



Devon & Cornwall Area Drought Plan

Version 5.0

June 2017 update

We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

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Foreword

A drought is an extended period of low rainfall. It is a natural event that we can't prevent. During a drought we work with water companies and others to manage the effects on people, business and the environment.

Every drought is different and each can have a different effect on people, business and the environment. Some droughts have major impacts on agriculture, horticulture, recreation and the environment, but without triggers being met for the introduction of hosepipe bans or other restrictions on use. Serious droughts can have a long-term impact on the health and functioning of the natural environment, and lead to negative effects on economic growth, personal wellbeing, and the prosperity of communities. Some droughts affect a large area while others are concentrated in a few catchments.

This drought plan provides a flexible framework for dealing with different drought events and is an operational manual for the Environment Agency drought team operating in Devon & Cornwall area. It covers all the decisions and actions our teams take to detect the onset and end of drought and manage impacts during a drought. The plan states the indicators we currently use to classify the different stages of drought. Droughts are complex, can be measured in a range of ways and will affect different aspects of the environment and water users in differing ways.

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

Strategic Environment Assessments are not carried out on Environment Agency drought plans as our plans are voluntary and are not required under statutory legislation, nor under regulatory or administrative provision.

In 2015 the UK Government consulted on new water legislation on the Isles of Scilly. The date of rollout of subsequent new legislation is not yet known – but at this point IoS will likely feature in future Drought Plan.

Background

The contents of this document tell you how we will plan for and manage drought in the Devon & Cornwall 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;
- Presents a range of useful information, links and maps in one cohesive document.

Background Information on Devon & Cornwall

The Devon and Cornwall area is predominantly rural, and includes the cities of Exeter, Plymouth and Truro. The area covers the counties of Devon and Cornwall with the eastern boundary stretching to the River Axe in Devon and the western boundary to the Lands End catchment. The area is characterised by high moorlands and steep river catchments; several of the larger rivers in the area drain from the wetter highlands of Dartmoor, Bodmin Moor and Exmoor. These include the River Exe which drains Exmoor, and the River Camel draining Bodmin Moor and the Rivers Dart, Teign, Taw and Torridge draining Dartmoor. The majority of rivers in the Devon and Cornwall area react more quickly to a lack of rainfall than those in neighbouring Wessex area. Groundwater flow in the majority of Devon and Cornwall's aquifers is shallow, and via fractures. This relatively fast groundwater flow contributes to the 'flashy' nature of the rivers. See Appendix 1 for mapping showing catchments and geology of the area.

The hydrogeology of the area is highly variable. Cornwall is dominated by slate, siltstone and sandstone geology, with granite intrusions forming high land, such as Bodmin Moor. The Environment Agency has designated all of Cornwall's aquifers as 'Secondary Aquifer'. Devon is similar in geology to Cornwall but encompasses the following 'Principal Aquifers': Triassic Sherwood Sandstone (comprising Otter Sandstone underlain by Budleigh Salterton Pebble Beds), Upper Greensand (some small areas of which are overlain by outcrops of chalk), Permian Sandstones and breccias, and Devonian/Carboniferous Limestone. The Sherwood Sandstone aquifer is strategically important for public water supply both within and outside the catchment. It is the most intensively developed of Devon's aquifers for public water supply. The Upper Greensand and the Permian sandstones (e.g. the Dawlish Sandstone) are also used for public water supply. Upper Greensand public water supply abstractions are sourced from springs and boreholes, while public water supply abstractions in the other Principal Aquifers are via boreholes only. In addition to public water supply, numerous private water supplies abstract from boreholes and springs in Devon and Cornwall's Principal and Secondary aquifers.

The long term average annual rainfall across Devon and Cornwall is around 1100 mm. Rainfall across the Area varies with higher totals over Bodmin Moor, Dartmoor and Exmoor.

When it rains, rivers and lakes can respond very quickly (within minutes/hours) by increasing flows and levels. However the effect of rainfall on groundwater may not be seen until days or even weeks later. This is because it takes time for the water to make the soil surface wet and seep into the soil. Once this happens, water can then pass through the soil until it reaches the aquifer and replenishes the groundwater. With groundwater droughts, long periods of steady rainfall are needed before there is any replenishment. It is often perceived that short showers will return the situation to normal. However, the reality is that only with the steady rain that typically falls in late

autumn and winter will the groundwater levels fully recharge. In most years the groundwater level will rise to normal winter levels of a fully recharged aquifer before naturally receding again the following summer. Heavy rainfall events often leads to the rain running off the land before it has a chance to soak in (recharge) – doing little to stem or reverse a prolonged dry weather situation.

The characteristics of the large aquifers in the south of the area mean that any shortage of rain has a delayed effect on the amount of water stored. As a result, the recent dry years of 1990, 1995, 2003 and 2005/6 had only a limited impact on the amount of water that could be abstracted from these groundwater sources. However, the impacts of rainfall deficit can still have consequences for the aquatic environment as river levels and flows fall. Private abstractions from wells, boreholes and springs are vulnerable to rainfall deficits.

Water companies have water resource management plans and drought plans in place, to manage supplies during 'normal' situations as well as during dry spells. Public water supply (PWS) is unlikely to be affected initially by a dry period, whereas the environment and private abstractions will usually be affected much earlier.

Public Water Supply

[South West Water](#) (SWW) supplies most of the Devon & Cornwall area (see mapping in Appendix 1). The Environment Agency area boundaries do not exactly match the interface between Wessex Water (WW) and SWW. Therefore WW operates within a small part of Devon & Cornwall area and South West Water operates within a small part of Wessex area. The Devon & Cornwall and Wessex area drought plans take the straight forward approach of assuming full responsibility for all of 'their' water company's area and will cooperate and communicate at all times to ensure efficient cross boundary working.

SWW has its own water resource zones (Strategic Supply Areas) which represent the largest possible area within which all resources, including external transfers, can be shared. It is also the zone (area) in which all customers experience the same risk of supply failure from a resource shortfall. All three of its zones use strategic reservoirs to augment river flows for subsequent abstraction downstream.

The Colliford water resource zone covers most of Cornwall except North East Cornwall. The main source of supply is Colliford Reservoir on Bodmin Moor, supported by seven smaller reservoirs and eight river abstractions.

The Roadford zone covers a large part of Devon; from Plymouth, the South Hams and Torbay in the south to Bideford and Barnstaple in the north; it also includes parts of north east Cornwall. The main source of supply is Roadford Reservoir near Okehampton, supported by 11 smaller reservoirs, 17 river abstractions and a number of small groundwater sources.

The Wimbleball zone covers East Devon, stretching from Tiverton in the north to Exmouth in the south and from Crediton in the west to Chardstock and Axminster in the east. The main source of supply for the zone is Wimbleball Reservoir on Exmoor, which is used principally to augment the River Exe for subsequent abstractions at several locations. The Wimbleball zone is also supported by the groundwater resources of the Otter Valley in East Devon.

All water companies and water undertakers must prepare and maintain a drought plan. It specifies the measures and actions that the company will take to ensure adequate supply to its customers in the event of a drought, including the identification of potential sites where the company may require a drought permit/order. The Environment Agency may receive, and then must determine, applications from water companies for drought permits. These can authorise abstraction from specified sources and can modify or suspend restrictions or obligations relating to existing abstractions. At present SWW do not have any drought permits/orders within their Drought Plan.

A list of the sites for proposed permits/orders is included in appendix 2. The plan will also include detail of the drought monitoring that the company will carry out during a drought.

Water company drought plans include triggers for action under a drought developing situation. When a trigger level is reached, the company responds by making decisions about increasing communications with us, and/or by implementing demand side or supply side drought

management options. These options include making appeals for customers to exercise restraint in their use of water, causing temporary inconvenience, or implementing hosepipe bans. The company may then choose more severe options such as bans on non-essential use – which may affect the economy, or carrying out emergency works to link supply areas or use alternative sources of water. A water company may need to apply for a drought permit/order to carry out these actions. It is quite feasible for a shortage of rain to have impacts on agriculture and/or the environment for an extended period, but without this triggering the need for hosepipe bans. Water companies may apply for either ordinary drought orders or emergency drought orders. Either can go further than drought permits and can deal with discharges of water, abstractions and discharges by other people, supply, filtration and treatment obligations.

Note - SWW and Bournemouth Water are owned by the same company and it is likely that current standalone statutory documents (Water Resource Management Plans, Drought Plans and Business Plans) may be aligned in the future.

Private Water Supply

Private water supply abstractions will have an Abstraction Licence if they are over 20m³/day but will be unregulated if they fall below this threshold. There is no comprehensive register of unregulated supplies held by anyone. Local authorities and the DWI have the best records that exist, but registration is not mandatory. DWI (2011) stated that approximately 35% of England's private water supplies are located in the South West and that the majority of these supplies are groundwater supplies. Our best estimate is that there are several tens of thousands of private water supplies in the SW - therefore significant numbers in Devon & Cornwall.

Private supplies are often from shallow sources (well & springs) and in shallow aquifer systems (the rock may be of considerable thickness, but the fractured and fissured hydrogeologically active part may be quite thin – think of the weathered part of the granite masses). Both the shallow nature of the source and the aquifer it depends upon are particularly vulnerable to periods of low rainfall. The modern-day demands placed upon a property's traditional water supply means that they are often operating close to their limit of viability. It doesn't take much to make them fail under these increased household demands.

In many prolonged dry weather scenarios we should expect reports of stressed shallow private supplies to be one of the first indicators we have (beyond the hydrometric data that we collect). This is what past experience has shown us.

There is little that the Environment Agency can do to practically relieve the distress of private water users if they find themselves without water or with a failing supply. We have no powers to act in this instance. We will log the calls and share with householders / abstractors the fact sheets / FAQs that we have prepared to offer suggestions as to what people can do next to help themselves – included in Appendix 3.

Regulation of water resources

In the Devon and Cornwall area there are approximately 190 water abstraction licences, which contain conditions whereby abstraction must stop/reduce when flow at the abstraction site or a nearby gauging station falls below a defined threshold ('hands-off flows' or HOF conditions). It is the individual licence holder's responsibility to have a method of determining flow, in order to comply with these conditions.

Our Enforcement officers check that licence holders are following these restrictions and that illegal abstraction is not taking place. During a drought more restrictions will be in place and so the need for enforcement of these restrictions increases.

Some older licences do not have restrictions on them and in these cases the Environment Agency can use section 57 of the Water Resources Act 1991 to impose restrictions when necessary. We do not currently use this measure in Devon and Cornwall, but as an alternative we would seek to work with abstractors to introduce voluntary restrictions.

There are only four water company abstraction licences in the area that contain conditions relating to river augmentation or stream support - these are not used with the same frequency as those schemes in neighbouring Wessex area. Refer to Appendix 1 for locations.

Environmental Issues

Lack of rainfall affects the natural environment and ecosystems. This can result in dry and shrunken water courses, restricted fish movement, and adverse effects on flora and fauna that are water-dependent. Drought may not initially have an effect on society in general but, in addition to impacts and stresses on the natural environment and ecosystems, may affect the agriculture and horticulture sectors and those who wish to use the rivers for recreation activities. All rivers and wetlands are vulnerable in dry conditions; through drought planning and the water abstraction licensing system, the aim is to minimise damage as far as practicable.

Many of the rivers in Devon & Cornwall have local, national and international conservation designations. These rivers support important species and habitats, which could be severely affected by drought. Some examples include five Sites of Special Scientific Interest (SSSIs) in the [Dartmoor National Park](#) which have been designated a Special Area of Conservation (SAC) under the EC Habitats Directive (92/43/EEC). The SAC contains water-dependent habitats such as wet and dry heaths and blanket bog, and species such as otter, Atlantic salmon and southern damselfly. The East Devon Pebblebed Heaths SAC contains large areas of wet and dry heath, and lies over a shallow aquifer which is vulnerable in drought conditions. [Marazion Marsh](#) in Cornwall is an internationally important 20 ha reed bed, which supports populations of breeding dragonflies and overwintering birds. This site is vulnerable when lack of rainfall results in falling water levels.

An extended period of dry weather will reduce the potential availability of essential water supplies. Restrictions on water use may threaten the agriculture and horticulture sectors, with impacts on animal health and welfare, food hygiene, standing crops, and food security.

Past Droughts

Year	Description
<u>2011-12</u>	Record breaking period of below average rainfall leading to historically low groundwater levels and the threat of environmental impacts. Close to the need for customer restrictions. Swift recovery period due to persistent above average rainfall and unseasonal rapid groundwater recharge.
<u>1995</u>	Severe pressure on surface water resources and distribution systems, dependent on spring and summer run-off; hosepipe bans.
<u>1990</u>	Drought orders in areas with greatest pressure on resources; hosepipe bans.
<u>1988-89</u>	River flows consistently below mean for more than 3 years; hosepipe bans.
<u>1984</u>	Shrinking river networks, failure of springs, hosepipe bans.
<u>1975-76</u>	Major water problems. A Minister of Drought was appointed and the Drought Act (1976) was quickly passed through Parliament. Drought conditions over the peak holiday season led to rationing/hosepipe bans in many areas.

Contents

Foreword	3
Background	4
1. Devon & Cornwall area drought team / National drought team	10
2. Indicators and Monitoring	24
3. Triggers and Actions	28
4. How we communicate with others	50
5. Drought review and lessons learnt	53
Appendix 1 - Maps	54
Appendix 2 - Drought Permits & Drought Orders	60
Appendix 3 - Private Water Supply Note	65
Appendix 4 - Drought Activity Matrix	67
Appendix 5 - Drought Log Sheets	72
Appendix 6 - Monitoring	77
Appendix 7 - Water Company Data	84
Appendix 8 - Drought Decision Making Table	88
Appendix 9 - Communication Plan	91
Appendix 10 - Responding to fisheries emergencies	107
Glossary	109
Links	111

1. Devon & Cornwall area drought team / National drought team

Our role in drought is to monitor and protect the environment, whilst working balancing the needs of people, industry and agriculture. We manage drought within our national incident management framework and governance framework.

1.1. Area drought technical team roles and responsibilities

The main roles and responsibilities of the Area drought technical team are to:

- plan for and manage any drought event in the Area;
- keep the Area drought plan up-to-date;
- ensure that monitoring is adequate to assess the environmental impact of drought;
- implement Area drought management actions;
- administer drought permit applications and respond to drought order applications;
- communicate with local parties interested in drought management;
- ensure effective cross boundary working with Wessex area

The Area drought technical team will comprise of the following staff (including those from National teams):

Role	Provided by
Area drought lead	Environment Planning & Engagement Manager - when in incident mode responsibility will pass to Area Duty Manager but Area Drought Lead will continue with local management and work closely with ADM(s)
Area drought coordinator	Environment Planning Specialist - Water Resources (Integrated Environment Planning) - a deputy will be identified to ensure resilience
Hydrology	Technical Specialist (Hydrology)
Groundwater & Contaminated Land	Senior Technical Specialist (GWCL)
Water Resources	Environment Planning Specialist - Water Resources (Integrated Environment Planning) - additional WR role to ensure resilience and support
Fisheries, Biodiversity & Geomorphology (Devon)	FBG Team Leader*
Fisheries, Biodiversity & Geomorphology (Cornwall)	FBG Team Leader*
Environment Management - Land & Water (Devon)	Senior Environment Officer *

Environment Management - Land & Water (Cornwall)	Senior Environment Officer *
Analysis & Reporting (Devon)	A&R Team Leader *
Analysis & Reporting (Cornwall)	A&R Team Leader *
Sampling & Collection (Devon)	S&C Team Leader *
Sampling & Collection (Cornwall)	S&C Team Leader *
Communications	Team Leader (Operational Communications - D&C Facing)*
Link to Field Operations	Specialist Field Team Member (Operations)*
Hydrometry & Telemetry (Devon)	Hydrometry & Telemetry Team Leader*
Hydrometry & Telemetry (Cornwall)	Hydrometry & Telemetry Team Leader*
Incident Management	Incident Management Business Partner*
Permitting	National permitting officer (Water Resources) - National Permitting Service (NPS)*
Water company liaison support	Senior Officer - National River Basin Management Service (NRBMS)*
Area drought coordinator (Wessex)	Environment Planning Specialist - Water Resources (Integrated Environment Planning)*
Environment Programmes (Catchment Coordination)	Environment Programmes Coordinator (D&C) *

* These members are included in the group as and when required. Other staff will be added when the need arises (e.g. legal, financial, technical, customer & engagement).

The list of drought team members is not exhaustive, because flexibility on membership is needed to reflect local circumstances and the variable nature of droughts – a drought may affect only a small part of the Area, rather than the whole area. A list of names and contact details for our drought teams is stored on N-drive [here](#).

The activities matrix in Appendix 4 summarises the drought team members' roles and responsibilities.

The table below details the key responsibilities for the area drought team:

Management	Description
Management	<ul style="list-style-type: none"> • To own relevant drought plan and keep it up to date • To identify area risks • To resolve Area drought issues • To document key decisions taken during a drought by the team • To carry out post drought review and produce lessons learnt document

Monitoring	<ul style="list-style-type: none"> • To co-ordinate additional monitoring during a drought • To establish and monitor relevant drought triggers • To monitor the outcome of drought actions by us and others • To ensure that the baseline environmental monitoring (hydrometric, ecological, fisheries and water quality) is adequate for assessing drought impacts
Operational	<ul style="list-style-type: none"> • To follow Environment Agency incident management procedures • To implement our drought actions as set out in the drought plan • To monitor compliance and enforce abstraction licences and drought permit/ order conditions • To monitor water company compliance with drought plans (with support from National River Basin Management Services) • To monitor drought activity in other areas where operational activity may impact our customers. Ensuring consistent and co-ordinated working
Communication	<ul style="list-style-type: none"> • To report regularly to duty managers, senior managers, board members and ministers • To co-ordinate public relations effort and develop lines to take • To communicate with local and national stakeholders for example National Farmers Union, Natural England • To provide information for easinet and GOV.UK • To co-ordinate the area input into drought related HELP reports, rolling briefs and situation reports • To communicate drought activity in other areas where operational activity may impact our customers. Ensuring consistent and co-ordinated working

1.2. Responsibilities of the Area and National Drought Teams / Dry Weather Planning Cell Arrangements

Droughts will be managed at an Area level, with national support when drought affects a number of areas. This section shows the drought management structures across area and national levels, and the lines of communication during each stage of drought.

The purpose of the National Dry Weather Planning Cell (NDWPC) is to provide national coordination for briefing on, and planning for, a potentially developing drought situation across one or more areas. The arrangements apply prior to a ConOps Tier 1 or 2 event being declared.

The purpose of the Area Dry Weather Planning Cell (ADWPC) is to provide area coordination for briefing on, and planning for, a potentially developing drought situation within the area.

The arrangements are based on the planning cell concept under the incident room structure (as set out in the [OI 1044 14 Incident Management Handbook](#)) but has the specific scope, responsibilities and expertise largely pre-identified.

A NDWPC is activated when there has been a rainfall deficit and one or more water company has crossed their early triggers and activated their drought plan. The operational areas concerned will also activate their ADWPCs.

The decision to activate the NDWPC is made by the DD Water Resources in consultation with the DD Incident Management & Resilience, with advice from the Security of Supply Manager. The decision to activate the ADWPC is made by the EPE/Environment Manager (as relevant in the area) in consultation with the Area Manager.

The main roles and responsibilities of the NDWPC are to:

- undertake drought status scenario planning (to estimate the timescale for when developing drought and drought status could be reached under a reasonable worst case, mid-range and best estimate scenario)
- assess potential risk and impacts of the scenarios(s) at a national scale on the business, such resources estimates and skills requirements
- review scenarios and potential impacts on the basis of new and updated information
- provide ongoing briefing, including maps and other visualisation products, to government (Defra Officials) and senior EA managers
- initiate dialogue with national key partners (such as water companies, abstractors and navigation authorities)
- gather evidence and prospects from operations and key partners
- prepare/review technical briefings and positions
- prepare reactive media brief with News desk
- prepare proactive comms for key partners (fisheries, agriculture and water companies)
- prepare early 'No regret' actions for operations and water users
- prepare/review drought training and incident tools

The main roles and responsibilities of the ADWPC are to:

- undertake drought status scenario planning
- assess potential risk and impacts of the scenarios(s) at an area scale on the business, such resources estimates and skills requirements
- review scenarios and potential impacts on the basis of new and updated information
- provide ongoing briefing, including maps and other visualisation products, to local government and ALT
- initiate dialogue with local key partners (such as water companies, abstractors and navigation authorities)
- gather evidence and prospects from operational staff and key local partners
- prepare proactive media brief and comms for key local partners (fisheries, agriculture and water companies), with consideration of national briefings
- prepare early 'no regret' actions for operations and water users

These roles are activated when the NDWPC and ADWPCs are established and are not standby roles.

