nidd	Blackstones	SE40105300
Wharfe	Grassington	SD99706390
Wharfe	Hartlington Bridge	SE04006090
Wharfe	Burnsall	SE03206110
Wharfe	Bolton Bridge	SE07205290
Wharfe	Addingham	SE08404990
Wharfe	March Ghyll	SE12655095
Wharfe	Ilkley (1)	SE13704820
Wharfe	Ilkley (2)	SE13304820
Wharfe	Otley	SE18804550
Wharfe	Broad Park Bridge	SE04705630
Wharfe	Blubberhouses	SE16805530
Wharfe	Leathley Bridge	SE23204650
Wharfe	Castley	SE25604570
Wharfe	Harewood	SE30904590
Wharfe	Boston Spa	SE43204580
Wharfe	Tadcaster	SE48504370

Appendix 5: Dales Area Designated Conservation or Sensitive Sites

The following information highlights the main areas of habitat protection within or close to the river catchments in the Dales Area

Note :- abbreviations

AONB - Area of Outstanding Natural Beauty

SSSI - Site of Special Scientific Interest

SAC – Special Area of Conservation

SPA – Special Protection Area

RAMSAR – Site of International Wetland Importance

River Catchment	Location (Designation starting at the head of the catchment)	Designation
Tees	Durham Coast	SAC
Tees	Moor House – Upper Teesdale	SAC
Tees	North Pennine Dales Meadows	SAC
Tees	North Pennine Moors	SAC
Tees	North York Moors	SAC
Tees	Thrislington	SAC
Tees	Appleby Fells	SAC
Tees	Bollihope, Pikestone, Eggleston and Woodland Fells	SAC
Tees	Bowlees and Friar House Meadows	SAC
Tees	Cotherstone Moor	SAC
Tees	Cowpen Marsh	SAC
Tees	Durham Coast	SAC
Tees	Grains O' Th' Beck Meadows	SAC
Tees	Hannah's Meadows	SAC
Tees	Lune Forest	SAC
Tees	Mere Beck Meadows	SAC
Tees	Middle Crossthwaite	SAC
Tees	Middle Side and Stonygill Meadows	SAC
Tees	Moor House and Cross Fell	SAC
Tees	North York Moors	SAC
Tees	Redcar Rocks	SAC
Tees	Rigg Farm and Stake Hill Meadows	SAC
Tees	Seal Sands	SAC
Tees	Seaton Dunes and Common	SAC
Tees	South Gare and Coatham Sands	SAC
Tees	Tees and Hartlepool Foreshore and Wetlands	SAC
Tees	Thrislington Plantation	SAC
Tees	Upper Teesdale	SAC
Tees	West Park Meadows	SAC
Tees	North Pennine Moors	SPA
Tees	North York Moors	SPA
River	Location (Designation starting	Designation

	at the head of the catchment)	
Tees	Teessmouth and Cleveland Coast	SPA
Tees	Appleby Fells	SPA
Tees	Bollihope, Pikestone, Eggleston and Woodland Fells	SPA
Tees	Bowlees and Friar House Meadows	SPA
Tees	Cotherstone Moor	SPA
Tees	Cowpen Marsh	SPA
Tees	Durham Coast	SPA
Tees	Grains O' Th' Beck Meadows	SPA
Tees	Hannah's Meadows	SPA
Tees	Lune Forest	SPA
Tees	Mere Beck Meadows	SPA
Tees	Middle Crossthwaite	SPA
Tees	Middle Side and Stonygill Meadows	SPA
Tees	Moor House and Cross Fell	SPA
Tees	North York Moors	SPA
Tees	Redcar Rocks	SPA
Tees	Rigg Farm and Stake Hill Meadows	SPA
Tees	Seal Sands	SPA
Tees	Seaton Dunes and Common	SPA
Tees	South Gare and Coatham Sands	SPA
Tees	Tees and Hartlepool Foreshore and Wetlands	SPA
Tees	Thrislington Plantation	SPA
Tees	Upper Teesdale	SPA
Tees	West Park Meadows	SPA
Tees	Teessmouth and Cleveland Coast	RAMSAR
Tees	Appleby Fells	SSSI
Tees	Baldersdale Woodlands	SSSI
Tees	Bishop Middleham Quarry	SSSI
Tees	Bollihope, Pikestone, Eggleston & Woodland Fells	SSSI
Tees	Bowes Moor	SSSI
Tees	Bowlees and Friar House Meadows	SSSI
Tees	Brignall Banks	SSSI
Tees	The Carrs	SSSI
Tees	Charity Land	SSSI
Tees	Cotherstone Moor	SSSI
Tees	Cowpen Marsh	SSSI
Tees	Durham Coast	SSSI
Tees	Fishburn Grassland	SSSI
Tees	Grains O' Th' Beck Meadows	SSSI
Tees	Hannah's Meadows	SSSI
Tees	Hart Bog	SSSI
Tees	Hell Kettles	SSSI
Tees	Hunder Beck Juniper	SSSI
River Catchment	Location (Designation starting	Designation