The NDWPC comprises of the following key roles:

- National Drought Lead
- National Drought Coordinator
- Hydrology Single Point of Contact (within the National Drought Team)
- Mapping and visualisations officer (within the National Drought Team)
- National Incident Single Point of Contact

The Deputy Director Water Resources is accountable for the arrangements, maintaining an overview but will not usually be required to have direct involvement. Other members of the NDWPC include National Drought Team members (including representatives from National Comms and National Services). The National Incident Single Point of Contact role is fulfilled by

National Incident Room staff and provides support and expertise from the wider national incident management community.

ADWPC comprise of the following key roles:

- Area Drought Lead
- Area Drought Coordinator
- Area Incident Single Point of Contact

The Area Manager is accountable for the arrangements, maintaining an overview but will not usually be required to have direct involvement. Other members of the ADWPC include Area Drought Team members (which includes representatives from Area Comms and National Services). The Area Incident Single Point of Contact role is fulfilled by Area Incident Room staff and provides support and expertise from the wider area incident management community.

Responsibilities of the key roles

Role	Responsibilities
National Drought Lead	<ul style="list-style-type: none"> Chair and oversee the NDWPC Approve briefings Lead on government liaison
National Drought Coordinator	<ul style="list-style-type: none"> Coordinate the day to day activities of the NDWPC Prepare standard dry weather briefings and reports for government and strategic managers Provide a single point of contact for area technical queries
National Incident Single Point of Contact	<ul style="list-style-type: none"> Provide admin/ISO type support (such as arrange telecons, rostering, distribute briefings) Coordinate impact assessment for Operations Coordinate a national picture of scenario planning Draft and issue additional briefings for strategic managers as required
Area Drought Lead	<ul style="list-style-type: none"> Chair and oversee the ADWPC Approve briefings Lead local government and local key partner liaison Represent the area at NDWPC telecons Coordinate impact assessment for the area
Area Drought Coordinator	<ul style="list-style-type: none"> Coordinate the day to day activities of the ADWPC Prepare briefings and reports for ALT and the NDWPC
Area Incident Single Point of Contact	<ul style="list-style-type: none"> Provide admin/ISO type support (such as arrange local telecons/update meetings, rostering, distribute briefings) Assist ADC in the preparation of briefings, reports and impact assessments for ALT and NDWPC Ensure the ADL receives NPWPC telecom appointments

The DWPC will operate in working hours only. Each of the key roles will be rostered on a minimum 1 in 3 or 4 weekly basis. The team will operate virtually and not be co-located.

A NDWPC meeting will be convened via live-meeting, on a fortnightly basis (or at a frequency agreed by the DD WR), to inform the Dry Weather Briefing

Dry weather briefings may be supplemented by strategic manager telecons

The cell will communicate through generic area and national drought email accounts, and save/share all planning documents and briefs on the IM Toolbox (Preparation>Incident Planning>Drought).

Product	Purpose	Frequency	Audience
Dry weather briefing	Situation update, forward look	Fortnightly	Internal – Senior Managers within the IM Community, Area drought leads. External – Defra Officials & water Company and key partners as required
Drought status scenarios	Inform timescales and business impacts	Review when new information	Used in cell meeting and strategic manager briefings
Water Resources Prospects Report	Longer term situation outlook for water resources	At end of recharge season or as required	As with Dry weather briefing
National Dry Weather Planning Cell telecon Situation update Action plan	Situation update & national coordination for planning	Fortnightly (before DW briefing is issued)	Chair: NDL Attendees: NDC, AIR&NIR SPoC, ADLs and ADCs for relevant areas, (to be decided)
National Drought Team telecom (if not merged with NDWPC telecon)	Situation update & national coordination for tasks and planning	Fortnightly (before DW briefing is issued)	NDT members
Strategic manager dry weather briefing		Monthly	DD WR, all NDMs, all relevant ADMs, all EDMs
A Strategic Plan will not be required as covered by National Drought Plan			

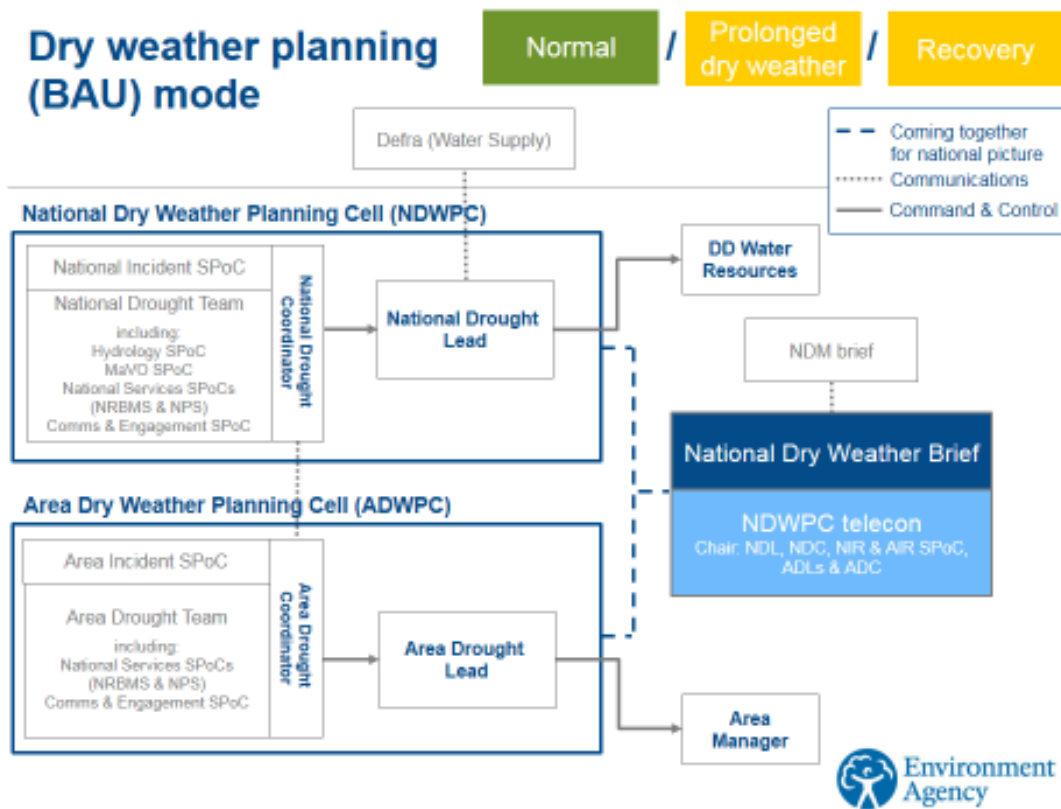
The NDWPC will be de-activated when the National Drought Planning Cell (NDPC) is activated because more than one area has moved into developing drought status (and subsequently deactivated their ADWPC).

The decision for an area to move to developing drought status is made by the Area Drought Lead in consultation with their Area Manager and the National Drought Lead.

The decision for the NDPC to be activated is made by the National Drought Lead in consultation with the DD Waters Resources and DD Incident Management & Resilience.

Structure for drought planning and briefing in the Dry Weather Planning mode

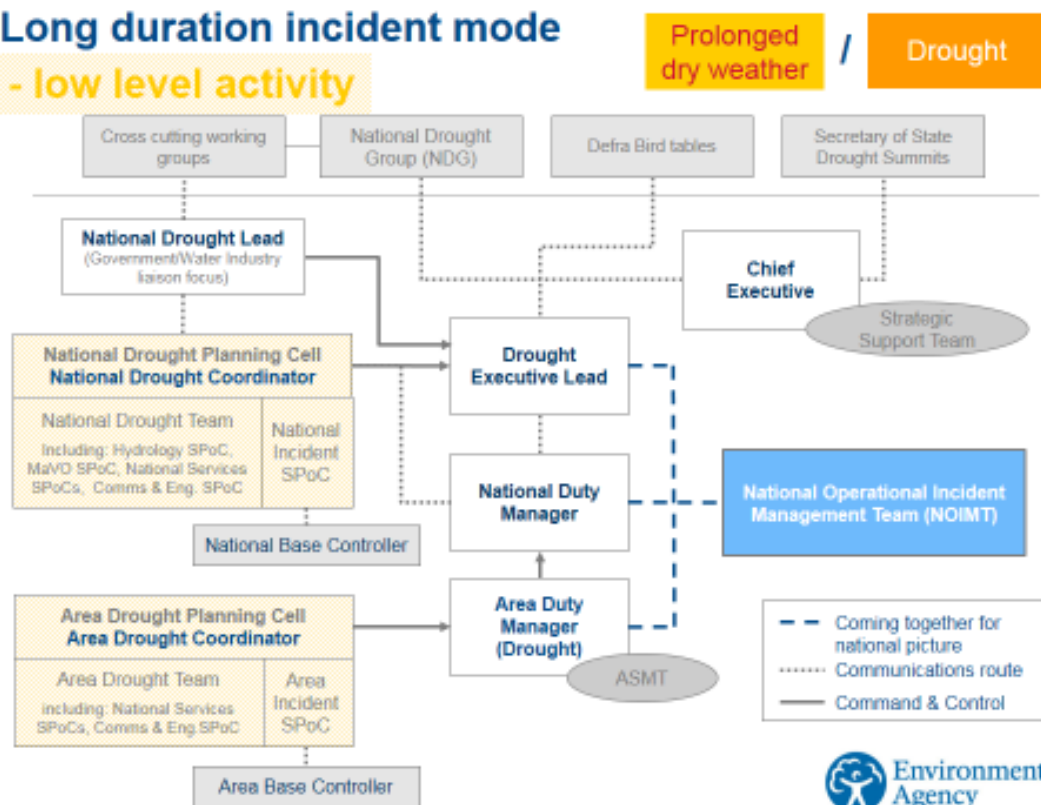
Dry weather planning (BAU) mode



Structure for long duration mode

Long duration incident mode

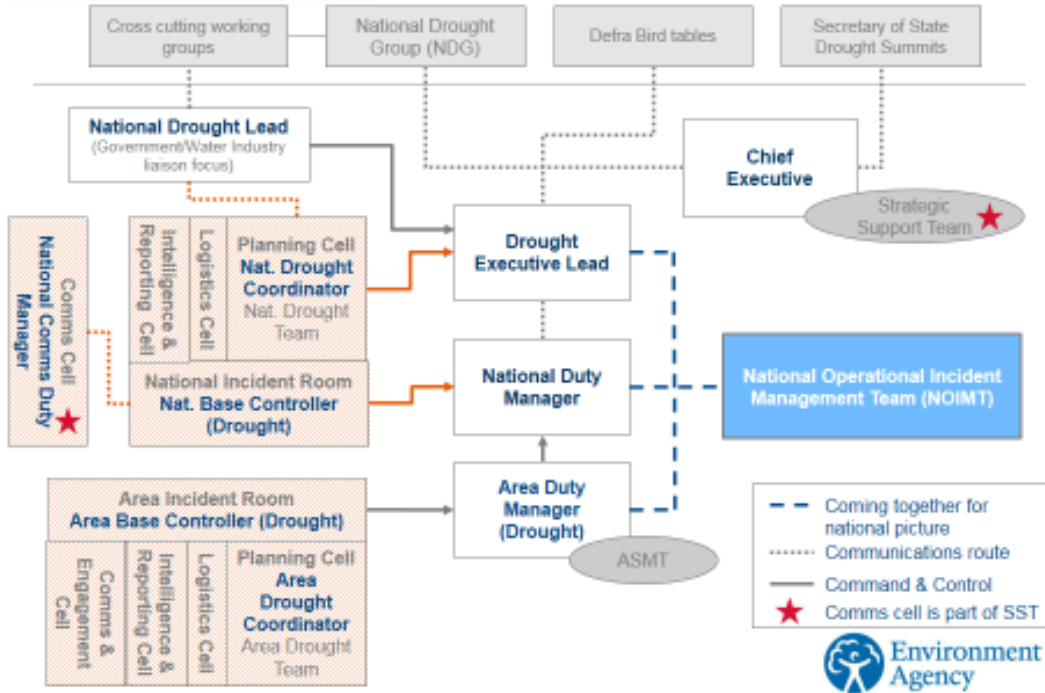
- low level activity



Long duration high level activity mode

Long duration incident mode
- high level activity

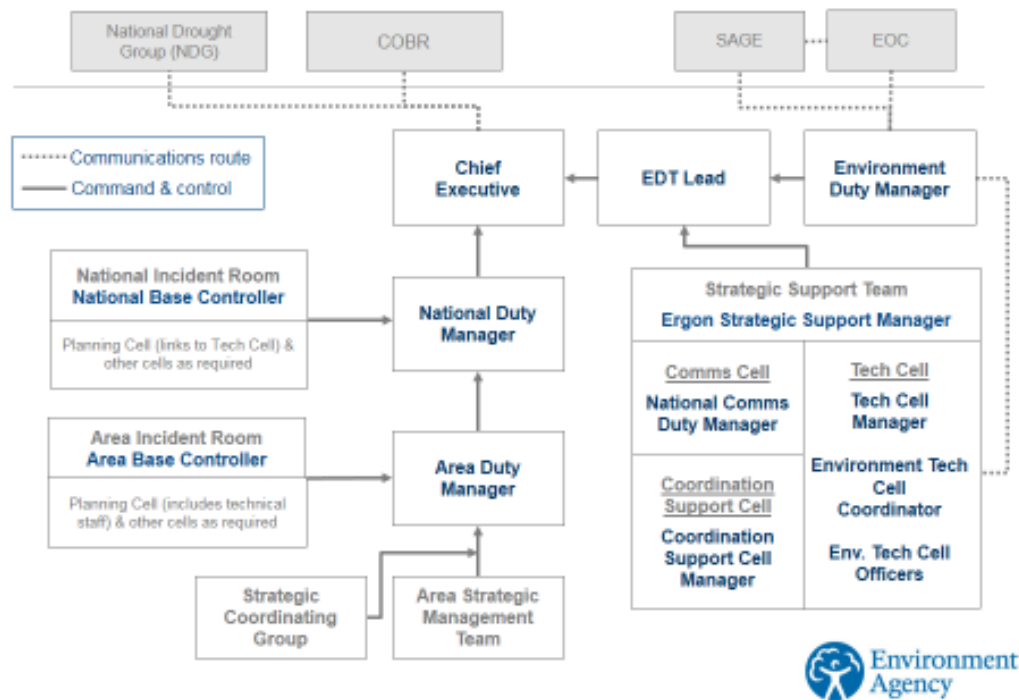
Prolonged dry weather / Drought



Major Incident Mode

Major incident mode

Drought / Severe drought



1.3. Area incident response to Drought

The AIR will not be routinely opened for the day to day management of either a developing or established drought. Instead, a ‘project’ led mode is used to maintain continuity of a slow pace developing situation, without the increased requirements of incident led reporting and management.

In the event a severe drought is declared, we would move into an incident response mode. Tactical coordination of our response would transfer from the ADC to an appointed ABC. The technical coordination of our response is retained by the ADC.

The ADM may activate Integrated Emergency Response Structures (see table below) to provide a multi agency response with Local Resilience Forums (LRFs). Local resilience forums are multi-agency groups (made up of Category 1 and 2 responders) who are individually and collectively responsible for planning for the response to civil emergencies. We are a Category 1 responder under the Civil Contingencies Act and we work closely with our LRF partners: local councils, emergency services, Public Health England, and others, to plan for an effective multi-agency response.

The multi-agency response is implemented using a three level structure:

Command and control structures in a major incident

Level of response	Who’s involved
Operational (Bronze) ‘The doers’	Those people providing a direct response at an incident site – coordinated by site controller.
Tactical (Silver) ‘The organisers’	Those people who plan and manage any further responses required, particularly in more serious incidents. Normally from the AIR, supported by a dedicated team coordinated by the ABC.
Strategic (Gold) ‘The thinkers’	Those people who take an overview of the response and establish a framework within which the tactical teams can work – coordinated by the ASMT. Established where there is a major impact on the environment, society or our reputation. Strategic teams must also determine longer term plans for returning to normal.

During a drought we would liaise with water companies to ensure the LRF has the right information needed to implement an appropriate multi agency response to drought. We have produced a [LRF Protocol](#) which sets out what we expect of our LRF partners in a drought. If a drought becomes severe our liaison with LRFs will increase and an integrated Emergency Management Response may be triggered. For further information about LRFs see Section 4.1.1.

1.4. Administration procedures

Once a drought response is activated, the area must:

- Issue a HELP (Head Office Emergency Liaison Procedure) report to notify Directors and senior managers. The Area Drought Co-ordinator is responsible for producing a HELP report for a drought ‘notifiable event’. The report is sent via the ICS and the aim of the report is to provide a comprehensive picture of the overall drought situation. Area officers may produce reports in relation to CICS and these should be copied to the Area Drought Co-ordinator.

- Activate the area drought plan and technical team. Once at prolonged dry weather or drought status, area strategic leadership will switch from the area drought lead to Area Duty Manager (ADM).
- Set up drought logs and record key decisions taken, drought issues, key lessons learned - see Appendix 5.
- Set up an incident folder in the Incident Management Toolbox and store all key documents.
- Set up a 'working week' roster to show availability of key drought roles (such as drought co-ordinator and media spokespeople) and ensure deputies are identified for key roles.
- Record and report drought situation data and information to the national incident room and national drought team.
- Start up formal communications with key partners, abstractors and user groups.

It is vital that the D&C Drought Team maintain communication with the Wessex drought team (and further afield if necessary) to understand drought risk and actions in bordering and across catchments and to ensure clear messaging at all times.

[Area Alert Levels](#) - Incident Alert Level (IALs) are a way of describing the resource availability to respond to incidents, risks within the area and the scale of the resources and activities in place to cope with an incident. IALs are produced following daily horizon scanning, risk assessment and resource checks by Area Base Controllers (ABCs) and the National Base Controller (NBC) and signed off by Area Duty Managers (ADMs) and National Duty Manager (NDM). It is likely that Area Drought Co-ordinator will be responsible for inputting into the IALs with the ABC on duty to assess the risk of a drought incident.

1.5. Drought reporting

At the onset of drought and during drought, the ADC opens and maintains several administration documents and databases. During a drought incident, a drought filing system must be set up to organise these documents and databases and to ensure they are easily accessible. A suggested filing structure is provided in the IM Toolbox, as well as templates of the drought incident logs we use.

All documentation to plan and respond to a drought in Devon and Cornwall Area is located in the Incident Management Toolbox.

Our drought teams follow the records management guidelines to ensure data is not lost or deleted. We retain all log sheets, notes and any other records of information for at least three years. The ADC and ABC are responsible for filing drought documents. Each drought team member is responsible for documenting their own work and passing it to this person.

All communications may be subject to Freedom of Information (FoI) requests. Therefore telephone conversations, letters and emails must be recorded and filed accordingly. Any commercially confidential information such as Water Company related information should be recorded and filed separately from general communications. General communications must be made available on request according to our FOI procedure.

The table below gives details of the different reports we use to explain the current situation, risks, issues and prospects.

Reports and Briefings

Report	Who produces it?	When	Why is it produced?
Rolling brief	National drought coordinator (NDC) Area drought coordinator (ADC) or Area base controller (ABC) during a major incident	Activate during prolonged dry weather stage	To provide up-to-date data and flow of information between drought teams, management teams and central government.
HELP (Head office Emergency Liaison Procedure)	ADC Area base controller (ABC) during a major incident	When the drought team is convened or disbanded and as necessary	To notify the Directors and senior managers of major or otherwise notifiable incidents. Use the guidance in Head Office Emergency Liaison Procedure (HELP) to find out how to do this for drought notifiable events.
Monthly water situation report	National Hydrology Area Hydrology	Monthly	To describe how the water situation compares to normal conditions. Continue to report monthly as for normal situation. In addition, some areas may decide during a drought to produce a fortnightly or weekly version of this report. This decision and the associated triggers are identified in your local drought plan.
Weekly rainfall and river flow summary report	National Hydrology	Expanded when in drought	A national report to provide an up-to-date snapshot of the national rainfall and river flow situation. During a drought, this report will be expanded as appropriate to cover the developing water situation.
Area drought situation report	ADC	As specified by NDM	To provide national incident room, national drought team and area management teams with an overview of latest situation from which to inform national briefs, government updates, press releases and so on.
National drought brief	NDC	As specified by NDM	An external and internal summary of the overall drought situation in England with links to water situation report for more information.
Defra Briefing	Government liaison officer	As required	To inform government of latest situation and impacts on environment and business.
Prospects report	National Drought Team (support from national and area hydrology)	Normally quarterly during drought	To inform government and stakeholders of the prospects for the

	and drought teams)		continuation of drought and associated risks and impacts.
Timeline (Battle Rhythm)	National Incident Room	As required and updated throughout	During an incident, we are expected to understand the key meetings and reports in an incident and pull them into a timeline. The timeline ensures that briefings are available for key meetings.

1.6. Responsibility and decision making

There are some drought management decisions that can only be approved by certain staff. These are set out below. In the event of specific staff being unavailable, one of two contingencies will operate:

1. In the event of a short-term absence (e.g. holiday, short-term sickness) the powers will be delegated elsewhere for the duration of the absence
2. In the event of longer-term absence (long term sickness, assignment, departure) the appropriate post will be filled either permanently or on an “acting basis”

Drought Management Actions

Activity	Staff member authorised to approve
Approval of water company drought permits. Approval of memorandums of understanding (MoU) that relate wholly to an Area	Area Manager
Approval of our comments to the Secretary of State on water company drought orders Approval of Environment Agency drought order applications Approval of invoice to water company for recovering costs relating to drought permit or order application	Area Manager
Approval of resources via non-financial scheme of delegation (NFSOD)	Area Manager / Area Drought Lead
Liaison with SWW on fisheries bank release	FBG - Technical Specialist (Fisheries)
Agree move to drought stage	Area Manager / Area Duty Manager
Local resource availability and mutual aid requests	Area Duty Manager / Area Drought Lead

In the context of this plan, the memoranda of understanding referred to above are those which are produced during a drought. For example, these might cover agreements on respective responsibilities for monitoring and exchange of information.

1.7. Resourcing

1.7.1. Securing additional resource

During a drought, Devon & Cornwall Area Drought Lead will be responsible for reviewing and identifying resource needs so that we continue to fulfil all necessary commitments, including more frequent compliance and enforcement visits. Additional resources are sourced internally via the redirection of internal staff or externally by using consultants. The ADL in conjunction with the drought team will assess any implications for key performance indicators (KPIs), with particular regard for our work under the Water Framework Directive (WFD), National Environment Programme (NEP) and for the Restoring Sustainable Abstraction (RSA) programme.

1.7.2. Financial resources

If extra staff or consultants are appointed to assist with increased workloads, the Area Drought Lead will make budget holders aware of the financial implications at the earliest opportunity. Approval for this spend is sought according to the Financial Scheme of Delegation.

The D&C area drought coordinator monitors the costs incurred by drought, including staff costs, consultant costs and operational costs. During drought, our drought teams and supporting teams record their time spent on drought activities. The national drought team will provide a set of time recording codes for our team to use at the onset of drought.

The D&C area drought team will actively seek to recover costs for work that we carry out in dealing with water company drought permit and drought order applications.

1.7.3. Appointment of consultants

In times of drought it may be necessary to appoint consultants either to carry out drought work itself or to backfill for staff transferred from other duties. The approach to be followed is:

The Drought Teams recognise the need to appoint consultants to assist with peak workloads;

The Area Drought Lead consults the Area Leadership Team detailing requirements, justification, implications and recommendations.

Consultants can be appointed through a number of Framework Agreements. Our national WEM (Water and Environment Management) Framework has the capability, through a number of lots and suppliers, to provide services in connection with drought work. There are various other frameworks and contracts in place that may also be useful in providing specialist consultancy services (please see the table below for a brief description).

The procurement team will be able to provide further information and support.

Framework or contract	Supplier(s)	Environment Agency lead for contract/arrangement
Water and Environment Management (WEM) Framework	Multiple	Area Drought Manager and Procurement Department
The Environmental and Sustainability Advice, Support and Delivery Services (ESASDS) framework	Multiple	Area Drought Manager and Procurement Department
Ecological Services Framework 2	Multiple	Area Drought Manager and Procurement Department

Further procurement information can be found at <http://intranet.ea.gov/policies/8020.aspx>

2. Indicators and Monitoring

We do routine drought monitoring as part of our national monitoring programme to provide data for detecting the onset and end of drought and impacts during a drought.

This normally includes data from:

- rainfall totals;
- indicator flow gauging station network;
- groundwater level monitoring network;
- national ecological drought surveillance network;
- reservoir storage data (sent to us by the water companies).

We may collect additional hydrometric, ecological or other data during a drought where it is appropriate for us to do so. The following stages of monitoring will also be considered:

- in-filling of monitoring sites from the existing network;
- adding temporary monitoring sites to the standard hydrometric network (such as spring flow monitoring);
- specific monitoring at drought permit/drought order sites if required.

If extra resources will be required to carry out additional monitoring it must be fully justified under the following principles:

- to quality assure monitoring data;
- to assess any significant environmental impacts and recovery of specific sites (not on a network);
- to monitor incidents;
- because it is likely that the Environment Agency or a water company may require a drought permit or drought order;
- as arranged with water companies.

The Area drought lead will need to make sure that local arrangements are made to fund these additional drought sites. There may be a need to inform or get approval from the Devon and Cornwall Hydrometry and Telemetry Programme Board (H&T D&C Programme Board), and/or the Area Leadership Team (ALT) for additional monitoring. During prolonged dry weather or drought situation, our teams may also require additional resources to carry out extra licence compliance checking and enforcement activities.

Once initiated this additional monitoring should continue until it is clear that the drought has ended and conditions have returned to normal. It may be necessary to continue to monitor for some time after normal conditions have returned, in order to evaluate the long term effects of drought. If the post-drought review finds that there are gaps in baseline monitoring, we will consider continuing some aspects of additional monitoring permanently.

2.1. Hydrometric

We routinely monitor weather forecasts, rainfall, river flows, groundwater levels, reservoir levels and soil moisture deficits to help us decide when to move through the stages of drought and to take action. To identify when a drought is approaching, our Hydrometry, Hydrology and Groundwater & Contaminated Land teams carry out routine monitoring and analysis of the water situation in our area. A list of the sites and a map are included in Appendix 6.

Under normal (non drought) conditions, the Hydrology team produces a monthly situation report for the area. The reports are distributed internally and externally to interested parties, including water companies. They are also published on the Environment Agency's external website. The data is used to detect the onset of a prolonged dry weather situation. South West Water also regularly sends us information on reservoir storage and supply. This is used for analysis during routine drought monitoring, as it gives an indication of the status of public water supplies.

As a drought develops, our teams increase the level of hydrometric monitoring, to track the development of the drought and its impacts. Enhanced monitoring is carried out on a case-by-case basis focussing on specific locations, where:

- the water environment is showing stress;
- there is likelihood that the Environment Agency or a water company may require a drought permit or drought order.

2.2. Ecological Monitoring

We carry out ecological monitoring to understand the impact of drought on the environment. The national ecological monitoring network ensures that monitoring starts long before the onset of drought and continues after drought ends, to assess any long-term changes. We may carry out additional monitoring during a drought to understand the full range of shorter-term impacts. The frequency and duration of our monitoring will be dependent on the nature of the site and the type of drought.

Ecological baseline monitoring is needed to:

- identify the impact of the drought generally (including rate of recovery and any permanent effect);
- identify the impact or likely impact at sites affected by drought permits/orders;
- provide data to form the basis of setting river flow objectives;
- assess the need for mitigation actions and their success.

The relevant area teams carry out chemical and biological monitoring across a network of monitoring points. The LIFE (Lotic-invertebrate Index for Flow Evaluation) index is used to compare the ecological sensitivity of a community to low flow velocity and the changing flow character of the reach. There is also a Water Resources led baseline environmental monitoring programme. Monitoring points within this programme reflect NEP (National Environment Programme), RSAP (Restoring Sustainable Abstraction Programme), CAMS (Catchment Abstraction Management Strategy) and drought monitoring / assessment locations and are also sampled annually.

The monitoring programme is reviewed annually and the sites we monitor could change over time. Further information can be found in Appendix 6.

2.3. Monitoring Information from Water Companies

We routinely receive information from SWW as part of our water situation reporting. Further detail is included in Appendix 7.

During a drought, we can request additional information from the water companies to help us track the development of drought and to monitor their actions. SWW will also keep the nominated NRBMS lead informed of the actions they are going to take as a drought progresses. We may use this information to help us assess the impact of a drought and make decisions on whether to take our own drought management actions. Requests for additional information from SWW should normally be made by the nominated company leads, in order to maintain consistent contact with the companies. The area drought coordinator will then collate and distribute this information as required to the wider drought team, relevant team leaders and technical specialists, for any data processing or analysis that may be required.

Examples of information we might request include:

- reservoir storage against control curves, and scenario projections (winter refill);
- groundwater levels in water company boreholes;
- current demands against the planned dry year profile;
- environmental monitoring plans to support drought permit or order applications;
- details of unplanned outage events and the effect of any planned outages once in a potential drought or drought;
- drought or supply/demand scenario forecasts;
- more frequent reporting of actual abstraction returns, from the routine monthly, quarterly or annual reporting required by licence conditions.

details of water company drought management actions such as press releases, temporary water use restrictions and enhanced leakage management measures.

Water companies are responsible for ensuring that arrangements are in place to monitor the impacts of their drought management actions on the environment. They have identified the proposed sites for drought permits or drought orders in their drought plans. The plans also include a preliminary site-specific assessment of any potential environmental effects of the permit/order being granted, along with arrangements for environmental monitoring and mitigation that may be required. In certain cases we may carry out the monitoring work instead of (or in addition to) the water company, and in these cases we will recover the costs we incur.

If the company subsequently applies for a permit or order, an environmental report will be required for the proposed sites, setting out the anticipated effects of the proposal, and potential impacts on other abstractors. A list of proposed water company permit sites can be found in Appendix 2.

A decision on whether to ask for such information and when will be made in consultation with the NRBMS Team.

2.4. Fisheries

We carry out a routine programme of fisheries monitoring which is not specifically aimed at drought assessment, but can be used as a baseline to assess impacts once a drought is over. As hydrological conditions worsen and prolonged dry weather conditions are reached, the drought team may decide to carry out additional active checks of vulnerable sites. This will help to anticipate fish distress due to low river flow, assess the impact on fisheries movements/migrations and the need for fish rescue or other operational measures. Anti-poaching measures may need to be increased during periods of drought, as this is when fish are most vulnerable. The drought team

and other appropriate teams within the Environment Agency will agree on the specifics of the additional monitoring required, and the additional resources that will be needed.

Within the main reservoir operating procedures, there is provision for releases of water to be made to benefit fisheries in the Meldon, Avon, Burrator, Tamar, Fowey and Exe in times of extreme dry weather.

The Environment Agency owns the fishing on the Lower Exe and the River Lyn.

3. Triggers and Actions

Drought impact varies from minor to very severe. Our drought plan covers the whole range of drought management activities and decisions we take to manage the impacts. This section sets out the actions our drought team will take for drought planning and management, who decides on the action and what indicators trigger these.

We don't use a single definition for drought. Whilst a drought in England is caused by a period of low rainfall, the nature, timing and impacts may vary on people, the environment, agriculture, or industry. Some droughts are short and intense, for example, a hot, dry summer, while others are long and take time to develop over multiple seasons.

We use 5 stages of drought to describe and manage our response:

Drought stage	
Normal	Drought planning actions in a normal water resource situation.
Prolonged Dry Weather	Drought actions required to prepare for drought once prolonged drier conditions are evident.
Drought	Actions required to manage drought once localised drought conditions impact on people, business and the environment.
Severe Drought	<p>Actions required to manage wider acute impacts of drought on health, business and communities.</p> <p>Each drought is an individual event. It is likely that once emergency restrictions are lifted we will return to routine domestic restrictions (such as Temporary Use Bans) as Public water Supplies replenish before we move into a recovery phase.</p>
Recovering drought	Actions required to monitor and manage the return to normal water resources conditions.

We use drought triggers to identify whether drought actions need to be taken. The crossing of a drought trigger does not mean that the action must automatically be taken. The drought team makes its decision on whether the action is needed based on a range of factors, including the present and forecast conditions and how effective the action would be. Local judgement is an important part of drought management.

The Drought stages table shows the hydrological indicators, possible impacts and key actions for each stage. The full detail of our Drought triggers is captured in our Decision Making Table - in Appendix 8.

Important - Government will make the decision to move to a severe drought stage based on expert advice from us and key partners such as the Met Office and the water industry.

Devon & Cornwall Area Drought Actions

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
Normal conditions (drought planning)					
N1	Produce monthly area water situation report	Ongoing	N/A	Hyd TL or Technical Specialist	Hyd Officers
N2	Assess key hydrological indicator sites monthly	Ongoing	ADC	ADL	ADL & ADC
N3	Undertake and review baseline hydrometric, ecological, fisheries and water quality monitoring	Ongoing Routine monitoring	H&T EM(A&R) FBG GWCL	H&T TL EM(S&C) TL FBG TL GWCL TL	Relevant Officers: H&T EM(S&C) Hyd GWCL
N4	Monitor river flows and groundwater and alert licence holders with Hands-off-Flow conditions (HOFs) or groundwater level conditions if they should reduce or cease abstraction.	Ongoing	H&T	EM TL / WR Lead	EM EO / WR Lead
N5	Provide river flow and groundwater level projections for publishing within the national monthly Water Situation Report for England	Ongoing	Hyd	Hyd TL	Hyd officers
N6	Confirm drought team membership	Annually	ADC	ADC	ADC
N7	Hold annual area drought team meeting if required (invite Wessex area ADC)	Annually	ADC	ADC	ADC

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
N8	Review who our trained media spokespeople are and arrange training if necessary	Annually	ADC / ADL	ADL	Devon & Cornwall Area Ops Comms team
N9	Review & update Area drought plan, incorporating Lessons Learnt, if appropriate	Annually	ADC	ADL	ADC
N10	Review drought monitoring sites and update drought indicators, if appropriate.	Annually	ADC	ADL	Relevant Officers: H&T EM (S&C) Hyd GWCL
N11	Act as consultee of NRBMS, review new drought plan/changes to existing water company drought plans	Ongoing, if required	NRBMS	NRBMS	ADC
N12	Undertake preparatory work with water companies and Natural England, as required, for possible drought permit/order applications (as outlined in water company drought plans)	Ongoing	NRBMS	NRBMS	ADC
N13	Contribute to Resilience Forums drought risk assessments (where appropriate).	As requested by Forums	ADC	ADL	ADC
N14	Undertake drought exercise to test either Area Drought response or national drought response	Every 3 years or when felt needed	ADC	ADL	ADC

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
Prolonged dry weather (actions within normal stage will already be complete)					
<i>Consider and confirm prolonged dry weather stage</i>					
DD1	Consult technical drought team - analysis of drought indicators and all available information (see Appendix 8 for decision making table)	Most hydrological drought indicator sites have below normal levels or flows. AND Additional/ supplementary area hydrological information to consider area drought stage ADT should also have consideration for other available information	ADC	ADC	ADT
DD2	Raise early warning with ADL and ADM, and Wessex ADC	As agreed by technical team	ADC	ADC (with technical team)	ADC

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
DD3	Inform and consult area and national duty managers on current position regarding prolonged dry weather	Early warning raised	ADL	ADL & ADM	ADL
DD4	Confirm prolonged dry weather stage	As agreed	ADL & ADM	ADL & ADM In consultation with ND & NDM	ADL & ADM
DD5	Activate drought plan and team	Confirmed prolonged dry weather stage	ADL	ADL	ADL
DD6	Establish first, and arrange future Area (ADT) drought team meetings to define drought stage - involve Wessex ADC	Confirmed prolonged dry weather stage	ADM & ADC	ADM	ADM
<i>Management</i>					
DD7	Establish and maintain drought administration: Set up an incident folder in Incident Management Toolbox and store all key documents. Use the guide for setting up drought folders Set up drought logs and record key decisions taken, drought issues , key lessons learned	Confirmed prolonged dry weather stage and maintained thereafter as necessary.	ADC	ADC & ADM	ADC

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
DD8	Transfer responsibilities of ADL to ADM	Confirmed prolonged dry weather stage – if required	ADL	ADL	ADL
DD9	Assess potential drought scenarios with hydrological forecasting for selected surface water and groundwater locations	First ADT meeting (excluding annual review). Data to be provided in advance of first meeting, and submitted monthly or as required.	ADC & ADM	ADC & ADM	Hyd / GWCL Officers
DD10	Obtain and circulate generic drought time recording codes	Confirmed prolonged dry weather stage	ADC	ADM	ADC
DD11	Assess workload capabilities and consider resource requirements	Confirmed prolonged dry weather stage and thereafter at area drought meetings	ADM	ADM	ADM
DD12	Drought teams to establish roster for key drought roles to cover leave/absence including nominating deputy roles (esp. during holiday periods)	Ongoing prolonged dry weather stage	ADC	ADM	ADM

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
<i>Communications and reporting</i>					
DD13	Issue a HELP report to notify Directors and senior managers	Confirmed prolonged dry weather stage and as necessary	ADM & ADC	ADM	ADC
DD14	Regular (e.g. twice weekly/weekly depending on scale of prolonged dry weather) Area Communications meetings	Initiated on confirmation of prolonged dry weather stage	ADM & ADC	ADM	ADM ADC Devon & Cornwall Ops Comms Team
DD15	Regular (e.g. twice weekly/weekly depending on scale of prolonged dry weather) area drought impact reporting to HO NDC.	Initiated on confirmation of prolonged dry weather stage and thereafter as requested by HO (likely to be fortnightly)	ADM & ADC	ADM	ADC
DD16	Review and implement internal and external communication plan	Confirmed prolonged dry weather stage and thereafter	ADM	ADM	ADC

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
DD17	Email all staff regarding current drought position and promote water wise behaviour within our business	Confirmed prolonged dry weather and ongoing during prolonged dry weather stage	ADC	ADM	ADC
DD18	Respond to requests for information ¹	When request for information comes in	ADC	ADM	ADC
DD19	Review scenario planning templates (requested from water companies by NRBMS) once filled by the companies	Confirmed prolonged dry weather stage - if required	NRBMS	NRBMS	NRBMS and ADL
DD20	Arrange media training sessions to make sure there are enough trained media spokespeople available from a variety of teams	Confirmed prolonged dry weather and ongoing during prolonged dry weather stage	ADC	ADM	Devon & Cornwall Ops Comms Team
<i>Licensing, compliance and enforcement</i>					
DD21	Continue to monitor flows and notify abstraction licence holders with flow conditions (HOFs) if they should reduce or cease abstraction	Ongoing	H&T	EM TL / WR Lead	EM EO / WR Lead

¹ For FoI requests refer to operational instruction [400_04 Responding to requests for information.](#)

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
DD22	Consider increasing the frequency of licence inspections	Confirmation of prolonged dry weather and ongoing during prolonged dry weather stage	ADC	EM TL	EM Officer
DD23	Contact water company if addition abstraction data / frequency is required.	To be considered for sites where data is necessary due to increased risk of environmental damage	ADC	ADC	ADC / NRBMS / IEP
<i>Permits and orders</i>					
DD24	Ensure water companies understand that necessary restrictions are put in place before drought permits/orders are applied for.	After liaison with water companies over possible permit/order applications	ADC	NRBMS	NRBMS
<i>Monitoring</i>					
DD25	Continue to monitor river flows and groundwater against key hydrological drought indicator sites	Ongoing	ADC	ADM	ADC

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
DD26	Consider, where appropriate, additional drought monitoring for example hydrometric, fisheries, ecology and water quality	Confirmed prolonged dry weather and ongoing during prolonged dry weather stage	ADM	H&T TL EM(S&C) TL EM(A&R) TL Hyd TL	Relevant Officers: H&T EM(S&C) EM(A&R) Hyd
DD27	Arrange a training session with environment officers in responding to low flow incidents	Confirmed prolonged dry weather stage	ADC	ADM & ADC	ADC & SEO
DD28	Log drought related incidents ²	Drought related incident	ADC	All	All
DD29	Check water companies are implementing drought monitoring requirements for potential drought permits or orders (to support their Drought Permit/Drought Order application if the need arises) if appropriate	Confirmed prolonged dry weather and ongoing during prolonged dry weather stage	ADC	ADM	ADC

² For more guidance on the framework and responsibilities for managing a major drought related incident see [123_02 Management of Major Incidents](#).