	at the head of the catchment)	
Tees	Kildale Hall	SSSI
Tees	Kilmond Scar	SSSI
Tees	Lovell Hill Pools	SSSI
Tees	Lune Forest	SSSI
Tees	Mere Beck Meadows	SSSI
Tees	Middle Crossthwaite	SSSI
Tees	Middle Side and Stonygill Meadows	SSSI
Tees	Middleton Quarry	SSSI
Tees	Moor House and Cross Fell	SSSI
Tees	Neasham Fen	SSSI
Tees	Newton Ketton Meadow	SSSI
Tees	North York Moors	SSSI
Tees	Park End Wood	SSSI
Tees	Pike Whin Bog	SSSI
Tees	Pinkney and Gerrick Woods	SSSI
Tees	Railway Stell West	SSSI
Tees	Redcar Field	SSSI
Tees	Redcar Rocks	SSSI
Tees	Rigg Farm and Stake Hill Meadows	SSSI
Tees	Saltburn Gill	SSSI
Tees	Seal Sands	SSSI
Tees	Seaton Dunes and Common	SSSI
Tees	Shipleigh and Great Woods	SSSI
Tees	Sleightholme Beck Gorge	SSSI
Tees	South Gare and Coatham Sands	SSSI
Tees	Tees and Hartlepool Foreshore and Wetlands	SSSI
Tees	Teesdale Allotments	SSSI
Tees	Thrislington Plantation	SSSI
Tees	Trimdon Limestone Quarry	SSSI
Tees	Upper Teesdale	SSSI
Tees	West Park Meadows	SSSI
Derwent	North York Moors	National Park
Derwent	Raincliffe and Forge	SSSI
Derwent	River Derwent	SAC
Derwent	River Derwent	SSSI
Derwent	River Derwent Riverine	SSSI
Derwent	Howardian Hills	AONB
Derwent	Jeffry Bog	SSSI
Derwent	Kirkham Park and Riverside	
Derwent	Lower Derwent Valley	SAC
Derwent	Lower Derwent Valley	SPA
Derwent	Lower Derwent Valley	Ramsar Site
Derwent	Newton Mask	SSSI
Derwent	Derwent Ings	SSSI
Derwent	Brighton Meadows	SSSI
Derwent (Bielby B.)	Pocklington Canal	SSSI
Derwent (Bielby B.)	Pocklington Canal Riverine	SSSI
Derwent (Bielby B)	Lower Derwent Valley	SAC
River Catchment	Location (Designation starting	Designation

	at the head of the catchment)	
Derwent (Bielby B)	Lower Derwent Valley	SPA
Derwent (Bielby B)	Lower Derwent Valley	Ramsar site
Derwent (Bielby B)	Melbourne and Thornton Ings	SSSI
Derwent (Bielby B)	Derwent Ings	SSSI
Derwent (Thornton Beck)	North York Moors	National Park
Derwent (Thornton Beck)	Ellers Wood and Sand Dale	SAC
Derwent (Thornton Beck)	Ellers Wood and Sand Dale	SSSI
Derwent (R Dove)	North York Moors	SAC (Borders the valley)
Derwent (R Dove)	North York Moors	SPA (Borders the valley)
Derwent (R Dove)	North York Moors	SSSI (Borders the valley)
Derwent (Hodge B)	North York Moors	National Park
Derwent (Hodge B)	Sleightholme Dale	SSSI
Derwent (R Riccal)	North York Moors	National Park
Derwent (R Seven)	Cropton Banks and Howlgate head	SSSI
Derwent (R Seven)	North York Moors	National Park
Derwent (Rye)	Rienaulx Woods	SSSI
Derwent (Rye)	Ryedale Windy Pits	SSSI
Derwent (Rye)	Duncombe Park	SSSI
Derwent (Rye)	Howardian Hills	AONB
Derwent (Rye)	Ashberry & Reins Woods	SSSI
Derwent (Rye)	The Ings Amotherby	SSSI
Derwent (Holbeck)	Howardian Hills	AONB
Derwent (Pickering Beck)	North York Moors	National Park
Derwent (Pickering Beck)	Newtondale	SSSI
Derwent (Wath Beck)	Howardian Hills	AONB
Derwent/North Sea (Sea Cut)	North York Moors	National Park
Derwent/North Sea (Sea Cut)	Iron Scar and Hundale Point to Scalby Ness	SSSI
Swale	Swale Lakes	SSSI
Swale	Richmond Meadows	SSSI
Swale	North Pennine Dales Meadows	SSSI
Swale	Lower Swaledale Woods and Grassland	SSSI
Swale	Yorkshire Dales	National Park
Swale	Park Hall Meadows	SSSI
Swale	Lovely Seat Stainton Moor	SSSI
Swale	North Pennine Moors	SAC
Swale	North Pennine Moors	SPA
Swale	Arkengarthdale, Gunnerside and Reeth Moors	SSSI
Swale	Feetholme	SSSI
Swale	North Pennine Moors Meadows	SAC
Swale	New Close Clavert Houses	SSSI
River Catchment	Location (Designation starting	Designation