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
<i>Mitigation</i>					
DD30	Consider appropriateness of fish bank releases	Confirmed prolonged dry weather stage and thereafter as appropriate	FBG Technical Specialists / ADC	Fish and Biodiversity TL	FBG Technical Specialists
<i>Fisheries and Biodiversity</i>					
DD31	Work with Natural England to identify and monitor vulnerable water dependent designated sites	During prolonged dry weather	FBG TL	FBG TL	FBG Technical Specialists
DD32	<p>Raise awareness and advise fishing clubs, Rivers or Wildlife Trusts, Catchment Partnership and other local interest groups etc of possibility of drought and fish protection measures.</p> <p>Circulate list of local fish rescue and aeration contractors.</p> <p>Press releases to national angling press / local media.</p> <p>Consider writing to fisheries managers about weed cutting, stocking, aeration equipment and bankside vegetation management.</p>	Confirm prolonged dry weather stage if appropriate	FBG TL Fisheries Field Team TL	FBG TL Fisheries Field Team TL	FBG Technical Specialists

No.	Action	Trigger(s) for considering if action required	Who monitors trigger?	Who makes the decision on whether to take the action?	Who is responsible for taking the action?
DD33	Ensure all aeration equipment for deployment is serviced and working safely. Ensure relevant staff familiar with operation and deployment	Routine early summer procedure	Fisheries Field Team Officers And/or EM officers	Fisheries Field Team TL	FBG Officers EM Officers
DD34	Identify prolonged dry weather high risk sites e.g. historically depleted reaches, critical fish passage sites.	Confirm prolonged dry weather stage and thereafter as appropriate	Fisheries Field Team TL	Fisheries Field Team TL	FBG Technical Specialists
DD35	Consider targeting fishery enforcement patrols	Confirm prolonged dry weather stage	Fisheries Field Team TL	Fisheries Field Team TL	FBG Technical Specialists
DD36	Brief area fisheries and EM teams on drought situation and review procedures for fish kills and relocations. Ensure clarity on roles and responsibilities.	As required	Fisheries Field Team TL	Fisheries Field Team TL	FBG Technical Specialist Fisheries Field Officers
DD37	Review fish monitoring programme	As required	EM (A&R) TL	EM(A&R) TL	Fisheries Field Team Technical Specialist EM(A&R) Technical Specialist

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
Drought (actions within prolonged dry weather stage will already be complete)					
Consider and confirm drought stage					
D1	Confirmation of drought stage	The majority of key hydrological drought indicator sites have below normal levels or flows and other factors	ADM & ADC	ADM	ADM
D2	Inform NOIMT and ALT on current position regarding drought (& Wessex ADC)	Confirm drought stage	ADM	ADM	ADM
D3	Inform National Drought Manager (NDM)	Confirm drought stage for area	ADM	ADM	ADM
Management					
D4	ADM takes over from ADL	Confirm Drought Stage	ADM	ADM	ADM
D5	Consider the elevated workload capabilities under drought stage and consider resource requirements	Confirm drought stage and thereafter as appropriate	ADM	ADM	ADM
D6	Distribute time codes for cost recovery of drought permit and drought order applications from NRBMS and circulate them	After NRBMS liaison with water companies over possible applications)	ADC	ADM	ADC
Communications and reporting					
D7	Review communication messages in relation to confirmation of drought stage	Confirm drought stage	ADM	ADM Ops Comms TL	ADC Ops Comms TL

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
D8	Review frequency of communications actions and continue implement internal and external communications actions	During drought stage	ADM	ADM	ADT
D9	Further development of scenarios and actions with water companies	Once drought stage is reached	ADC & NRBMS	NRBMS	NRBMS
D10	Continue weekly reporting on drought impacts to NDT	Weekly during drought	ADC	ADM	ADC
D11	Monitor and plan resource needs for drought stage	Confirm drought and ongoing during drought stage	ADM(s)	ADM	ADM
D12	HELP report for water company drought permits and/or orders	As drought permits/order applications are submitted	ADM	ADM	ADC
<i>Licensing, compliance and enforcement</i>					
D13	Send letters to abstractors (for example all abstractors, highest users and/or in sensitive catchments) to ask for voluntary reductions in abstraction quantities	Confirm drought and ongoing during drought stage	ADC	ADM / IEP TL / EM TL	IEP Officer
D14	Increase frequency of compliance visits to abstraction licence holders, particularly those with Hands Off Flow (HOF) conditions.	HOFs in force	ADC	EM TL	EM Officer
D15	Increase compliance checks for discharge consents	Confirmation of drought stage and ongoing during drought stage	ADC	EM TL	EM Officer
D16	Monitor compliance of drought permits/orders with relevant conditions	Drought permits/orders in operation	ADC	ADM	ADC EM Officer

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
Permits and orders					
D17	Undertake preparatory work, as required, for pre-drought permit/order applications (note - staff should record time spent to enable cost recovery). This will include commencement of additional monitoring where necessary.	After liaison with water companies over possible permit/order applications Request by ADM/ADC regarding drought permit(s) or order(s)	ADM & ADC	ADM	ADM /ADC/ NRBMS (Water Resources)
D18	If drought permit/order applications are likely consider notifying planning inspectors of potential hearings.	Pre-drought permit application activity	ADM & ADC	ADM	ADC
Monitoring					
D19	Enhanced liaison with water companies to monitor implementation of their drought plans and agree appropriate actions	Confirmation of drought and ongoing during drought stage	ADM & NRBMS	ADM	ADC & ADT & NRBMS
D20	Monitor, and if necessary increase, the implementation of enhanced environmental monitoring	Confirmation of drought stage	ADC	ADM & ADC	ADT Hyd H&T EM (S&C) FBG
D21	Ensure water companies are following conditions of their drought permits (including monitoring requirements)	Drought permits are granted and implemented	ADC & NRBMS	ADM	ADC & NRBMS
D22	Continue to log drought related incidents on NIRS	Drought incidents	ADM & ADC	ADM	Relevant technical team

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
D23	Respond to low flow enquiries (such as dried up wells)	Drought enquiries	ADM & ADC	ADM	Relevant technical team
D24	Consider liaising with local rivers trusts, wildlife groups and angling clubs for informal local monitoring	Confirm drought and ongoing during drought stage	ADC	ADM	ADC and FBG
Mitigation					
D25	Consider changing, alerting and/or ceasing weed cutting regimes according to local requirements	Confirmation of drought stage	ADM in consultation with H&T TL and Ops TL	H&T team leader and Ops TL	H&T team leader and APT TL
Fisheries and biodiversity					
D26	Work closely with Natural England to consider what action is taken to safeguard water dependent designated sites	Once drought stage reached	FBG TL	FBG TL	FBG technical specialist
D27	Increase frequency of high risk site monitoring. If necessary, and possible, deploy remedial action (e.g. aeration / rescue).	Once drought stage reached	FGB Officers EM (S&C) Officers EM (A&R) Officers	FBG TL EM(S&C) TL EM(A&R) TL	FBG Officers EM(S&C) Officers EM(A&R) Officers
D28	Prepare for response to high rate of drought related incidents (e.g. fish kills/rescues)	Drought stage reached	FBG Officers	FF TL EM TL	FBG TL

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
D29	Procedure for short notice fish movement consents and emergency health checks in place.	Confirmed drought stage	FBG Officers	FF TL	FBG Officer
D30	Check critical structures for fish passage	Confirmed drought stage	FBG Officers	FBG/FF TL	FBG Officer
D31	Suspend fish monitoring where necessary.	Confirmed drought stage	FBG Officers	FBG and FF TL	FBG Officer
D32	Consider high Impact Fisheries Enforcement patrols at vulnerable locations.	Confirmed drought stage	FBG Officers	FF TL	FBG Officer
D33	Where appropriate supply/loan / deploy emergency aeration equipment to fisheries on a case by case basis in line with operational instruction.	Confirmed drought stage	FBG Officers	FF TL	FBG Officer
D34	Respond to fish in distress/fish kills as appropriate and guided by CICS.	Confirmed drought stage	FBG Officers	FF TL	FBG Officer
D35	Monitor and review response to drought related incidents (e.g. fish kills/rescues) and record on NIRS.	Confirmed drought stage	Area fisheries Tech Specs and fisheries officers	FBG TL	Area F&B Tech Specs and fisheries officers

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
Severe drought (actions within drought stage will already be complete)					
Consider and confirm severe drought stage					
SD1	Confirmation of severe drought stage	The majority of key hydrological drought indicator sites have below normal or exceptionally low levels or flows and other factors.	ADM & ADC	NDT Defra	NDM
Management					
SD2	Consider declaring a Major Incident	Confirmed Severe Drought stage	NDM	NDM Defra	NDM
SD3	Appoint dedicated ABC to take over tactical co-ordination from ADC	Confirm Severe Drought Stage	ADM	ADM	ADM
SD4	HELP report on declaring major incident	Confirmed severe drought stage	ABC	ADM	ABC
SD5	Consider opening Area Incident Room (AIR)	Confirmed severe drought stage	ABC	ADM	ABC
SD6	Notify National Incident Room (NIR) or SPoC that AIR is open	Opening AIR	ABC	ABC	ABC
SD7	Complete Area Situation reports and upload to IM Toolbox and NIR/SPoC	Opening AIR	ABC	ABC	ABC
SD8	Update Rolling Brief	Opening AIR	ABC	ABC	ABC
SD9	Consider activating an Area Strategic Management Team (SMT) when they require support in providing strategic oversight and direction to the response i.e. to manage stakeholders or local MPs.	Confirmed severe drought stage	ADM	ADM	ADM

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
SD10	Consider activating Integrated Emergency Management Structures (Operational/Tactical/ Strategic)	Confirmed severe drought stage	ADM	ADM	ADM
SD11	Populate roster for AIR roles including media spokesperson	AIR	ABC	ADM	ABC
SD12	Consider the elevated workload capabilities under drought stage and consider resource requirements	Confirmed severe drought stage and thereafter as appropriate	ADM	ADM	ADM
<i>Communications and reporting</i>					
SD13	Review communication messages in relation to confirmation of SEVERE drought stage	Confirmed severe drought stage	ADM	ADM Operational Comms TL C&E TL	ADC Operational Comms TL C&E Officer
SD14	Review frequency of communications actions and continue implement internal and external communications actions	During severe drought stage	ADM & ADC	ADM	ABC
SD15	Further development of scenarios and actions with water companies	Ongoing	ADC & NRBMS	NRBMS	NRBMS
SD16	HELP report for water company drought permits and/or orders	As drought permits/order applications are submitted	ABC	ADM	ADC / ABC
SD17	HELP report Environment Agency Drought Order	If EA drought order applied for	ABC	ADM	ADC / ABC

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
SD18	HELP Report for Emergency Drought Order	If and when emergency DO applied for	ABC	ADM	ADC / ABC
Permits and orders					
SD19	Notify planning inspectors of potential hearings for Drought Permits and Orders.	Pre-drought permit application activity	ADM & ADC	ADM	ADC
SD20	Undertake work relating to water company drought applications for non-essential use bans	Notification by water company or Defra of application to SoS	NRBMS	NRBMS	NRBMS
SD21	Undertake work relating to water company emergency drought permit/order applications	Request by ADM/ADC regarding drought permit(s) or order(s)	ADM & ADC	ADM	ADM /ADC/ NRBMS (Water Resources)
SD22	Consider Environment Agency Drought Orders (DO)and apply where appropriate (see section 5.5 on possible use of EA DOs)	Where serious environmental damage can be mitigated by an Environment Agency drought order and the negative effects of such an application are acceptable	ADM	ADM	ADM & NDM
Monitoring					
SD23	Implement where appropriate additional drought monitoring to further our conceptual understanding and science of drought	Confirmed severe drought	GWCL TL Hyd TL	GWCL TL Hyd TL	GWCL Technical Specialist Hyd Technical Specialist

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
Mitigation					
SD24	Liaise with Natural England over possible sites for Environment Agency drought orders.	During prolonged dry weather stage if conditions are worsening To be considered only where serious environmental damage can be mitigated by an Environment Agency drought order and the negative effects of such an application are acceptable	ADC	ADM in consultation with Technical Specialists	ADM/ Technical Specialists (FBG...)

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
Recovering drought (and/or return to normal conditions)					
Revert to normal condition actions AND undertake actions below					
AD1	Confirmation of an improvement towards normal conditions and work practices.	Recovery of drought indicators sites within (or approaching) normal range, with hydrological forecasts indicating no significant risk.	ADC	ADM	ADT
AD2	HELP Close down report	Confirmed return to normal conditions and work practices	ADM	ADM	ADC / ABC
AD3	Inform AMTs (and wider staff) on current position regarding drought	Confirmed improvement towards normal conditions and work practices	ADM	ADM	ADM

No.	Action	Trigger (s) for considering action if required	Who monitors the trigger(s)	Who makes the decision whether to take the action	Who is responsible for taking the action
AD4	Inform National Drought Manager (NDM)	Confirmed return to normal conditions and work practices	ADM	ADM	ADM
AD5	Recover costs associated with drought permit and order activity	Workload reduces and/or return to recovering drought or normal conditions	ADC	ADC & ADM	ADC
AD6	Carry out review of drought response within 6 months of recovery to identify lessons learnt. A for example the use of augmentation schemes, fish rescues, communications etc	Confirmed return to normal conditions and work practices	ADC	ADM	ADC
AD7	Work with water companies to review effectiveness of company Drought Plans and implement any lessons learned.	Review of Area Drought Plan	NRBMS & ADC	NRBMS	NRBMS & ADC
AD8	Review Area Drought Plan in relation to lessons learnt and implement any lessons learned	Return to normal conditions	ADC	ADM	ADCT

4. How we communicate with others

Communications play a key role in managing drought planning, in maintaining trust in the Environment Agency and in encouraging conservation of water. Water conservation is a key concern to us and is of increased importance during periods of drought.

We communicate internally between areas, national office, National Operational Incident Management team (NOIMT), Strategic Management Team (SMT) and our Board, to ensure we're all aware of and up to date with the latest situation and possible future prospects. This enables us to make appropriate and timely decisions and take actions described in our drought plan.

We have prepared a plan for dealing with the additional communications workloads created as a result of a drought. The Drought technical team responsibilities are:

- To report regularly to duty managers, senior managers, board members and ministers;
- To co-ordinate public relations efforts and develop lines to take;
- To communicate with local stakeholders for example, National Farmers Union, Natural England;
- To provide information for easinet and GOV.UK;
- To co-ordinate the area input into drought related HELP reports, rolling briefs and situation reports.

The communication plan includes news release requirements, direct communications with customers and staff briefings and includes the following elements:

- *Key messages;*
- *Cross boundary issues;*
- *Sensitive or problem areas;*
- *Positive action undertaken by the Environment Agency since the last drought;*
- *Key communications links and activities.*

Water companies

- Dialogue with water companies during peacetime and drought is two tiered (technical and strategic);
- Areas will continue to liaise with water companies on local operational and technical issues such as drought monitoring, permits and abstraction licensing regimes. The NRBMS water company technical leads will continue to liaise with water companies on implementation of company's drought plan and provide support to areas in determination of drought permits. NRBMS water company technical leads and ADCs will keep each other updated via the technical drought teams.
- The D&C Area Manager will be advised of all strategic communication with South West Water.
- Executive Area Water Company Account Managers, with support from Senior NRBMS Water Company Account Managers, will lead on liaison with water company on strategic and contentious issues.
- In the event of a multiple area drought, NRBMS, with Executive Area Water Company Account Managers, may instigate senior joint meetings with impacted water companies. The E&B duty Manager will be invited.

4.1. External communications

The Area drought team's external communications actions have been identified in our drought communications plan. We start formally communicating with external partners after we identify that we are in prolonged dry weather, although informal communication can happen during dry but normal conditions.

The main external communications for the Area are with:

- South West Water: shared information and meetings
- Farmers groups: meetings
- Imerys (mineral extraction - predominantly in Cornwall)
- Fish farmers and fishing clubs: letters and advice
- Members of Parliament: drought reports, press releases and briefings

External communications are also included in the operating procedures for fish bank releases and routine operational water resources management.

4.1.1. Local Resilience Forums (LRFs)

Local Resilience Forums (LRF) 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 properly and are taking all the right steps to avoid standpipes or rota cuts.

The LRF operating in Devon and Cornwall area is 'Devon & Cornwall LRF'.

The LRF have a process in place to contact a small group of representatives for a pre event assessment telecon (PEAT) before an event is actually scaled up - Operation Link. The drought team will ensure that any potential change of status is communicated via this route.

Refer to mapping in Appendix 1 for a map showing the LRF.

During Normal conditions our contribution at LRFs focuses on ensuring our input to community risk registers is fit-for-purpose and that emergency plans reflect our roles, responsibilities and statutory functions.

A Drought Plan for LRFs is available on the IM Toolbox and provides a suggested format for working with LRFs during drought. See link at end of this document.

4.2. Internal communications

The Area drought team's internal communication actions are also included in our communications plan.

The main aims of the internal communications plan are:

- to ensure area staff are clear on our Area drought position and who in the Area is leading on what;
- to maintain close liaison with neighbouring areas to join up communications to shared stakeholders where possible;
- to ensure that managers are aware of the drought management resource commitments and that any issues are raised quickly;
- to ensure that the National Drought Team and the National River Basin Management Service (Water Resources) are kept informed of the situation in the Area including any risks and issues or actions that are taken.

The key internal communications in the Area are managed by the Area Drought Co-ordinator:

- papers to ALT
- area reports / updates to the National Drought Co-ordinator and neighbouring Wessex area
- reports / updates to the Area Drought Technical Team members
- updates regarding media interest, calls and press releases will be provided by the Communications Team
- information made available to all staff via Weekly Buzz, Cascade brief, easinet, notice boards and e-mail

4.3. Communications plan

See Appendix 9.

4.4. Media trained colleagues

It is important to respond to all requests, especially media requests, quickly and effectively. Area Environment Managers and drought team specialists have been identified as spokespeople to respond.

5. Drought review and lessons learnt

Once the area moves to a recovery stage, the Area Drought Team will take the necessary actions to assess the recovery and review our response.

It is important we review the actions we took during a drought event and identify any improvements we can make to managing future droughts. We also monitor how the environment is recovering as a drought recedes.

Some monitoring will continue after we have returned to 'normal' status, to assess the recovery of the environment after drought. Each drought is different; as such we may need additional information. Drought team members may propose specific studies dependent on the severity and impacts of drought. The drought team will consider and decide on any additional monitoring requirements - gaining approval via necessary procedures.

Once our drought team has returned to a non-drought status, we will conduct a drought review. Our drought team will meet to review how we managed the drought and its impacts, what went well and where we can improve. A post drought report will be produced, which will feed into the Head Office drought report. We will produce this report no later than six months after the drought.

5.1. Drought Plans

We will undertake a review of our drought plans after a drought or at least every 3 years. We revise plans annually as part of our ongoing preparation for a drought incident.

As part of the post drought review, the Area drought lead may identify the need to run a drought exercise, to test the updated drought plan.

5.2. Maintaining drought preparedness

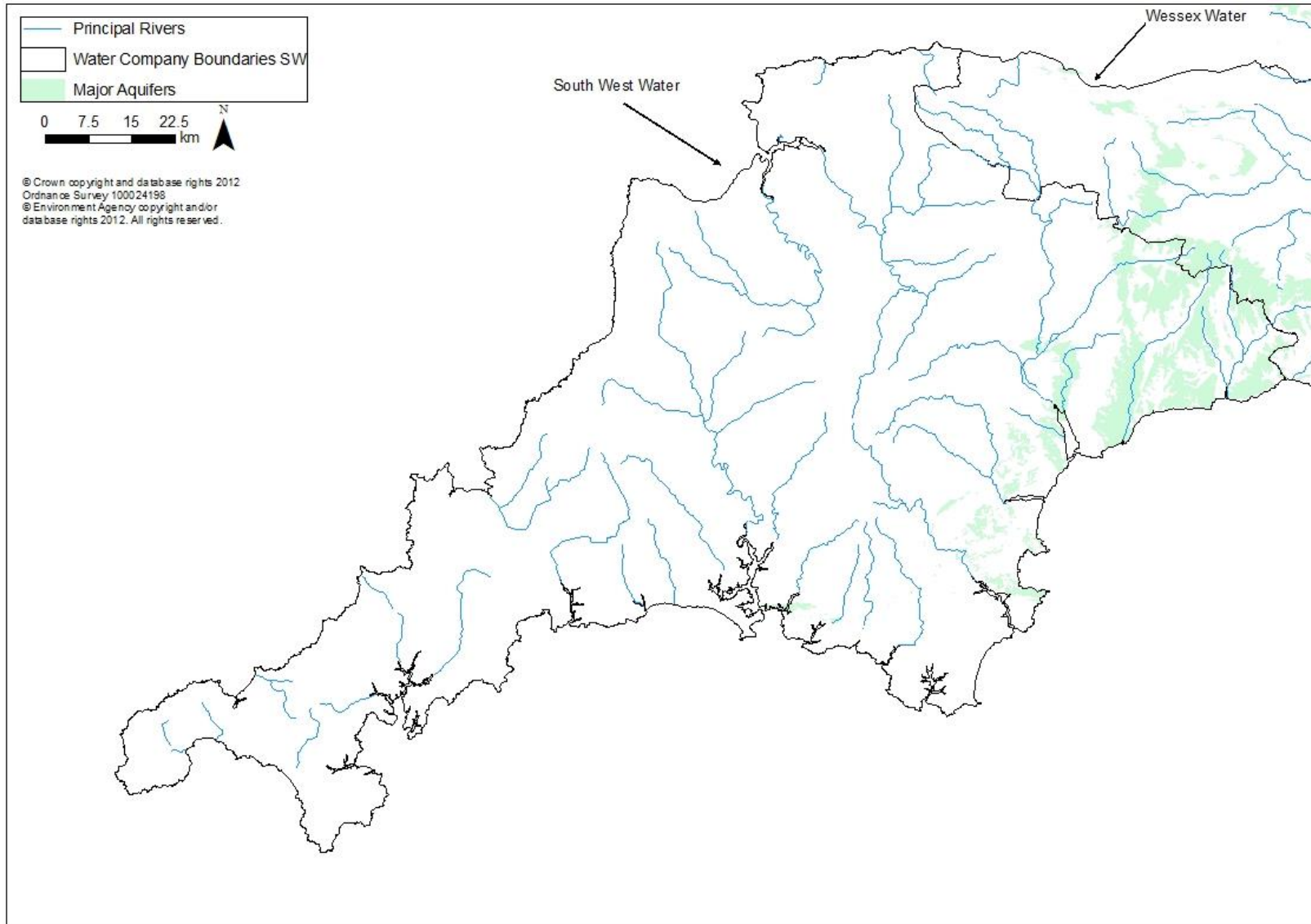
We will ensure our area is ready for the next drought by regularly reviewing our plan, including the monitoring plan, checking that our drought team is fully trained or undertaking drought exercises.

It is important to show that our drought plans work through a range of droughts. We undertake drought simulation exercises as a way to practice and test the drought plans and become more familiar with drought management. Our drought plan exercises are based on information, data and experience from historic droughts. This will help us to test our current plans in a realistic and thorough way.

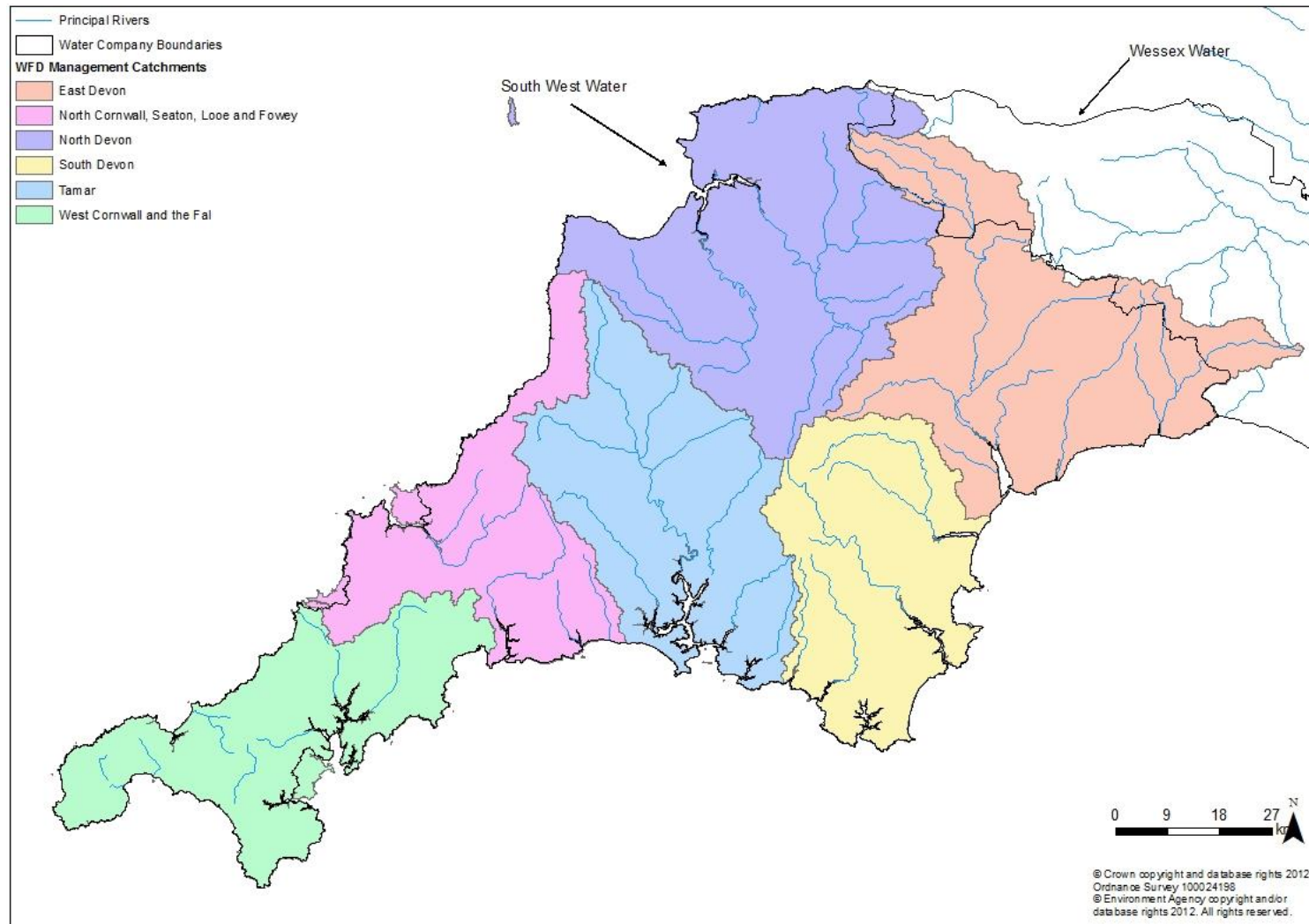
We will also participate in the National drought exercise as required.

Appendix 1 - Maps

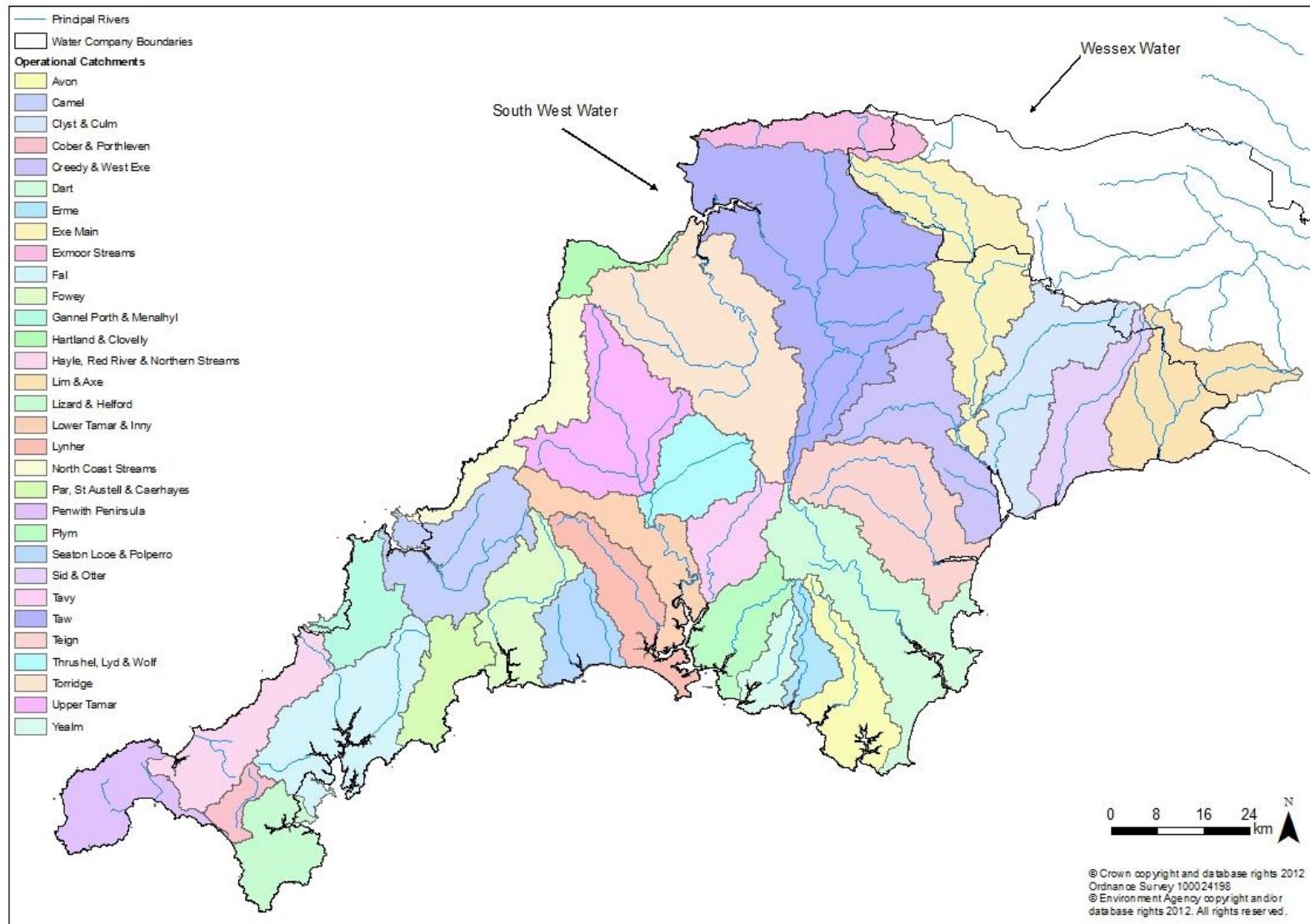
Map 1 - Devon & Cornwall area - Overview



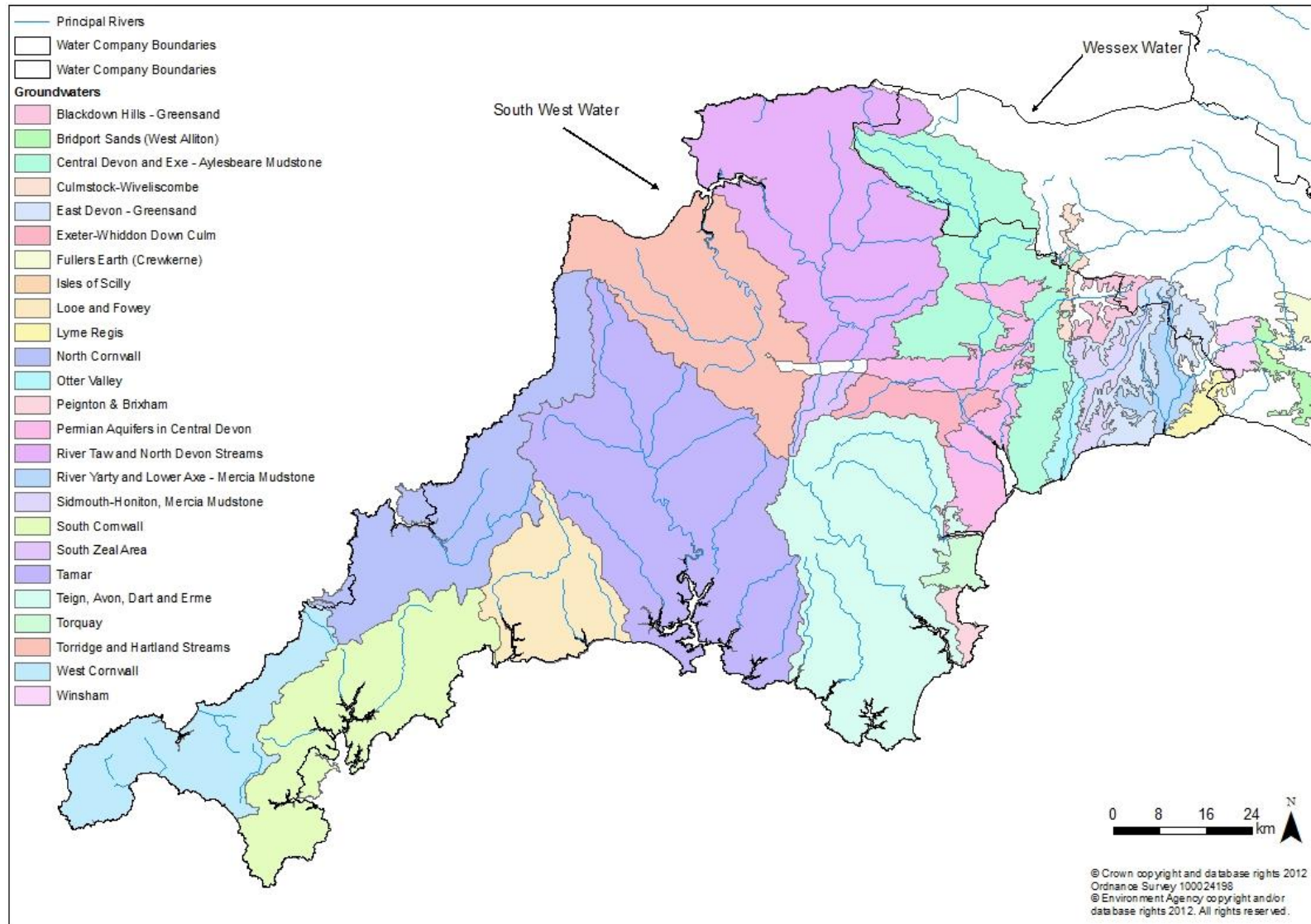
Map 2 - Devon & Cornwall area - WFD Management Catchments



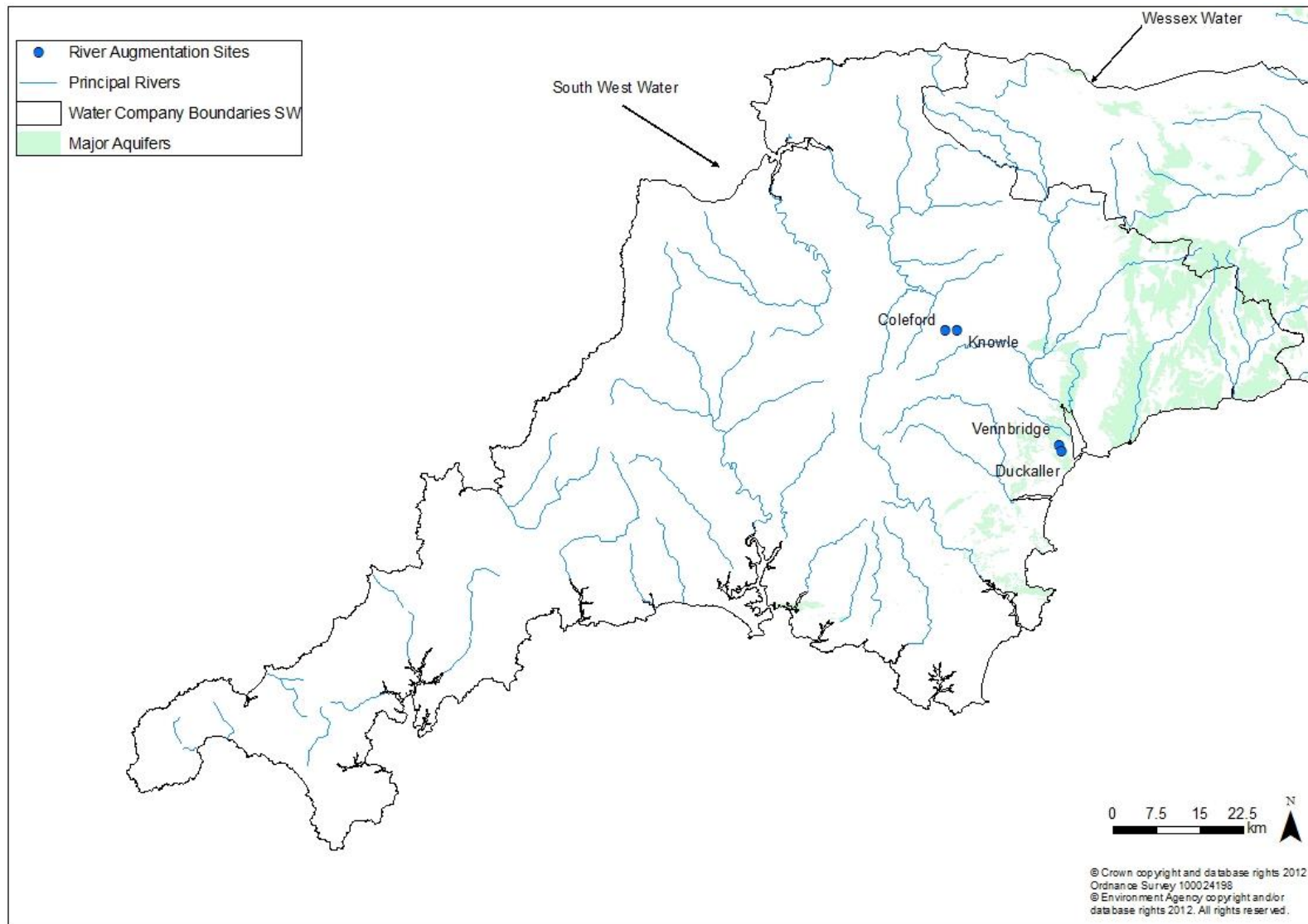
Map 3 - Devon & Cornwall area - Operational Catchments



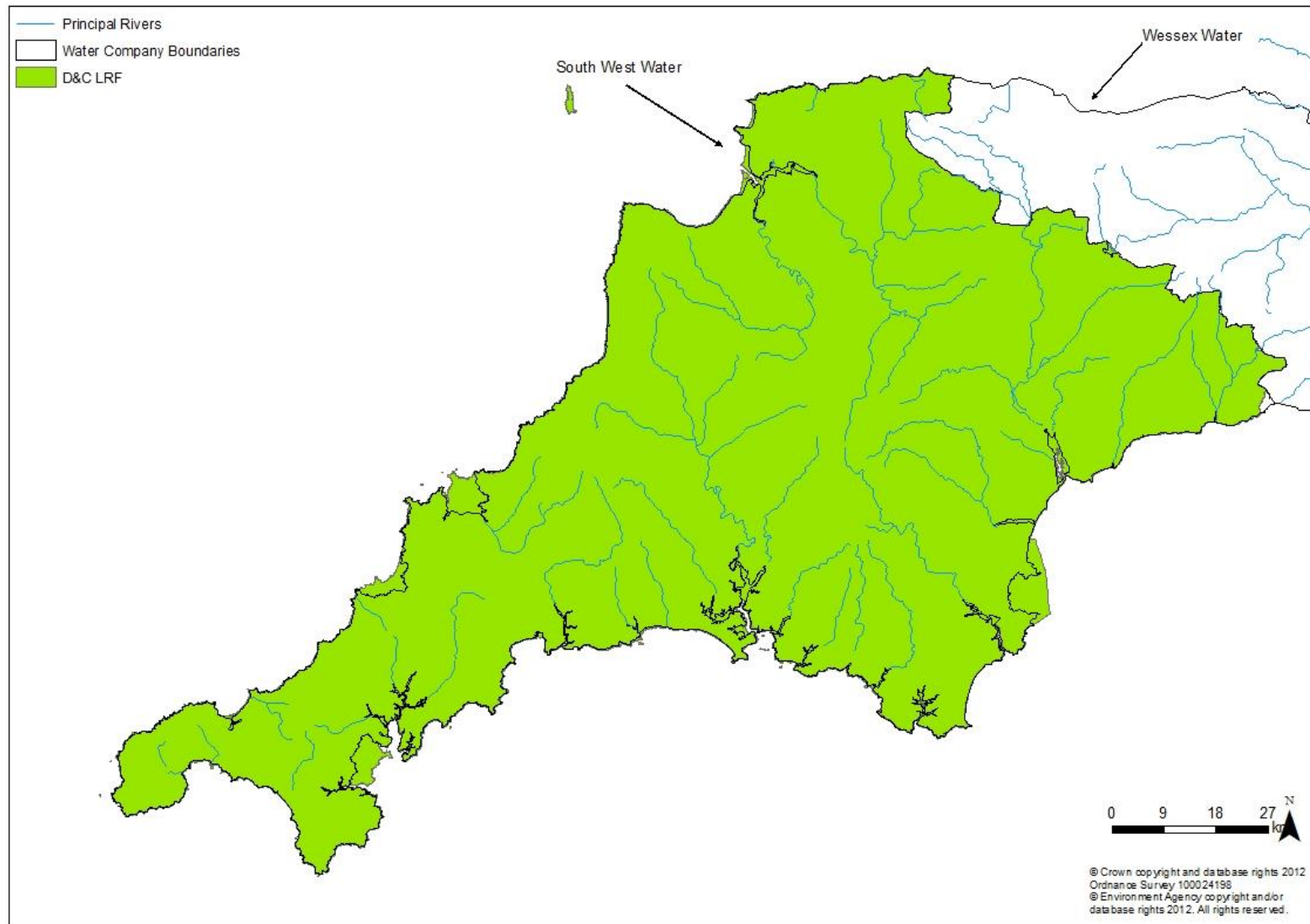
Map 4 - Devon & Cornwall area - Groundwater bodies



Map 5 - Devon & Cornwall area - river augmentation sites



Map 6 - Devon & Cornwall area - Local Resilience Forums



Appendix 2 - Drought Permits and Drought Orders

Water Company Drought Permits and Drought Orders

This section sets out the Areas approach to dealing with water company drought permit applications and responding to drought order applications. Operational instructions contain further guidance - see Links section.

SWW's current drought plan does not contain any drought permits/orders. However, this section has been retained in case permits/orders are reintroduced later in 2017.

Water Company Drought Permit Applications

The Environment Agency may receive, and then must determine, applications from water companies for drought permits. These can authorise abstraction from specified sources and can modify or suspend restrictions or obligations relating to existing abstractions.