	at the head of the catchment)	
Swale	Muker Meadows	SSSI
Swale	Kisdon Force Woods	SSSI
Swale	Mallerstang Swaledale Head	SSSI
Ure	North Pennine Dales Meadows	SAC
Ure	Pry and Bottom Meadows, Mid Mosedale	SSSI
Ure	North Pennine Dales Measows	SPA
Ure	Lovely Seat Stainton Moor	SSSI
Ure	Askrigg Bottom	SSSI
Ure	Aysgarth	SSSI
Ure	Freeholders Wood	SSSI
Ure	River Ure Grasslands	SSSI
Ure	Wanlass grasslands	SSSI
Ure	Yorkshire Dales	National Park
Ure	Leyburn Glebe	SSSI
Ure	Nidderdale	AONB
Ure	Mar Field Fen	SSSI
Ure	Hack Fall Woods	SAC
Ure	Ripon Parks	SSSI
Ure	Ripon Parks Riverine	SSSI
Ure (River Bain)	Semer Water	SSSI
Ure (River Cover)	River Ure Grasslands	SSSI
Ure (River Cover)	Yorkshire Dales	National Park
Ure (River Cover)	North Pennine Moors	SAC
Ure (River Cover)	North Pennine Moors	SPA
Ure (River Cover)	East Nidderdale Moors	SSSI
Ure (River Laver)	North Pennine Moors	SAC
Ure (River Laver)	North Pennine Moors	SPA
Ure (River Laver)	East Nidderdale Moors	SSSI
Ure (River Laver)	Nidderdale	AONB
Ure (River Laver)	Cow Myers	SSSI
Ure (River Skell)	Nidderdale	AONB
Ouse	Fulford Ings	SSSI
Ouse	Naburn Marsh	SSSI
Ouse	Church Ings	SSSI
Ouse	Acaster South Ings	SSSI
Ouse	Humber Flats, Marshes and Coast	SPA
Ouse	Humber Flats and Marshes Upper Humber	SSSI
Ouse	Humber Flats, Marshes and Coast	RAMSAR
Derwent	River Derwent	SAC
Derwent	River Derwent	SSSI
Derwent	River Derwent Riverine	SSSI
Nidd	Nidderdale	AONB
Nidd	Upper Nidderdale	SSSI
Nidd	North Pennine Moors	SAC(Border the river valley)
Nidd	North Pennine Moors	SPA (Border the river valley)
River Catchment	Location (Designation starting	Designation

	at the head of the catchment)	
Nidd	East Nidderdale Moors	SSSI(Border the river valley)
Nidd	West Nidderdale Barden and Blubberhouse	SSSI(Border the river valley)
Nidd	Gouthwaite Reservoir	SSSI
Nidd	Birkham Woods	SSSI
Nidd	Aubert Ings	SSSI
Nidd (Crimple Beck)	Newsome Bridge Quarry	SSSI
Wharfe	Pennine Dales Meadow	SAC(Border the river valley)
Wharfe	Oughtershaw and Beckermonds	SSSI
Wharfe	Deepdale Meadows and Langstrothdale	SSSI
Wharfe	Yockenthwaite Meadows	SSSI
Wharfe	Strans Gill	SSSI
Wharfe	Upper Wharfedale	SSSI(Border the river valley)
Wharfe	Birk Fell Caves	SSSI(Border the river valley)
Wharfe	Kettlewell Meadow	SSSI
Wharfe	River Wharfe	SSSI
Wharfe	River Wharfe Riverine	SSSI
Wharfe	Craven Limestone Complex	SAC(Border the river valley)
Wharfe	Conistone Old Pasture	SSSI(Border the river valley)
Wharfe	Malham Arncliffe	SSSI(Border the river valley)
Wharfe	Bastow Wood	SSSI(Border the river valley)
Wharfe	Grass wood	SSSI
Wharfe	Cracoe Reef Knolls	SSSI
Wharfe	Strid Wood	SSSI
Wharfe	North Pennine Moors	SAC(Border the river valley)
Wharfe	North Pennine Moors	SPA (Border the river valley)
Wharfe	West Nidderdale Barden and Blubberhouse	SSSI(Border the river valley)
Wharfe	Yorkshire Dales	National Park
Wharfe	Nidderdale	AONB
Wharfe	East Keswick Fitts Riverine	SSSI
Wharfe	Linton Common	SSSI
Wharfe	Bolton Percy Ings	SSSI
Wharfe (R. Skirfare)	Scoska Wood	SSSI
Wharfe (R. Skirfare)	Craven Limestone Complex	SAC (Border the river valley)
Wharfe (R. Skirfare)	Malham Arncliffe	SSSI(Border the river valley)
Wharfe (R. Skirfare)	Hawswick Wood	SSSI
River Catchment	Location (Designation starting	Designation

	at the head of the catchment)	
Wharfe (Washburn)	Nidderdale	AONB
Wharfe (Cock Beck)	Stutton Ings	SSSI
Wharfe (Collingham Beck)	Hetchell Wood	SSSI