Overall responsibility for the determination of a drought permit application will rest with the National Permitting Service.

The task of determination will involve a significant amount of liaison and consultation both within the Environment Agency and outside.

Liaison with the relevant members of the National River Basin Support Services (NRBMS) Team will be essential as they will be able to provide information and advice on:

- The extent to which the company's claimed needs are justified in the context of their own water resource & drought plans;
- Whether there are other alternatives;
- Whether they have made sufficient efforts to limit demand.

Other advice will be needed from;

- Water Resources Solicitor - legal advice on the appropriateness of the drought permit to the particular situation;
- Water Resources Finance - advice on cost recovery (After the determination of the application).

The NPS officer who is determining the application, with assistance and guidance from the Area Drought Team, will obtain this input on an as required basis.

The Area drought co-ordinator will be responsible for liaising with and informing other areas and national teams and groups about the drought permit application/determination.

The role of NPS, with support from area and national teams, will be to:

- Advise the water company on the scope of the supporting information and environmental report needed for the drought permit application;
- Advise on the statutory notification and publicity requirements;
- Consider all letters of representations to the application and decide whether a public hearing is needed.

A hearing need not be held:

- In cases of extreme urgency;
- Where an objection can be dealt with by payment of compensation from the water company;
- Where it relates to the extension of an existing drought permit for a further period and the objection was made in substance on the application for the original permit.

If a hearing is required, the Area Drought Co-ordinator will ask the Planning Inspectorate to run the hearing. The Area Drought Co-ordinator is responsible for making the domestic arrangements for a

hearing, such as booking the venue and catering, with the assistance of the Corporate Services Team. The hearing costs will be charged to the water company. This will be completed in line with the AMS guidance on Drought Permit/Order cost recovery:

- Produce the determination report;
- Prepare agreed schedules of monitoring and mitigation to be triggered if a drought permit is implemented;
- Advise the company on conditions and other matters that are expected to be included in the formal agreement/MOU/Section 20;
- Arrange for the drought permit and any accompanying agreement to be signed off under the non-financial scheme of delegation;
- Enforce conditions of the drought permit and any accompanying agreement.

The National Permitting Service will involve and consult various other teams during the determination of a drought permit. The application will be sent to these teams requesting comments within two days of receiving the application. These teams will include, but not be limited to:

- Integrated Environment Planning
- Hydrology (Hyd);
- Groundwater and Contaminated Land;
- National River Basin Management Services (NRBMS);
- Analysis & Reporting;
- Fisheries & Recreation
- Customer and Engagement
- Communications
- Waterways & Navigation

Additionally, the main points to note on drought permit applications are that:

- The water company must make early contact with the Environment Agency to agree that their proposal is acceptable to us in principle;
- It is the responsibility of the water company to demonstrate an exceptional shortage of rain as part of a drought permit application;
- The water company has to demonstrate that reasonable measures have already been taken to reduce demand;
- The water company needs to ensure that they obtain the consent of every relevant navigation authority operating in areas that would be affected by the drought permit. If the navigation authority does not give consent we cannot issue a permit and the water company will need to apply directly to Defra for a drought order;
- Before submitting an application for a drought permit the water company must serve notice on the specified bodies and undertake advertising;
- Applications should be submitted on form WR-80 and include written consent from the navigation authority that they do not object to these proposals.

Water Company Drought Orders

Water companies may apply for either ordinary drought orders or emergency drought orders. Either can go further than drought permits and can deal with discharges of water, abstractions and discharges by other people, supply, filtration and treatment obligations. They can allow the company to prohibit or limit particular uses of water and can authorise the carrying out of works. Emergency drought orders, used where the deficiency of water supplies is likely to impair the economic or social well being of people, can give the water company complete discretion on which uses of water may be prohibited or limited and can authorise the use of stand-pipes or water tanks.

Application for drought orders must be made to the Secretary of State. In the case of an application from a water company, the Environment Agency's role is one of consultee and provider, to the Secretary of State, of technical evidence as to the appropriate course to take.

It is expected that there will be significant discussion between the Environment Agency and the relevant water company ahead of the submission of any application to the Secretary of State. Once the notice is published, the Environment Agency is expected to make a formal response to the Secretary of State (copied to the water company) which will make clear the extent to which the Environment Agency supports or objects to the application.

Any response to a drought order application will be signed off by the Area Manager, although both the NRBMS and Area drought teams have a role to play in determining what the response should be.

The Area Drought Co-ordinator will take the lead in this process but will liaise closely with the Area Drought Team through to obtain information/advice on any local environmental issues to which the proposals, if approved, will give rise and agree the text of the response. The Area Team will make provision for any necessary monitoring and enforcement activities which may be made necessary by the application and or subsequent grant of the order.

There will also be a need to maintain a liaison with / provide information to:

- Head Office Drought Team
- Secretary of State through appropriate contact at Defra.
- Area Communications team in respect of media responses
- The relevant water company
- Other teams, dependant on the specific nature of the application

The Area Drought Co-ordinator will be responsible for maintaining, and acting as a focus for these liaisons.

South West Water drought permit proposals (from previous drought plan)	
Site	Benefit
Wimbleball Reservoir (14/45/02/2021) – abstraction of compensation	9.1 MI/d
Stoke Canon & Brampford Speke – pipeline	4.55 + 3.45 MI/d
Coleford & Knowle boreholes – emergency abstraction	1.2 MI/d
Uton borehole – emergency abstraction	0.8 MI/d
Colliford Reservoir (18/S/35) – abstraction of compensation	5.7 MI/d
Colliford Reservoir (18/S/35) – increased annual abstraction	10% of annual licence
River Fowey at Restormel (18/S/40) – increased annual abstraction	10% of annual licence
Leswidden Pool – emergency abstraction	5.46 MI/d
Hawkstor Pit – emergency abstraction	20 MI/d
Disused mines, adits etc – emergency abstraction	tbc
Park Pit (18/S/118) – emergency abstraction	20 MI/d
Stannon Pit (tbc) – emergency abstraction	20 MI/d
Porth Reservoir (272/S/9) – emergency abstraction	8.19 MI/d

Drift Reservoir (24/S/31) – compensation reduction	0.69 MI/d
Stithians Reservoir (22/S/23) – compensation reduction	1.365 MI/d
Crowdy Reservoir (281/S/23) – compensation reduction	0.68 MI/d
Witheybrook Stream (141/S/26) – prescribed flow reduction	0.013 MI/d
River Cober (232/S/14) – prescribed flow reduction	0.0395 MI/d
Roadford Reservoir (52/S/6) – abstraction of compensation	9.0 MI/d
Red Lake & Left Lake – pipeline	9.1 MI/d
River Lyd & River Thrushel – emergency abstraction	60 MI/d (subject to conds)
River Torridge at Torrington – emergency abstraction	10 MI/d
Rydon Springs – emergency abstraction	tbc
Exe-Taw abstraction – emergency abstraction	18 MI/d
Meldon Reservoir (07/0167) – compensation reduction	3.85 MI/d
Upper Tamar Lake (8/S/2) – compensation reduction	1.383 MI/d
Avon Reservoir (05/0114) – compensation reduction	2.937 MI/d
Fernworthy Reservoir (03/0614) – compensation reduction	2.851 MI/d
Venford Reservoir (04/0652) – compensation reduction	0.907 MI/d
Upper Tamar Lake (8/S/2) – annual abstraction increase	tbc
Wistlandpound Reservoir (08/0695) – annual abstraction increase	tbc
Bala Brook (05/0115) – emergency abstraction	2.273 MI/d
Desalination – new works	tbc

Environment Agency Drought Order Applications

This section of the plan sets out the Areas approach to making applications for environmental drought orders.

Abstraction licence conditions are set to protect the environment during a drought. We can apply for an environmental drought order only if the environment is suffering serious damage as the result of abstraction during a drought. We do not expect this to happen so we cannot predict the location of environmental drought orders in advance. We will apply for environmental drought orders if they prove necessary.

The Environment Agency may apply for ordinary drought orders, emergency drought orders or environmental drought orders. These can be for the benefit of a third party (ordinary) or the environment (environmental).

Application for drought orders must be made to the Secretary of State. In the case of an application for an ordinary drought order to benefit a third party we would expect significant input to the process from that party. Environmental Drought Orders can permit such things as the variation of an Environment Agency licence for river augmentation or prevention of compensation releases, which might prejudice water quality.

The Area Manager will sign off an Environment Agency application to the Secretary of State for a drought order, although the Area Drought Teams have a role to play in drafting the application. As a result the Area drought co-ordinator will co-ordinate the preparation of a drought order application.

The Area Drought Team will provide information and advice on the local environmental issues, which give rise to the need to make the application. The Area Team will make provision for any monitoring activities which may be made necessary by the application and or subsequent grant of the order.

The Area Drought Co-ordinator will take the lead in this process but will liaise closely with, and obtain information from the Area Drought Team on the local environmental issues which give rise to the need to make the application. The Area Team will make provision for any necessary monitoring activities which may be made necessary by the application and or subsequent grant of the order.

There will also be a need to maintain a liaison with /provide information to:

- Head Office Drought Team
- Secretary of State through appropriate contact at Defra.
- Area Communications team in respect of media responses
- The relevant water company
- Other teams, dependant on the specific nature of the application

The Area Drought Co-ordinator will be responsible for maintaining, and acting as a focus for these liaisons.

Appendix 3 - Private Water Supply note

Advice for alternative sources of domestic supplies

During periods of very low rainfall groundwater levels can become exceptionally low. This may affect private water supplies.

Groundwater levels are fed by rainfall. Usually groundwater levels increase during winter and reduce through the summer. It can take some time for groundwater levels to increase in response to rain as water has to wet up the soil and then travel through the ground and into the spaces between rocks further underground. When there is a lack of rainfall over a long period groundwater levels can become exceptionally low and there may be impacts on private water supplies such as spring sources drying up or pumps running dry.

A private domestic water supply is any water supply which is not provided by a licensed water company that is for drinking, cooking, food preparation and washing. Most private supplies are situated in the more remote, rural parts of the country. The source of the supply may be a well, borehole, spring, stream, river, lake or pond. The supply may serve just one property or several properties through a network of pipes.

Actions you can take:

- Regularly monitor the water levels in your well or borehole or check spring flows.
- Take water at a steady rate and at as low a rate as possible.
- Ensure your pump is positioned below the water level. Your pump can be damaged if it is trying to pump in a dry well or borehole and can be costly to replace. Consider lowering your pump if possible.
- Be aware that as water levels lower water may be drawn into the well or borehole from greater distances, this may affect your drinking water quality. If you have concerns contact your local authority.
- Consider deepening your well or borehole to reduce the chances of it drying up. Should you undertake this option or construct a new bore hole, it is advisable to protect your borehole from contamination at the time. Details of the Well Drillers Association website and guidance can be found in the useful contacts section of this leaflet.
- Use water efficiently, for example take showers instead of baths, turn taps off when brushing teeth, wash your car with a bucket not a hose, re-use bath water. Please see our website for more water saving ideas.
- Find out if there is a history of your source drying out in earlier droughts such as 1976, 1990-92, 1995-6, 2005-6 and 2011-12 and what happened then. This can help you understand how likely it is, and what actions have worked or been tried in the past.

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Alternative supply:

- If water levels are very low take action to seek an alternative supply of water. Speak to neighbours to find out if they can supply you should your source of water dry up. If you use this option you should ensure that containers used to transfer water are cleaned and disinfected to

prevent contamination. Guidance can be found on the prevention of contamination on the [DWI](#) website.

- Find out if there is a mains supply nearby that you could connect to for a backup water supply. Contact your water company or local council.
- The Drinking Water Inspectorate has further information about regulations surrounding alternative water supply in an emergency. The Local Authority may be able to require water companies to assist where water supplies fail in domestic supplies under certain conditions

Appendix 4 - Drought Activity Matrix

Role Activity	Area Manager	Area Drought Lead (ADL)	Area Duty Manager (ADM)	Area Drought Co-ordinator (ADC)	Area Drought Team (ADT)	Hydrology Team / GWCL	Integrated Environment Planning Team	Analysis & Reporting Teams
Update plan annually		Ensure plan is reviewed annually		Review and if necessary, update the area drought plan, including ADT membership - feed in to annual LRF risk assessment (January)	Input to review of drought plan / annual LRF risk assessment (January)			
Area Drought Team meetings		Chair meetings (under normal conditions)	Chair meetings (under developing or drought conditions)	Arrange ADT meetings and monitor actions. Arrange annually in normal conditions and fortnightly	Attend meetings			

Media appearances or enquiries should be routed via either local Customer and Engagement Comms specialists or the National Corporate Affairs Operational Comms, depending on the scale and sensitivity of the appearance/enquiry.

				during a drought				
Logs – (risk, issues, lessons learnt, decisions and actions & telephone call logs				Create , review and maintain logs	Update logs			
HELP Reports			Inform National Drought Team when HELP report is required	Inform National Drought Team when HELP report is required and create HELP report	Inform National Drought Team when HELP report is required			
Resources		Monitor and assess resource requirements during a drought and consult AMT when necessary		Monitor and assess resource requirements during a drought	Monitor and assess resource requirements during a drought			
Hydrometric monitoring			Review reports during a prolonged dry weather or drought	Review reports and liaise with Area Hyd Team	Review reports during a prolonged dry weather or drought	Carry out routine monitoring and reporting in normal conditions,	Monitor and report abstraction licence	

						increase monitoring and reporting frequency as necessary during a prolonged dry weather / drought and monitor drought triggers	cessation restrictions	
Ecological monitoring			Review reports during a prolonged dry weather or drought	Review reports and liaise with Area Analysis & Reporting and Fisheries Teams	Review reports during a prolonged dry weather or drought			Carry out routine monitoring and reporting in normal conditions, increase monitoring and reporting frequency as necessary during a potential drought/drought and monitor drought triggers
Weekly situation report			Receive & distribute Head Office report.	Receive & distribute Head Office report. Collate Area input and forward to National	Provide input	Provide input	Provide input	Provide input

				drought co-ordinator				
Drought status			Approval to change drought status	Convene Area Drought Team meeting to review drought status	Review drought status	Advise Drought Co-ordinator when drought triggers reached /return to normal conditions		Advise Drought Co-ordinator when drought triggers reached /return to normal conditions
Liaison with water companies			Attend meetings	Attend meetings		Advise ADC when restriction triggers are reached	Attend meetings	
Liaison with farmers groups			Attend meetings	Attend meetings			Attend meetings	
Water company drought permit application	Delegated sign off powers for Permit		Ensure timely determination of application	Co-ordinate Area Drought Team , input	Provide input	Provide input	Provide input	
Water company drought order application			Ensure timely provision of Area input. Agree text of Environment	Co-ordinate provision of Area input and liaise with National	Provide input	Provide input	Provide input	

			Agency response	drought co-ordinator over text of Environment Agency response				
Environment Agency drought order application			Ensure timely provision of Area input. Agree text of Environment Agency response	Co-ordinate provision of Area input and liaise with National drought co-ordinator over text of application	Provide input	Provide input	Provide input	
Media appearances			Primary Contact- Empowered to deal direct (Area issues)	Secondary Contact - Empowered to deal direct (Area issues)				
Media enquiries			Primary Contact- Empowered to deal direct (Area issues)	Secondary Contact - Empowered to deal direct (Area issues))				

Other line management responsibilities are detailed in job descriptions. Appropriate delegated powers are given in the Non-Financial Scheme of Delegation.

TEMPLATE: DROUGHT RISK LOG

DROUGHT RISK LOG								
Drought Manager:			(Insert Name and Position)		Area:		(Insert Name)	
Drought Team:			(Insert Names and Positions)		Period Covered in Log:		(Insert approximate dates)	
<i>Risk No.</i>	<i>Raised by</i>	Date Raised	Description	Likelihood <i>(High, Medium, Low)</i>	Impact (High, Medium, Low)	<i>Action</i>	Owner	Date Last Updated

TEMPLATE: DROUGHT LESSONS LEARNT LOG

DROUGHT LESSONS LEARNT LOG			
Drought Manager:		(Insert Name and Position)	Area: (Insert Name)
Drought Team:		(Insert Names and Positions)	Period Covered in Log: (Insert approximate dates)
Aspect	Date of Activity	What Went Well Or What Could Have Been Done Better?	Lesson Learnt
1.0 [Heading e.g. Communication within the Agency]			
1.1			
1.2			
1.3			
2.0 [Heading e.g. Communication with stakeholders]			
2.1			
3.0 [Heading e.g. Press Activity]			
3.1			
4.0 [Heading e.g. Environmental Monitoring]			
4.1			
4.2			
4.3			
4.4			

Appendix 6 - Monitoring

2.1 Environment Agency hydrometry sites in Devon & Cornwall

River Flow (15 min monitoring frequency / H&T responsible for monitoring)

Site Name	Site Location	Previous Monitoring (records began in)	Map Reference
St Erth	Hayle, SW5434	1968	1
Truro	Kenwyn, SW8145	1968	2
Gwills	Gannel, SW8259	1969	3
Denby	Camel, SX0168	1964	4
Restormel	Fowey, SX0962	1961	5
Gunnislake	Tamar, SX4272	1956	6
Bellever	East Dart, SX6577	1964	7
Austins Bridge	Dart, SX7565	1958	8
Torrington	Torridge, SS4918	1960	9
Umberleigh	Taw, SS6023	1958	10
Thorverton	Exe, SS9301	1956	11
Dotton	Otter, SY0888	1962	12
Whitford	Axe, SY2695	1964	13

Reason for site selections:

Long record.

Good site for comparing current flows with long term data.

Representative of the catchment.

Not drought specific sites but used in the Water Situation Report and the Hydrology Drought Report.

Groundwater (15 min monitoring frequency / H&T responsible for monitoring)

Site Name	Site Location	Previous Monitoring (records began in)	Map Reference
Bussels No 7a	SX9598	1971	14
Woodleys No 1	SY0891	1966	15
Burrow	SY0789	1969	16

Reason for site selections:

Long record.

Good site for comparing current data with long term data.

Not drought specific sites but used in the Water Situation Report.

Reservoir Storage (weekly monitoring frequency / SWW responsible for monitoring)

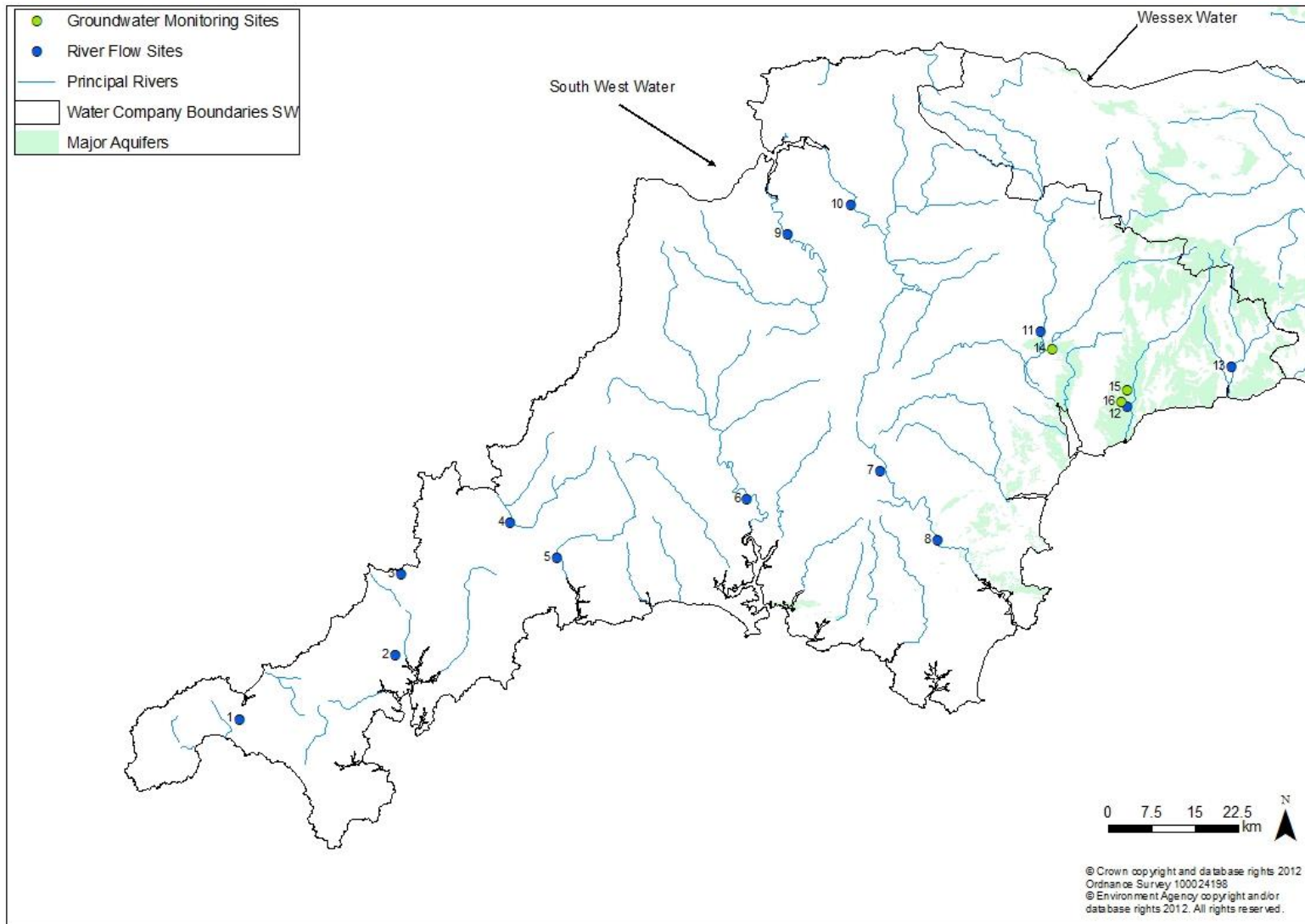
Site Name	Previous Monitoring (records began in)
Wimbleball	1978
Colliford	1983
Roadford	1989
Stithians	1983
Siblyback	1979
Burrator	1978
Fernworthy	1984
KTT	1983
Meldon	1976

Reason for site selections:

Main public water supply reservoirs in Devon and Cornwall.