Appendix 6: Dales Area Fisheries Monitoring Sites

River Catchment	Location	NGR
Tees	Broken Scar	NZ25901370
Tees	High Coniscliffe	NZ22501490
Tees	Egglestone Abbey	NZ06401520
Tees	Ornella Farm	NY97602430
Tees	Clow Beck/Monk End Farm	NZ28101000
Tees	Summerhouse Beck/Piercebridge	NZ21501570
Tees	Deepdale Beck/Barnard Castle	NZ04401660
Tees	Egglestone Burn/Burnfoot Farm	NY98802360
Tees	Bowlees Beck/Picnic site	NY90702820
Tees	River Balder/Cotherstone	NZ01402010
Tees	River Lune/Caravan Park	NY96502460
Tees	Brignall Mill	NZ04501130
Tees	Gill Beck/Gill Beck Bridge	NZ06301050
Tees	Croft	NZ29000980
Tees	Blackwell	NZ27301170
Tees	Broken Scar	NZ25901370
Tees	Low Coniscliffe	NZ24701350
Tees	Winston	NZ14501650
Tees	Langley Beck/Selaby bases	NZ15801750
Tees	Clow Beck/Monk End Farm	NZ28101000
Tees	Thornaby	NZ44301620
Tees	Basselton Beck	NZ43401550
Tees	Eggescliffe	NZ43101270
Tees	Yarm	NZ41801320
Tees	Aislaby	NZ40401140
Tees	Low Worsall	NZ39101060
Tees	Low Moor	NZ36501050
Tees	Middleton One Row	NZ34501200
Tees	Neasham	NZ32401000
Tees	Hurworth	NZ31101010
Derwent	d/s Weir Head	SE97308830
Derwent	d/s Forge Valley gauging weir	SE98808570
Derwent	d/s West Ayton	SE99208430
Derwent	Malton	SE79207150
Derwent	Low Hutton	SE76506770
Derwent	Kirkham Abbey	SE73406570
Derwent	Howsham	SE73006280
Derwent	Buttercrambe	SE73105870
Derwent	Stamford Bridge	SE71305570
Derwent	Sutton upon Derwent	SE70504740

River Catchment	Location	NGR
Derwent	Wheldrake Ings	SE69304490
Derwent	Breighton	SE70503500
Derwent	Barmby	SE68102860
Derwent (Rye)	u/s Pickering Beck	SE78407990
Derwent (Rye)	East Ness	SE69607820
Esk	Dibble Bridge	NZ67500790
Esk	Lealholm	NZ76700750
Esk	Toll Road	NZ82100540
Swale	Easby Abbey	NZ18400020
Swale	Brompton	SE21409950
Swale	Catterick	SE24609800
Swale	Kiplin	SE27309660
Swale	Great Langton	SE29509590
Swale	Morton	SE31909180
Swale	Far Fairholme	SE32208900
Swale	Maunby (Rush Farm)	SE33708780
Swale	Hoggarths	NY87200140
Swale	Muker	SD90209780
Swale	Low Oxnop	SD93309750
Swale	Gunnerside	SD95009830
Swale	Summer Lodge	SD96509570
Swale	Near Cogden Hall	SE05509810
Swale	Langthwaite	NZ00500230
Swale	Crakehall	SE24209020
Swale	Holme	SE36308200
Swale	Skipton	SE36307970
Swale	Baldersby	SE38507640
Swale	Topcliffe	SE39707630
Swale	Leckby	SE42007430
Swale	Fawdington	SE43707270
Swale	Brafferton	SE43406990
Swale	Myton	SE43606670
Swale	Boville Park	SE44309680
Ure	Wensley Bridge	SE09308940
Ure	Middleham	SE11508870
Ure	D/S Bellflask	SE29407730
Ure	Bridge Hewick	SE33207020
Ure	Newby Hall	SE35606700
Ure	Langthorpe	SE38806720
Ure	Lunds	SD79209450
Ure	Apersett Bridge	SD85809090
Ure	Near Woodhall	SD98708980

River Catchment	Location	NGR
Ure	West Burton	SE01808710
Ure	Redmire	SE04009120
Ure	Spennithorne	SE13308870
Ure	Shaws Farm	SE20808030
Ure	Winksley	SE24907130
Ure	Whitcliffe Lane, Ripon	SE29906990
Ure	Boroughbridge	SE39706710
Ure	Aldbrough	SE41306680
Ure	Lower Dunsforth	SE45506450
Ure	Aldwark Bridge	SE46706230
Ouse	Linton	SE49406000
Ouse	Beningbrough	SE52805780
Ouse	Poppleton	SE56605540
Ouse	Acaster	SE59304470
Ouse	Naburn	SE59404450
Nidd	Newhouses	SE11107260
Nidd	Lofthouse	SE11007260
Nidd	Pateley Bridge	SE15506570
Nidd	Ashfold Side Beck	SE13406640
Nidd	Darley Beck	SE20206010
Nidd	How Stean Beck	SE09807340
Nidd	Knaresborough Caravan Site	SE37205680
Nidd	Ribston Park	SE39405340
Nidd	Cowthorpe	SE44205250
Nidd	Kirk Hammerton	SE47005440
Nidd	Nun Monkton	SE50505660
Wharfe	Linton Stepping Stones	SE00706370
Wharfe	Appletreewick	SE04306030
Wharfe	Strid	SE06505630
Wharfe	Addingham	SE09204930
Wharfe	Ilkley	SE12604840
Wharfe	Cam Gill Beck	SD95107480
Wharfe	Skiffare	SD88907500
Wharfe	Dibbles Bridge	SE05106310
Wharfe	Hartlington Bridge	SE03906090
Wharfe	Skyreholme Beck	SE06706070
Wharfe	Barden Beck	SE04705620
Wharfe	Beamsley	SE07705250
Wharfe	March Ghyll	SE12505090
Wharfe	Beckfoot Farm	SE13304880
Wharfe	Beckfoot Farm	SE13304850
Wharfe	Denton Road	SE13304820

River Catchment	Location	NGR
Wharfe	Knotford	SE22704580
Wharfe	Pool Mill	SE23204560
Wharfe	Castley	SE25704590
Wharfe	Nunnery	SE28704550
Wharfe	Wetherby Grange	SE40004830
Wharfe	Boston Spa	SE43104590
Wharfe	Tadcaster	SE48504380
Wharfe	Ulleskelf	SE52404050
Wharfe	Thruscross	SE15505730
Wharfe	Fewston	SE16905540
Wharfe	Swinsty	SE19105180
Wharfe	Leathley Bridge	SE23204650

Appendix 7: Dales Area Water Quality Monitoring Points

The following sites are monitored monthly to comply with EU Directive requirements and also to enable reporting on the status of our environment for General Quality assessment purposes

River Catchment	Location	NGR
Tees	Tees @ Holwick Head	NY88902830
Tees	Long Grain Beck @ B6276 Road Bridge	NY86702070
Tees	Grassholme	NZ01201820
Tees	Hury	NZ01201820
Tees	Greta @ Greta Bridge	NZ08601320
Tees	Tees @ Egglestone Abbey	NZ06601490
Tees	Tees @ Eggleston	NY99702320
Tees	Tees @ Dent Bank	NY93402600
Tees	Eggleston Burn @ Eggleston Bridge	NY98902400
Tees	Balder @ Cotherstone Road Bridge	NZ00902000
Tees	Greta U/S Bowes	NY97301290
Tees	Greta @ Rutherford Bridge	NZ03501220
Tees	Lune @ Mickleton	NY95902410
Tees	Tees @ Broken Scar	NZ25501390
Tees	Aldbrough Beck @ B6275	NZ21401040
Tees	Deepdale Beck @ B6277	NZ04601660
Tees	Tees @ Gainford	NZ16601650
Tees	Skerne @ Hurworth Place Bridge	NZ28901030
Tees	Skerne @ South Park Darlington	NZ28401290
Tees	Skerne U/S Demons Beck	NZ28802320
Tees	Skerne @ Bradbury Bridge	NZ31802850
Tees	Skerne @ Great Burdon	NZ31601650
Tees	Demons Beck Above River Skerne	NZ28602330
Tees	Skerne @ Aycliffe Village Bridge	NZ28602260
Tees	Rushyford Beck	NZ29502840
Tees	Skerne @ Butterwick Bridge	NZ37703070
Tees	Skerne @ Hurworth Burn	NZ40803330
Tees	Tees @ Low Worsall	NZ39101020
Tees	Tees @ Low Hail Bridge	NZ31101010
Tees	Leven @ Leven Bridge	NZ44501220
Tees	Leven @ Bense Bridge	NZ52000780
Tees	Leven Above Great Ayton	NZ54800980
Tees	Billingham Beck	NZ47502050
Tees	Cowbridge Beck	NZ48302570
Tees	Tees @ Yarm Road Bridge	NZ41801320

River Catchment	Location	NGR
Tees	River Tees @ Victoria Bridge	NZ44901840
Derwent	River Derwent @ Low Hutton	SE76506770
Derwent	River Derwent @ Malton	SE78707150
Derwent	River Derwent @ Yedingham	SE89307970
Derwent	River Derwent @ Sherburn	SE96207966
Derwent	River Derwent @ Forge Valley	SE98708600
Derwent	River Rye @ Ryton Bridge	SE79607540
Derwent	River Rye @ Nunnington Bridge	SE66907950
Derwent	River Rye U/S Of Rye House Trout Farm	SE63248230
Derwent	River Rye @ Rievaulx Bridge	SE57408430
Derwent	Costa Beck @ Kirby Misperton	SE78807970
Derwent	Costa Beck U/S Of Costa Fish Farm	SE77798384
Derwent	Pickering Beck D/S Of Moorlands Trout Farm,	SE79708410
Derwent	Pickering Beck U/S Of Moorlands Trout Farm, P	SE80008490
Derwent	Oxfolds Beck U/S Of Costa Fish Farm, Pickering	SE77908380
Derwent	Slingsby Carr Cut	SE73207630
Derwent	River Seven @ Great Barugh	SE74407910
Derwent	River Seven U/S Of Sinnington Trout Farm	SE73808430
Derwent	River Dove @ Sparrow Hall, Salton	SE70608130
Derwent	River Dove @ Kirkby Mills	SE70408600
Derwent	R.Dove U/S Of Yoadwath Mill Trout Farm,Kirkby	SE70608770
Derwent	River Dove @ Sparrow Hall, Salton	SE70608130
Derwent	Howkeld Spring U/S Of Howkeld Fish Hatchery	SE68508540
Derwent	River Riccal	SE68707980
Derwent	Dalby Beck U/S Of Ellerburn Trout Farm	SE84808436
Derwent	River Hertford @ Binnington	SE99307930
Derwent	River Hertford @ Willerby	TA00207970
Derwent	River Derwent @ Loftsome Bridge	SE70503010
Derwent	River Derwent @ Derwent Bridge	SE70703640
Derwent	River Derwent @ Sutton Lock	SE70404750
Derwent	River Derwent @ Howsham Bridge	SE73206250
Derwent	Dyon Drain @ Dyon Bridge Nr Bowthorpe	SE69203330
Derwent	Birk Lane Drain @ Bubwith	SE70903640
Derwent	Bielby Beck @ Hagg Bridge	SE71704520
Derwent	Blackfoss Beck @ Sutton On Derwent	SE72504740