Not drought specific sites but used in the Water Situation Report.

Devon & Cornwall area - River Flow & Groundwater Monitoring Sites

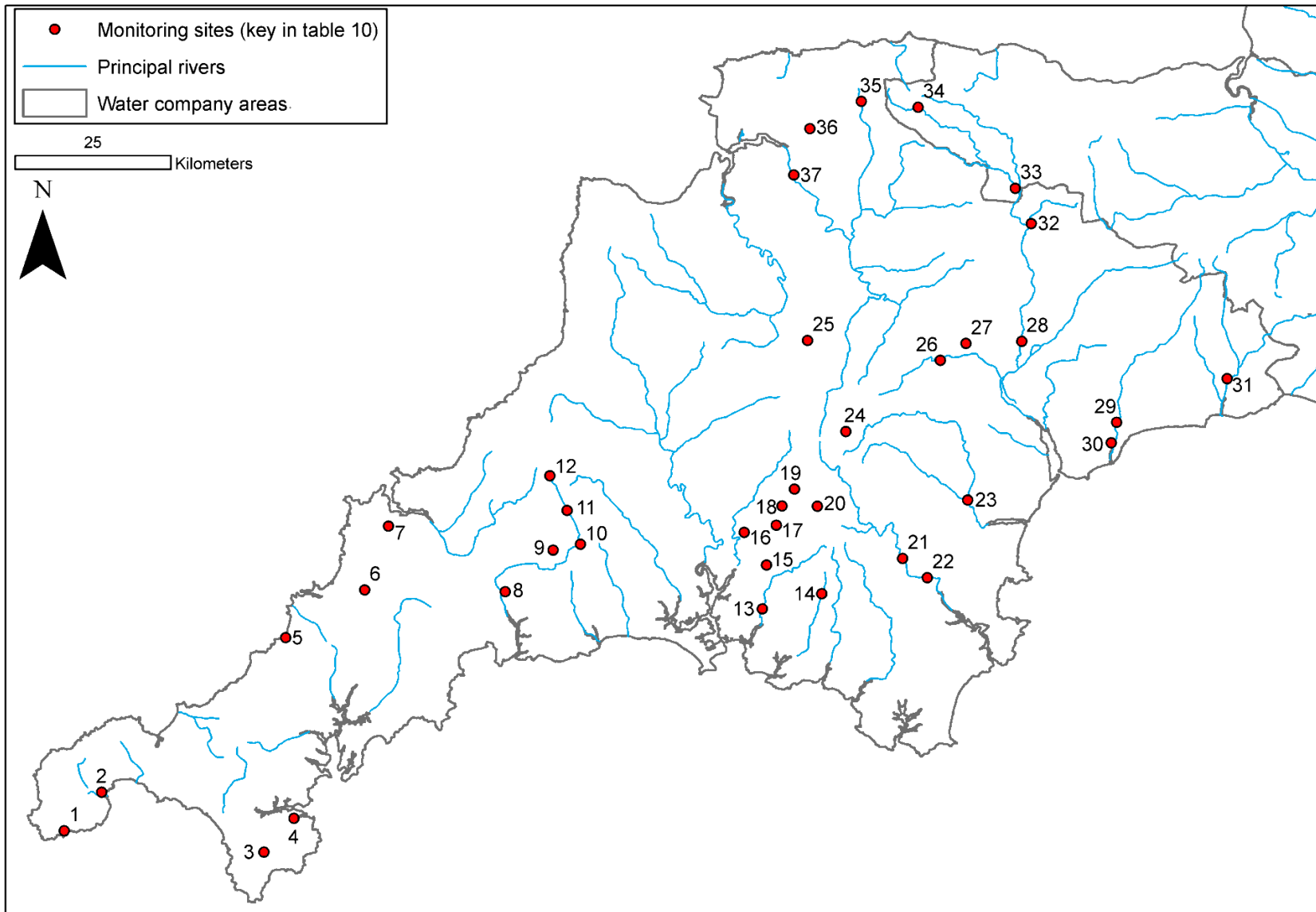


2.2 Environment Agency ecological monitoring sites in Devon & Cornwall

Site Name	Description	Site Location	Site ID	Map Reference
Penberth	Penberth Stream	10841	SW4008022950	1
Newlyn Bridge	Newlyn River	10903	SW4609029140	2
Goonhilly Downs	Poltesco Stream	151202	SW7210019500	3
Above Gillan Creek	Manaccan Stream	88801	SW7689024930	4
Pleasure Gardens, Perranporth	Perranporth Stream	10868	SW7555053960	5
Tregoose Ford Bridge	Porth Stream	10053	SW8825061620	6
Little Petherick	Issey Brook	88218	SW9205071860	7
Restormel	River Fowey	10714	SX1076061320	8
St Neot	St Neot River	10690	SX1842067990	9
Draynes Bridge	River Fowey	10708	SX2281068980	10
Harrowbridge	River Fowey	10709	SX2066074400	11
Leskernick	River Fowey	151094	SX1790079960	12
Plym Bridge	River Plym	10817	SX5196058600	13
Wisdom Mill	River Yealm	10808	SX6151061020	14
Hoo Meavy	River Meavy	10816	SX5265065630	15
Grenofen Bridge	River Walkham	10752	SX4906070890	16
Ward Bridge	River Walkham	10775	SX5422072020	17
Merrivale Bridge	River Walkham	10753	SX5510075120	18
Greenaball	River Walkham	151095	SX5710077800	19
West Dart River	West Dart River	9272	SX6080075050	20

Dart	Dart	9493	SX7445066680	21
Dart	Dart	9262	SX7840063600	22
Teign	Teign	9485	SX8487076050	23
North Teign River	North Teign River	85868	SX6535087070	24
Okement	Okement	9733	SS5920001690	25
Yeo (Creedy)	Yeo (Creedy)	9539	SX8051098490	26
Creedy	Creedy	9764	SS8461001190	27
Exe	Exe	9533	SS9353001550	28
Otter	Otter	9317	SY0873088530	29
Otter	Otter	9318	SY0790085240	30
Axe (Devon)	Axe (Devon)	7633	SY2645095550	31
Exe	Exe	9553	SS9510020450	32
Barle	Barle	9523	SS9251026140	33
Barle	Barle	9521	SS7695039150	34
Bray	Bray	9436	SS67854007	35
Yeo (Barnstaple)	Yeo (Barnstaple)	9705	SS5958035700	36
Taw	Taw	9680	SS5700028250	37

Devon & Cornwall area - Ecological Monitoring Sites



Appendix 7 - Water Company Data

South West Water groundwater and surface water abstractions (daily data received monthly)	
Site	Licence number
Aller Springs	14/45/002/0083
Argal and College Reservoirs	15/48/231/S/014
Avon Reservoir	14/46/005/0114
Bala Brook Intake	14/46/005/0115
Boswyn Shaft	15/49/026/G/189
Boswyn Stream	15/49/026/S/057
Bovey Lane Boreholes Nos 1 and 2	14/45/000/0679
Brampford Speke Borehole	14/45/002/1825
Brockenburrow Stream Intake	14/50/008/0696
Burrator Reservoir	15/47/002/S/031
Cargenwyn Reservoir Stream and Springs	15/49/026/5/035
Carwynnen Stream (U/S of Botetoe Bridge)	15/490/26/S/045
Clannaborough Adit	14/50/008/0537
Colaton Raleigh Boreholes Nos. 2 & 4	14/45/001/0478
Coleford Borehole	14/45/002/2314
Colliford Lake	15/48/018/S/035
Copper Hill Adit	15/49/026/G/189
Boswyn Shaft and Copper Hill Adit	15/49/026/G/189
Crowdy reservoir	15/49/281/S/023
De Lank River	15/49/283/S/003
Devonport Leat (Dousland Intake)	15/47/002/S/032
Dotton Boreholes Nos. 1, 2 (Old and New), 3 & 7	14/45/001/0519
Dotton Boreholes Nos. 4 & 5	14/45/001/0520
Dotton Boreholes Nos. 1	14/45/001/0519

Dotton Boreholes Nos. 2 (Old)	14/45/001/0519
Dotton Boreholes Nos. 2 (New)	14/45/001/0519
Dotton Boreholes Nos. 3	14/45/001/0519
Dotton Boreholes Nos. 7	14/45/001/0519
Dotton Boreholes Nos. 4	14/45/001/0520
Dotton Boreholes Nos. 5	14/45/001/0520
Drift Reservoir	15/48/024/S/031
Duckaller Borehole	14/45/002/2139
Duckaller Compensation Borehole	14/45/002/2139
Fernworthy Reservoir	14/46/003/0614
Gammaton Reservoir	14/50/007/0135
Greatwell Borehole No. 4B (Old and New)	Old: 14/45/001/0414 New: SW/045/0001/008
Greatwell Borehole No. 5	14/45/001/0505
Greatwell Boreholes Nos. 1, 2 & 3	14/45/001/0426
Harpford Boreholes Nos. 5, 6, 7, 8 & 9P	14/45/001/0518
Harpford Boreholes Nos. 6	14/45/001/0518
Harpford Boreholes Nos. 7	14/45/001/0518
Harpford Boreholes Nos. 8	14/45/001/0518
Harpford Boreholes Nos. 9P	14/45/001/0518
Hook and Cotley Springs, Chardstock	14/45/000/0676
Kennick, Tottiford and Trenchford Reservoirs	14/46/003/0615
Kersbrook Well, Tidwell Well Borehole No 1A	14/45/001/0425
Knowle Borehole	14/45/002/2332
Littlehempston Boreholes and Radial Collectors, Totnes	14/46/004/0572
Melbury Reservoir	14/50/007/0141
Otterton Borehole No. 1A & 4	Old: 14/45/001/0588 New: SW/045/0001/006
Otterton Borehole No. 1A	Old: 14/45/001/0588 New: SW/045/0001/006
Otterton Borehole No. 4	Old: 14/45/001/0588 New: SW/045/0001/006

Park Lake	15/48/018/G/118
Pinhay Springs	14/45/000/0790
Pynes Leat	14/45/002/2101
River Bray (Leehamford)	14/50/008/0694
River Cober (Wendron Intake)	15/48/232/S/014
River Dart	14/46/004/0586
River Erme, Red Lake and Left Lake	14/46/006/0074
River Exe (Amenity Leat)	14/45/002/1923
River Exe (Bolham Pump House)	14/45/002/2336
River Exe (North Bridge Intake)	14/45/002/1861
River Exe (North Bridge Intake)	14/45/002/2019
River Exe Wimbleball Pumped Storage	14/45/002/2388
River Fowey (Restormel WTW Intake)	15/48/018/S/040
River Fowey (Trekeivesteps Intake)	15/48/018/S/032
River Kennal (Kennal Vale)	15/48/022/S/029
River Meavy (Stanlake Intake)	15/47/002/S/033
River Porth (Rialton Intake)	15/49/272/S/009
River Tamar at Gunnislake	15/47/013/S/020
River Tavy at Abbey weir / Morwellham P Stn	15/47/041/S/026
River Tavy at Lopwell	15/47/041/S/039
River Tavy at Tavy Cleave and Hill Bridge / Mary Tavy P Stn	15/47/041/S/027
River Yealm/Broadall Lake/Ford Brook/ Dendles Wood	15/47/001/S/025
River Yeo (Loxhore)	14/50/008/0536
Roadford Reservoir	15/47/052/S/006
Siblyback Reservoir	15/48/018/S/034
Squabmoor Reservoirs and Yettington Intakes	14/45/001/0422
Stannon Lake	SW/049/0281/001
Stithians Total (to River Cober + to works)	15/48/022/S/023
Stithians Reservoir to River Cober	15/48/022/S/023
Stithians to works	15/48/022/S/023
Stoke Canon Borehole	14/45/002/1863
Swincombe River Intake	14/46/004/0651
Trewollack Shaft	15/49/272/G/050
Un-named Stream (Thorns Intake), Kenton	14/45/002/1921
Upper and Lower Slade Reservoirs	14/51/009/0057
Upper Tamar Lake	15/47/008/S/002
Uton Borehole, Crediton	14/45/002/1894
Venford Reservoir (gross)	14/46/004/0652

Vennbridge Borehole (supply)	14/45/002/2301
Vennbridge Borehole (compensation)	14/45/002/2301
West Dart River, Cowsic River, Blackbrook and general drainage to the Devonport Leat (Nunscross)	14/46/004/0558
West Ilkerton River	14/51/009/0056
West Okement River and Meldon Reservoir	14/50/007/0167
Meldon Reservoir	14/50/007/0167
West Okement River	14/50/007/0167
Wilmington Springs	14/45/000/0669
Wistlandpound Reservoir	14/50/008/0695
Withey Brook (Bastreet Intake)	15/47/141/S/026
Restormel to Colliford PS	15/48/018/S/040 - a

South West Water reservoirs	Type of data received
Colliford	Net storage (MI); % full; change in storage from previous week; control curves
Stithians	
Siblyback	
Park Lake	
Argal	
Drift	
Crowdy	
Stannon Lake	
College	
Roadford	
Burrator	
Meldon	
Kennick, Tottiford, Trenchford (KTT)	
Fernworthy	
Wistlandpound	
Upper Tamar Lake	
Avon	
Venford	
Wimbleball	

Note - In South West Water's draft Drought Plan (2011) for reference, a number of 'environmental monitoring reports' were included for various sites in the area. These may provide a useful source of intelligence during future drought episodes. The NRBMS WC lead will be able to provide on request.

Appendix 8 - Drought Decision Making Table

DROUGHT DECISION MAKING TABLE			
Evidence		Summary of drought team comments	
		Normal	Outside Normal
Hydrology & Hydrogeology	<p>Rainfall:</p> <p>Monthly rainfall vs long term average (LTA)</p> <p>Cumulative rainfall 3, 6, 9 and 12 month totals:</p> <p>Significantly low relative to LTA</p> <p>Comparison with previous droughts, appropriate cumulative rainfall comparable with previous droughts</p>		
	<p>Flow:</p> <p>Monthly mean flows probability rankings</p> <p>Daily mean flows probability rankings</p> <p>Flow duration curve rivers equal to or less than Q95 (if appropriate for the time of year)</p>		
	<p>Soil moisture deficit:</p> <p>Comparison to historical maximums</p>		

	<p>Groundwater:</p> <p>Groundwater levels probability rankings</p> <p>Groundwater level master recession curves</p>		
	<p>Reservoirs:</p> <p>Current storage compared to previous drought years</p> <p>Current storage compared to control curves</p>		
Environment	<p>Low flow related issues:</p> <p>Water quality problems (e.g. exceedence of WFD chemical standards)</p> <p>Impacts on fish migration</p> <p>Fish mortality</p> <p>Significant impact of reduced water availability on lotic & lentic habitats (e.g. reduction in ecological status)</p> <p>Significant impact of reduced water availability on wetland habitats (e.g. reduction in flora and fauna dependent on an aquatic/wetland environment)</p> <p>Significant impact on the flora and fauna of riparian zones & other water dependent terrestrial zones</p> <p>Drought related incidents on National Incident Recording System (NIRS)</p>		

Public Water Supply	Reservoir storage – summer drawdown/winter refill Groundwater sources – Aquifer storage (level) or rate of progress on winter recharge sufficient to meet summer demand and stream support. Media / customer messages		
Private water supply	Reports of private water supply issues		
EA operational actions	Cease/restrict letters sent to abstractors with flow related conditions Advice letters to fishery owners, other river users. Drought status in neighbouring Wessex area / nationally		
Public interest	Newspapers, TV, radio Correspondence received about low flows		
	DROUGHT TEAM CONCLUSION ON STATUS		

This table is a reminder and a means of recording which factors were looked at when a change of status was being considered. Information from the table will be used to produce a briefing note to Area Leadership Team / National Drought Team (via Incident Management route) on the drought team's recommendations to change status.

The table shows the factors that may be used when a change of status is being discussed. The only factor that must be considered for each change of status is rainfall. Any of the remaining factors may/not be relevant in deciding on a change of drought status.

Appendix 9 - Devon and Cornwall Area Drought Communications Plan

Plan owner: Area Drought Lead (Integrated Environment Planning)

Communications lead: Ops Communications Team Leader

Circulation: Internal (Drought Plan is operational document) but is shared with key stakeholders

Situation and background

Many people believe that we have more than enough water in the Devon & Cornwall to meet our needs. This is generally true but water is not always available at the right times or in the right places to meet our needs now, and the challenges presented by population growth / climate change in the future. The area also experiences peak demands in the summer month due to the influx of tourists.

Low rainfall over a prolonged period, especially in winter, can mean that normal replenishment of groundwater supplies and reservoir stocks may not occur, reducing the supplies available for summer months. Low groundwater levels can also impact significantly on environmental features such as rivers and wetlands. Due to South West Water having a resilient supply (a number of large reservoirs with good connectivity), a more common dry weather scenario for the area is environmental impact without impact to public water supply. We should also expect reports of stressed shallow private supplies to be one of the first indicators.

Whilst managing water resources, we have a duty to conserve and enhance the environment, and properly provide for the needs of abstractors.

Through the issue and regulation of abstraction licences, we aim maintain the right balance to protect and provide for the needs of both the environment and abstractors. During times of drought we have powers to place restrictions on some licences, grant further permissions (Drought Permits). We can also make application for our own, and comment on applications by water companies, for Drought Orders if circumstances require tighter management of water resources.

Communications

Communications need to be carefully managed and timed to ensure that our role is promoted and understood. We must ensure that we gain maximum impact and action at the right time by encouraging water efficiency awareness among public and private supply consumers, industry, business, farmers and other groups. We must present clear unambiguous messaging at all times - ensuring unified front with other vital stakeholders - e.g. South West Water, neighbouring Wessex area and Wessex Water. We must also communicate by leading by example - increasing our water efficiency measures.

Roles & Responsibilities

Water companies are responsible for maintaining supply to meet the needs of customers, while protecting the environment. They have a legal obligation to promote water efficiency and to encourage the adoption of appropriate measures by their customers.

We are responsible for safeguarding water resources in the Devon and Cornwall area and protecting the environment. We have a role in making sure that water companies can secure public water supplies, but must also ensure that they cause no unacceptable environmental damage. Other water users (agriculture and industry) make use of raw water directly from rivers or groundwater and we have a duty to ensure that they too avoid causing environmental damage. We must ensure that water is used efficiently by water companies and other users. We plan and manage how much water is taken from rivers and underground through a system of licences.

Where drought related activity crosses our boundary we will work closely with neighbouring Wessex area, supported by the National River Basin Support team, to ensure a co-ordinated and consistent approach.

Key Messages (in line with national messages)

- Use water wisely - it's a limited and valuable natural resource. Visit www.gov.uk/environment for tips on how you can save water at home or work.
- The Environment Agency is the independent authority working with water companies to make sure they have effective plans in place to maintain public water supply during a drought without damaging the natural environment.
- Water is a finite resource. All the water we use is taken from streams, rivers or from water-bearing rocks below the ground, known as aquifers. If too much is taken our rivers and wetlands will be damaged, affecting plants and wildlife as well as river users like anglers, boaters and, ultimately, abstractors themselves.
- The Environment Agency plans and manages how much water is taken from rivers and the ground through a system of licences. Our aim is to make sure that enough water is available to everyone without damaging the environment, now or for future generations.
- Heavy rainfall can cause floods even when overall water resources are short. Gentle rain will normally be absorbed into the ground. However, in more intense storms the ground's capacity to absorb the water becomes overwhelmed and water will run off into rivers and streams. The drier and more compacted soils during a drought can cause greater water run-off resulting from less water being absorbed into the ground to replenish aquifers and more flowing into rivers and streams.
- Water is a precious resource and we can all do more to make sure we do not waste it. Turning off taps when brushing teeth, taking showers instead of baths, using a bucket to wash the car or a watering can in the garden instead of a hose can all help.