River Catchment	Location	NGR
Derwent	Foss Beck @ Wilberfoss	SE73205060
Derwent	Hayton Beck @ Hayton Grange	SE81304540
Derwent	Nunburnholme Beck @ Nunburnholme	SE85204830
Derwent	Pocklington Beck @ Toft House Farm	SE80104570
Derwent	Pocklington Beck @ Canal Head	SE80004730
Derwent	Pocklington Beck U/S Of Pocklington	SE81205060
Derwent	Barlam Beck @ Barlam Bridge	SE73605700
Derwent	Swallowpitts Beck @ Scrayingham	SE73506030
Derwent	Whitecarr Beck @ Mook St Bridge, Leppington	SE75406150
Derwent	Pocklington Canal @ Canal Head	SE80004730
Derwent	Pocklington Canal @ Church Bridge, Melbourne	SE75804440
Derwent	Pocklington Canal @ Hagg Bridge	SE71704520
Esk	River Esk @ Grosmont (U/S Murk Esk)	NZ82300540
Esk	River Esk U/S Wood End	NZ65200390
Esk	Murk Esk @ Grosmont	NZ82600530
Esk	River Esk @ Ruswarp	NZ88700910
Swale	Swale @ Morton On Swale	SE31909180
Swale	Swale @ Catterick	SE22709940
Swale	Swale @ Lownethwaite	NZ14600070
Swale	Cundall Beck @ Thornton Manor	SE43207170
Swale	Cod Beck @ Topcliffe (Dalton Bridge)	SE41107610
Swale	Cod Beck @ Dalton Cottage Far	SE42807820
Swale	Cod Beck @ A168(T) Roadbridge	SE43608060
Swale	Cod Beck @ South Kilvington	SE42208460
Swale	Wiske @ Kirby Wiske	SE37708480
Swale	Wiske @ Warlaby	SE35209160
Swale	Wiske @ Yafforth	SE34609450
Swale	Bedale Beck @ Gauging Station	SE30709030
Swale	Bedale Beck @ Kirkbridge	SE25409030
Swale	Skeeby Beck U/S Bark Trout Farm	NZ21000020
Swale	Swale @ Brafferton(Thornton Bridge)	SE43307140
Swale	Swale @ Topcliffe	SE39807596
Ure	Ure @ Hewick Bridge	SE33207020
Ure	Ure @ West Tanfield.	SE26907880
Ure	Ure @ Wensley Bridge.	SE09208940
Ure	Ure @ Worton	SD95509030
Ure	Skell @ Woodbridge, Ripon	SE31807090
Ure	Burn @ Masham (Badger Lane Bridge)	SE22607980
Ure	Cover @ Cover Bridge.	SE14408700
Ure	Bain @ Bainbridge	SD93509010

River Catchment	Location	NGR
Ure	Ure @ Aldwarke Bridge	SE46706220
Ure	Ure @ Boroughbridge	SE39506710
Ure	Tutt @ St Helena	SE39506660
Ouse	Ouse @ Long Drax.	SE68402830
Ouse	Ouse @ Selby	SE61703250
Ouse	Ouse @ Cawood	SE57403780
Ouse	Ouse @ Naburn Lock	SE59404450
Ouse	Ouse @ Scarborough Rail Bridge, York	SE59605210
Ouse	Ouse @ Nether Poppleton	SE55805510
Ouse	Selby Dam @ Selby	SE61403260
Ouse	Selby Dam @ Thorpe Hall	SE57703160
Ouse	Selby Dam @ Rest Park	SE54003330
Ouse	Ricall Dam @ Wheel Hall Bridge	SE61203780
Ouse	Bishop Dyke @ Tile Bridge, Cawood	SE56603680
Ouse	Foss @ Castle Mill Lock	SE60605130
Ouse	Foss @ Huntington Church	SE61505620
Ouse	Foss @ Stead's Tannery	SE63306100
Ouse	Foss @ Lilling Green	SE64406350
Ouse	Foss @ West Lilling	SE63306460
Ouse	Foss @ Marton Abbey Road Bridge	SE58406930
Ouse	Kyle @ Newton On Ouse	SE50806020
Ouse	New Parks Beck @ A19	SE32407400
Nidd	Nidd @ Pateley Bridge	SE15706560
Nidd	Nidd @ Hampsthwaite Bridge	SE26105910
Nidd	Darley Beck @ Darley	SE19405980
Nidd	Tang Beck @ Hampsthwaite	SE25405910
Nidd	Nidd u/s Killinghall Bridge	SE28505950
Nidd	Nidd @ Killinghall Bridge	SE28705970
Nidd	Coppice Beck @ Confluence with Oak Beck	SE29305620
Nidd	Oak Beck @ Knox Ford	SE29205760
Nidd	Nidd @ Scotton Mill Weir	SE31505850
Nidd	Nidd @ Knaresborough	SE35005650
Nidd	Nidd d/s Knaresborough Stw	SE36805580
Nidd	Nidd @ Ornamental Bridge	SE39405360
Nidd	Crimple @ North Deighton	SE37805160
Nidd	Crimple @ Little Ribston	SE39105300
Nidd	Nidd @ Walshford Bridge	SE41205310
Nidd	Nidd @ Skip Bridge	SE48205600
Wharfe	Wharfe @ Kettlewell	SD96807230
Wharfe	Cowside Beck @ Arncliffe	SD93007190
Wharfe	Skiffare @ Skiffare Bridge	SD97256921

River Catchment	Location	NGR
Wharfe	Wharfe @ Conistone Bridge	SD97906750
Wharfe	Ings Beck @ Threshfield	SD99506330
Wharfe	Linton Beck @ Linton Mill	SD99906330
Wharfe	Hebden Beck	SE02846285
Wharfe	Wharfe @ Burnsall Bridge	SE03206120
Wharfe	Dibb @ Hartlington Bridge.	SE04006090
Wharfe	Barden Beck	SE05605650
Wharfe	Wharfe @ Bolton Bridge	SE07005300
Wharfe	Hambelton Beck @ Bolton Bridge.	SE07205280
Wharfe	Kex Beck @ Beamsley Road Bridge.	SE07805250
Wharfe	Wharfe @ Lobwood	SE07505190
Wharfe	Wharfe @ Hollins	SE09904830
Wharfe	Hundwith Beck @ Denton Bridge	SE13704820
Wharfe	Wharfe @ Burley Weir.	SE16504740
Wharfe	Wharfe @ Otley Weir	SE20364607
Wharfe	Wharfe u/s Pool Paper Mill	SE23504560
Wharfe	Washburn @ Blubberhouses Bridge	SE16905540
Wharfe	Washburn @ Leathley Bridge.	SE23204640
Wharfe	Riffa Beck @ confluence	SE25704580
Wharfe	Wharfe @ Sandbeds (Pool)	SE25704570
Wharfe	Stank Beck nr Weardley	SE30504540
Wharfe	Wharfe @ Harewood Bridge.	SE31204610
Wharfe	Collingham Beck @ East Keswick	SE36204410
Wharfe	Collingham Beck @ Collingham	SE38704620
Wharfe	Wharfe @ Wetherby	SE48204020
Wharfe	Wharfe @ Boston Spa	SE43204580
Wharfe	Fir Green Beck @ Fir Green Bridge	SE43504460
Wharfe	Wharfe u/s Tadcaster Weir	SE48504370
Wharfe	Cock Beck @ Stutton	SE48204150
Wharfe	The Foss @ Bolton Percy	SE53204100
Wharfe	Wharfe @ Ryther	SE55103930

Appendix 8: Dales Area Critical Discharge Sites

Critical discharge consents are those sites with a significant discharge load in relation to available dilution requiring rigorous regulation in order to minimise the impact on water quality and the aquatic ecosystem

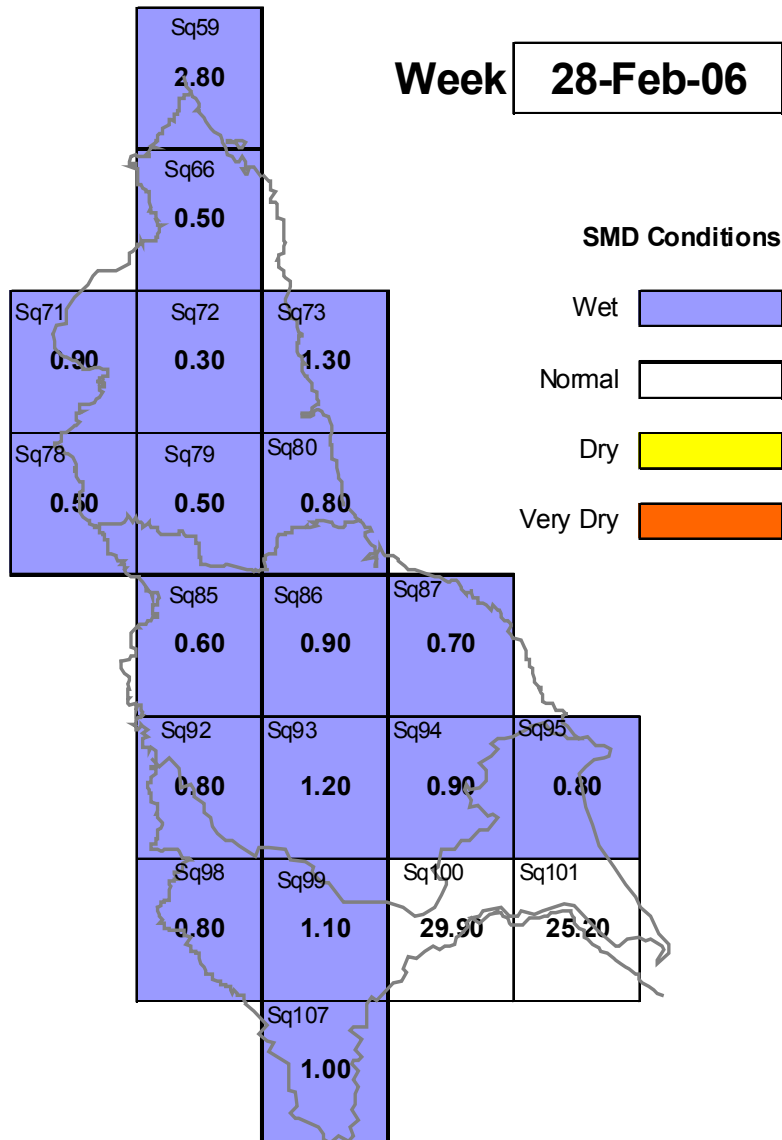
River Catchment	Location	NGR
Tees	Mickleton WWTW	NY97602390
Tees	Middleton In Teesdale WWTW	NY95262491
Tees	Cotherstone WWTW	NZ00712001
Tees	Barnard Castle WWTW	NZ05891559
Tees	Aldbrough WWTW	NZ20771084
Tees	Caldwell WWTW	NZ16401310
Tees	Barningham WWTW	NZ08651093
Tees	Barton WWTW	NZ23130905
Tees	Melsonby WWTW	NZ20500830
Tees	Eppleby WWTW	NZ17701300
Tees	Nwa Lartington	NZ01361789
Tees	Walworth Castle (P)	NZ23001860
Tees	Staindrop WWTW	NZ14301970
Tees	Bowes WWTW	NY99701320
Tees	Stainton In Teesdale WWTW	NZ06601760
Tees	Nwl Lartington Fish Farm	NZ01321790
Tees	Jubilee Trout Farm	NZ22512359
Tees	Stressholme (Darlington) WWTW	NZ28901040
Tees	Fishburn WWTW	NZ35583178
Tees	Trimdon Village WWTW	NZ37663451
Tees	Aycliffe WWTW North	NZ28372327
Tees	Chilton & Windlestone WWTW	NZ29102880
Tees	Chilton Lane WWTW	NZ31083035
Tees	Bishop Middleham WWTW	NZ32713030
Tees	Bishopton WWTW	NZ36102151
Tees	Sedgefield WWTW	NZ36002790
Tees	Great Ayton WWTW – New	NZ54710975
Tees	Stokesley WWTW	NZ52220775
Tees	Ingleby Greenhow WWTW	NZ57900650
Tees	Great Broughton WWTW	NZ54110721
Tees	Great Ayton (Old) WWTW	NZ54800968
Tees	Carlton Redmarshall WWTW	NZ38482223
Tees	ICI Wilton Complex	NZ56102405
Tees	Billingham WWTW	NZ47942573
Tees	ICI Rto 1	NZ47952190
Tees	Longnewton WWTW	NZ39031666
Tees	Bran Sands	NZ56122409

River Catchment	Location	NGR
Tees	Expert Heat Treatment (Darchem)	NZ37392325
Derwent	Pickering	SE77468368
Derwent	Seamer	TA00858289
Derwent	Malton	SE77557025
Derwent	Pocklington	SE79754775
Derwent	Stamford Bridge	SE76405070
Swale	Bedale	SE27308780
Swale	Colburn	SE20539968
Swale	Leeming Bar	SE29859015
Swale	Richmond	SE18359995
Swale	Eldmire	SE41957505
Swale	Northallerton/Romanby	SE35059301
Swale	Thirsk	SE43598029
Ure	Ripon	SE32707060
Ure	Masham	SE23088063
Ure	Boroughbridge	SE40806717
Ouse	Naburn	SE60094715
Ouse	Rawcliffe	SE58765290
Ouse	Walbutts	SE64756175
Nidd	Angram	SE04007620
Nidd	Darley	SE21205970
Nidd	Glasshouses Fish Farm	SE16676463
Nidd	Low Laithes Fish Farm	SE19156329
Nidd	Pateley Bridge / Glasshouses	SE17846393
Nidd	Scarhouse	SE06607690
Nidd	Harrogate North	SE30435820
Nidd	Harrogate South	SE37875162
Nidd	Killinghall	SE27105906
Nidd	Knaresborough	SE36675676
Nidd	North Deighton	SE39505280
Wharfe	Barden Fish Farm	SE05605670
Wharfe	Ben Rhydding	SE14754735
Wharfe	Burley Menston	SE18604590
Wharfe	Grassington	SE00706290
Wharfe	Ilkley	SE12544859
Wharfe	Kilnsey Fish Farm	SD97346759
Wharfe	Otley	SE22304640
Wharfe	Coors Brewery	SE48454365
Wharfe	Pool	SE26364542
Wharfe	Pool/Whiteley Paper Mills	SE23704560
Wharfe	Sam Smiths	SE48804330
Wharfe	Tadcaster Domestic	SE49494245

River Catchment	Location	NGR
Wharfe	Tadcaster Trade	SE49854265
Wharfe	Thorp Arch	SE45114576
Wharfe	Washburn Valley Trout Farm	SE22604820
Wharfe	Wetherby	SE42234723

Environment Agency - NE Region

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