Key issues

- One of the key issues for us is balancing demand for a limited supply from various quarters, while being viewed publicly as arbitrators on behalf of the environment.
- The Environment Agency is limited in its powers and the position it can take in relation to some issues, like public water supply. Some communities and pressure groups can have an over-expectation of what we can achieve; for example anglers may have a perception that farmers and water companies have first call on limited water resources.
- The public is often not clear of the distinction between our role and that of the water companies. In all messages to the public, we will endeavour to clarify our role.

- The impact of drought on the water environment is highly visual to local communities, in particular when rivers run dry and there is a distressing impact (e.g. fish deaths) through low water levels. Although we cannot cover up these images, regular updates on the situation can help us to manage these messages and provide accurate updates to the media on the impact of the drought, before the media hears from someone else. It is recommended that regular updates are prepared and distributed.
- It is also important to be aware of, and work closely with other key players, who have their own concerns about the drought and its effects. These will include Water Companies, Farmers and Growers, Conservation Groups, Local Community groups and anglers.
- Area officers can identify specific local issues where communications and engagement support may be required. Data available from Drought Reports, detailing the impact of previous droughts, can provide an indication of the possible location and nature of future problems. These reports can be used to recommend action in advance of likely problems.

Positive action since the last drought

Positive action undertaken directly, or supported by the Environment Agency, can be built into briefing materials to support key messages and actions.

Key actions

More precise details of how, when, to whom and by whom these communications will be made are given in 'Key communication activities'

Agricultural Sector

- Timely issue of guidance such as 'Prospects for Drought' and early warnings of and communications about the need for restrictions
- Continue to keep customers and the media informed of the current situation, with the issue of press releases as necessary. The timing of releases should be co-ordinated with any personal notification to abstractors.
- Placement of articles in farming press; local NFU/CLA columns with endorsement/support from NFU/CLA, if appropriate; warning letters and notices of restrictions direct to licence holders
- Support liaison with farming groups as necessary
- Provide help and guidance, through the National Customer Contact Centre helpline (08708 506 506) or, where appropriate, through local arrangements.

Water Companies

Continue close liaison with South West Water (and neighbouring Wessex Water via NRBMS and Wessex ADC) at all levels to ensure that we receive and provide notification of action, incidents (e.g. scheduled or unscheduled interruptions to public supplies) and public/media statements issued (e.g. announcement of hosepipe ban). Also:

- Provide information on current situation;
- Obtain feedback on customer perceptions etc.;
- Planned shared strategies.

Local Communities

- Review the provision of literature and update existing resources as appropriate, to include background on the drought, outline our role and emphasise what individuals can do to protect the environment.
- Consider use of local radio phone ins and interviews to explain the role we have in managing water resources, what is a drought, what we can all do - and encourage personal responsibility
- Arrange local public meetings in hotspot areas
- Display posters in local libraries, tourist offices and schools giving key messages on the drought, our role and a National Customer Contact Centre number 08708 506506 for enquiries.
- Display material at local shows
- Provide help and guidance, through the National Customer Contact Centre helpline (08708 506 506) or, where appropriate, through local arrangements.
- Identify opportunities to show the positive action taken by us to minimise the impact of the drought, including photo opportunities where possible to combat the common drought photos of dried up river beds, e.g. fish rescues/restocking.
- Maintain a Drought Update on our website.

Conservation Groups

- Provide advice and support to conservation groups
- Place articles with conservation and wildlife magazines
- Establish a drought contact at Area level, through Drought Co-ordinators
- Revise literature on why certain rivers run dry, consider the provision for additional drought related literature

Anglers

- Provide practical advice to fishery owners about coping with low water levels
- Place articles in angling press with advice to fishing and pond owners
- Place articles in angling press about positive action taken to protect fish

Navigation

- Advise Marinas/Boating Clubs through established communications networks
- Use local Radio to provide updates.

Key communication activities

- **Direct mail**
Letters written to Local Authorities, licence holders, MP's and other key stakeholders as required
- **Media Relations**
National and area press releases are issued as well as providing effective spokespeople for media enquiries. A drought media log is maintained by the area Communications and Engagement Team.
- **Website**
Drought updates and plans are available on our website.

- **Internal communications**

Easinet briefing materials updated. Key messages communicated by spokespeople.

Cascade brief (monthly briefing to all staff)

Managers Need To Know

Email of water situation/ drought reports

Weekly Buzz (internal publication) features and articles

Area notice boards

The briefing zone

Presentations/literature/displays

Briefing packs

- **External Relations / Stakeholders**

- Committee papers, stakeholder briefings and correspondence.

- **Briefing materials**

Questions and answers available for spokespeople as well as key messages and briefing notes.

Corporate guidelines

Our corporate guidelines apply to all publications, exhibitions, signage and web site materials.

It is essential that the style of our communications is readable and not too technical to ensure that audiences will understand and take action.

Spokespeople:

It is important to respond to all requests, especially media requests, quickly and effectively. Area Environment Managers and drought team specialists have been identified as spokespeople to respond.

Monitoring and evaluation

- Media cuttings including key messages
- Feedback from staff regarding briefings
- Number of requests for publications and further information
- Hits on Environment Agency web pages
- Feedback from stakeholders

Comms tool	How do we use them
IM Toolbox	To share and store reports, briefings, drought plans and other incident materials. Once at prolonged dry weather, use guidance to set up folders in current incidents.
Reports and briefings	To regularly report on drought situation data and information into management teams and groups.
Lines to take and FAQs	A central library of: frequently used messages, key facts and lines to take to ensure consistency in facts and messages; for all drought teams and media spokespeople to use. The National Drought Team updates and stores these documents on the IM Toolbox .
Press releases and media interviews	To update the media and public with latest situation, prospects and calls for action. To also promote the actions we and others are taking to manage the situation. Documents should be stored on the appropriate section of the IM Toolbox.
GOV.UK	To promote the latest WR situation reports and drought status, our messages about saving water and any restrictions planned or in force on water use. National drought team manages our drought content and pages.
Social media (for example Twitter, Facebook, Flickr)	To promote changes in drought status, raise public awareness and invite the public to report and post images on related incidents. During drought, teams can store images on IM Toolbox and set up a drought FLICKR account. National and area comms teams manage Twitter and Facebook updates.

External Communications Actions for Devon & Cornwall Area Drought Team

Interested Parties	Information / Message	Owner of communication with interested party	When to contact	How frequently will information be provided?	What method of communication will be used?	Information Provider	Who will receive information
General Public	<p>Water saving messages to secure supplies and help the environment</p> <p>How to spot environmental stresses – e.g. ‘fish in distress’ etc</p>	Customers and Engagement Team and Operational Communications Team leads	<p>As Area moves to Prolonged dry weather or Drought status</p> <p>Ongoing throughout drought period</p>	As required	<p>Press releases</p> <p>Leaflets</p> <p>Posters</p> <p>Roadshows</p> <p>Partnership events</p> <p>May link in with drop-ins for other issues – e.g. flood schemes / EM issues etc</p> <p>Factsheets</p> <p>Newsletters</p>	National / Area Drought team	Public
MPs / MEPs	<p>To provide information about drought to enable them to answer questions from constituents</p> <p>Latest update on situation in their constituencies</p>	Area Manager and Customers and Engagement Team	<p>As the Area moves to Prolonged dry weather or drought status or future concerns identified</p> <p>Ongoing throughout drought and as any specific issues relating to their</p>	As required	Briefings via email, telephone or letter	<p>Area Drought Management team, Customers & Engagement Team</p> <p>Area Manager</p>	Local MPs & MEPs

	Information about forthcoming restrictions Information on partnership working		constituency are indentified – e.g. rivers running dry etc				
Defra	Update on latest situation	National drought team	As advised by National	Weekly	Drought report	Area Drought team	Defra
South West Water (Wessex Water - as neighbouring company will be communicated with via Wessex ADC)	Technical issues and plans for external communication (to ensure consistent messaging across organisations)	Area Drought Manager / Coordinator	When Area Drought Team start to plan for drought and thereafter as required	As required	Meetings to share and discuss information and technical issues	Area Drought Team	Communications team drought lead
Natural England	Update on situation and specific environmental impacts. Early	Area Drought Coordinator	As the Area moves to Prolonged dry weather	As necessary	Meetings and briefings	Area Drought Team	Natural England

	and ongoing consultation during a drought		or drought status. Ongoing as issues are identified				
NFU CLA	To ensure farmers and landowners are aware of the latest situation and can take action to protect their businesses and the environment Information about the latest situation and any restrictions etc that may be in force Share water efficiency measures	Area Drought Coordinator	As the area moves to Prolonged dry weather or drought status. As issues and concerns are identified	Ongoing as necessary	Meetings and briefings	Area Drought Team	Farmers Landowners
Abstractors (esp. those with conditions licence)	To encourage responsible use of water resources Provide information about latest situation, water	Area drought team/ Integrated Environment Planning	When restriction thresholds being approached.	As necessary	Letter / email	Area Drought Team	Abstractors (see area database)

	saving advice and any restrictions that may be put in place						
Angling clubs Fish farmers	To encourage responsible use of water resources and reduce impact on fish stocks Provide updates on water levels and quality. Give advice on how fish farm / pond owners can reduce impact of drought on fish stocks protection Ensure our role in drought management is understood and is distributed to members	Area Fisheries, Biodiversity and Geomorphology Teams	Areas move to Prolonged dry weather or drought status. As issues are identified.	Ongoing. As necessary	Letters, briefings, meetings, newsletters and emails	Area Drought Team	Angling clubs Fish farmers Anglers
Wildlife & conservation groups	To encourage partnership working to reduce impact of drought on	Area Drought Coordinator	As the Area moves to Prolonged dry weather or drought	As necessary	Letters, briefings, meetings, newsletters and emails	Area Drought Team	Wildlife & conservation groups

	wildlife and wider environment To provide updates on the latest situation and environmental requirements.		status. As issues are identified.				
Local Government / National Park Authorities	To encourage partnership working to manage the impact of drought. Update on situation. Re-warning of likely restrictions Ensure our role in drought management is understood - particularly in relation to private water supply	Area Drought Coordinator	Area moves to Prolonged dry weather or drought status. Future concerns identified.	As necessary	Letters, briefings, meetings, newsletters and emails	Drought Team	Local Government & National Park Authorities
Local media	To share messages with public to encourage responsible	Customers and Engagement Team and Operational Communications Team leads	As Area moves to Prolonged dry weather or drought	Ongoing as necessary When drought-related issues/actions	Press releases, key messages and direct approaches	Area Drought Team via Communications Team	Local media Public

	<p>use of water resources and ask for help identifying environmental stress</p> <p>Updates on drought and what is being done to manage it</p>		<p>status. As issues are identified</p> <p>In response to enquiries.</p>	<p>arise (e.g. fish rescues etc)</p> <p>In response to enquiries</p>			<p>via Communications Team</p>
<p>Consumer Council for Water (CCwater), SW region</p>	<p>To promote partnership approach to water resource management</p> <p>Update on situation</p> <p>Water saving messages</p> <p>Feedback from water users</p>	<p>Area Drought Co-ordinator</p>	<p>As Area moves to Prolonged dry weather or drought status.</p> <p>As issues are identified</p>	<p>As required</p>	<p>Letters, briefings, meetings, newsletters and emails</p>	<p>Area Drought team</p>	<p>CCwater SW region</p>
<p>Trade & industry Associations</p>	<p>To manage relationships with industry and encourage wise use of water resources</p> <p>Update on situation.</p> <p>To provide early 'heads-</p>	<p>Area Drought Coordinator</p>	<p>As Area moves to Prolonged dry weather or drought status.</p> <p>As issues are identified</p>	<p>As necessary</p>	<p>Letters, briefings, meetings, newsletters and emails</p>	<p>Area drought team</p>	<p>Trade Associations See Directory of British Associations Business owners</p>

	up' about likely restrictions						
Local Resilience Forums (LRFs)	Update on the situation. To assess the risk of drought and take steps to co-ordinate the emergency actions.	Incident Management Business Partner	As area moves to Prolonged dry weather	As necessary.	Letters, briefings, meetings, newsletters and emails	Area Drought Co-ordinator	List LRFs here...

Internal Communications Actions for Devon & Cornwall Area Drought Team

Interested Parties	Objective / Information Required	Owner of communication with interested party	When to contact	How frequently will information be provided?	What method of communication will be used?	Information Provider	Who will receive information
National drought team	To make sure they have the latest information about drought in Devon and Cornwall Area so that a consistent approach can be developed and maintained Provide updates on latest position and identify issues/risks	Area Drought Team	As required by National Drought Team	As required by National Drought Team	Rolling brief or as advised	Area Drought team and IEP	National drought Team

National press office	<p>To ensure a consistent approach to messages</p> <p>To manage public perception of drought and Environment Agency reputation</p> <p>Provide updates on current/developing situation.</p> <p>Give 'heads-up' of likely restrictions/developing issues</p>	Area Communications Team	As necessary	As required by National	<p>Press releases</p> <p>Key messages</p> <p>Lines to take</p>	Area drought team	National press team
Area Drought Team	Log all media interest, calls & press releases	Area Communications team	Ongoing	Electronically available & at Drought Team meetings	Updates	Area Communications team	Area drought Teams
Wessex Area drought teams	<p>To ensure a consistent and co-ordinated approach to monitoring and management of drought is taken</p> <p>Provide updates on latest situation</p> <p>Share key messages etc</p>	Area drought team	As necessary	Weekly	<p>Reports</p> <p>Telecons</p>	Area drought coordinators	Area drought teams (ADCs & NRBMS to co-ordinate)

ALT	To ensure managers are aware of latest situation and any potential issues or business risks	Area Drought Manager	As necessary	As soon as issues are identified or the situation changes	ALT Paper Face-to-face meetings with the area manager, cascade to other managers	Area drought co-ordinator	ALT
Customer & Engagement Team	To manage reputational issues and maintain transparent and timely engagement with stakeholders Information about current rainfall, flows and groundwater levels, demand, problem sources, restrictions and monitoring. Highlight key issues & risks	Drought team Customers and Engagement Team	When Area Drought Team start to plan for drought and thereafter as required Ongoing	Ongoing	Telecoms Attendance at drought team meetings	Area Drought Team	Customers and Engagement Team drought lead
National River Basin Management Service	Share information on implementation of water company measures. To help join up our messages to water companies.	Area Drought Co-ordinator	Regular communication at all stages of drought	As necessary	Phone calls Emails Via Drought technical team meetings and the virtual drought permit team (potentially one per permit)	Area drought co-ordinator and IEP	NRBMS – lead rep on Area drought team (ADCs & NRBMS to co-ordinate)
National Permitting Service (NPS)	To manage drought permit applications	Area Drought Co-ordinator	Once pre-application discussions commence	To be determined via the virtual	Phone calls Emails	Area drought co-ordinator and IEP	NPS - lead rep on Area drought team

	efficiently and within the required timescales		with water company	drought permit team	Via Drought technical team meetings and the virtual drought permit team		
Environment Agency staff	To ensure consistent messages are shared both internally and externally Updates	Area drought team / Area Communications Team	As Areas move to Prolonged dry weather or drought status. Future concerns identified	As necessary	Cascade Brief Easinet notice boards email Weekly Buzz	Area drought co-ordinators	Staff

Appendix 10 - Responding to fisheries emergencies

Purpose

This paper sets out the response to dealing with situations where fish are dying or at risk from adverse environmental conditions, whether natural or not.

We will always seek to protect the fish stocks and will respond to all incidents – the level of service may differ depending on ownership of the water and previous history, ranging from implementing an incident response ourselves to giving practical advice.

Dealing with fish kills

This paper sets out the response to dealing with situations where fish are dying or at risk from adverse environmental conditions, whether natural or not.

The most common reason for fish dying or showing signs of distress is low oxygen levels usually because of natural causes such as hot weather, algal blooms, low water levels or excessive weed growth. In such circumstances the following procedure will guide the response.

In most situations removal of fish is rarely an option because it may put the fish under extra stress and the receiving water at risk from introducing disease with the fish.

The usual way of dealing with fish in distress is aeration by using floating 'flo ball' aerators or pumping jets of water to cascade into the lake or river. Occasionally hydrogen peroxide may be applied using specialist equipment.

If you suspect a disease may be causing problems, contact the A&R or FBG teams who should liaise with Brampton and or CEFAS.

What we will do

A. Unnatural Events – e.g. pollution, illegal abstraction, weed-cutting, de-watering of stillwaters. We will act to reduce the impact and recharge the responsible party, as well as taking appropriate legal action.

B. Natural events – e.g. low flows (high temperatures, low oxygen, algal blooms). We will act in the following priority order:

1. Where river stretches are, or may be, impacted by abstraction (regardless of ownership and fishery arrangements) we will assess and provide staff and equipment where deemed necessary. This could take the form of a fish rescue, or in the case of DO sags the deployment of aerators or addition of hydrogen peroxide (latter is a last resort due to H&S implications) by EM staff trained in the use of such remediation equipment. These are stretches where the Environment Agency has licensed abstraction and we have not yet proven whether this is or is not causing an impact, therefore we will continue to rescue fish when necessary.
2. Where river stretches are impacted by other man-made issues (regardless of ownership and fishery arrangements), e.g. hatches or other obstructions (including those added as a result of the WLMP programme) which impede the fish population on the river from dropping down as the river dries naturally (a winterbourne), or impede upstream migration in extreme low flows, we will provide staff and equipment where deemed necessary.
3. Where the fishery is free (i.e. not charged for), natural or in unknown ownership on rivers, drains and stillwaters we will apply remediation techniques as part of our duty to protect freshwater fisheries.

4. Where the fishery is owned by the Environment Agency) we will take action according to our duty to protect the environment under our direct stewardship.

5. Where the fishery is owned by an angling club or conservation group we will provide staff and equipment, if available (i.e. not already involved in a higher priority incident). If we do not have available resources, we will provide advice on the best action to take. This may be to hire pumps from a supplier to aerate the water, or even loan out our own remediation equipment (and charge for it), on condition that if it were required for an emergency elsewhere we would remove it. Note that if a club leases their water from a commercial organisation, e.g. a council, then we would regard the owner as responsible, and would fall into the category below.

6. Where the fishery is privately owned (and possibly leased out) by commercial organisations, e.g. Councils, British Waterways, commercial fisheries, we would expect them to keep or provide their own remediation equipment to protect their assets. We will provide advice on equipment and suppliers to hire and, depending on other priorities, we may deploy staff and equipment to assist, or even loan out our own remediation equipment (and charge for it), on condition that if it were required for an emergency elsewhere we would remove it. This form of assistance would be a one-off occasion and following practical advice we would inform the owner/manager/club that we would not respond to any further similar incidents at the site. A charge will be made for equipment loan based on the type of equipment and the cost of deployment and retrieval by Environment Agency staff. Recipients will be required to sign for equipment and be responsible for security and health and safety while deployed on their site.

Who takes action

EM staff will make the initial response

- EM will get information on incidents or requests for help via ICS to the Duty Desk, or direct.
- EM staff operate the standby system for out of hours incidents.
- EM staff have been trained to use remediation equipment (Oxyjet and Peroxide)
- EM staff will notify FBG/A&R fisheries staff as soon as is reasonably practical, in line with the Common Incident Classification System.

As only one Officer is on standby out of office hours, only a limited response can be made. If it is considered urgent and important (a potential Category 1 incident) volunteers may be asked to help, if in doubt ask a Team Leader or Environment Manager for advice. In most circumstances deployment of limited resources, e.g. an aeration pump, would be sufficient until the next morning.

FBG/A&R/S&C have responsibility for a rescue response and fish kill assessments

Glossary

ADC – Area Drought Co-ordinator

ADL – Area Drought Lead

ADM – Area Duty Manager

ADT – Area Drought Team

ALT – Area Leadership Team

AOD – Above Ordnance Datum

CAMS – Catchment Abstraction Management Strategies: they define the approach to managing water abstractions within a catchment

CICS - Common Incident Classification Scheme - helps us to classify and record the environmental incidents which we respond to. It complements our national incident recording system (NIRS). Both CICS and NIRS are an important part of our Incident Management response.

CLA – Country Land and Business Association

Defra – Department of the Environment, Food and Rural Affairs

Easinet – The Environment Agency's Intranet system; an internal web system for sharing information within the organisation.

EM – Environment Management (Team)

Hyd – Hydrology (Team)

GS – Gauging Station

GW – Groundwater

GWCL – Groundwater and Contaminated Land (Team)

HELP – Head Office Emergency Liaison Procedures; a means of making senior managers aware of exceptional events; not a routine reporting tool

IEP – Integrated Environment Planning (Team)

LIFE – Lotic-invertebrate Index for Flow Evaluation: The LIFE score aims to show ecological stress or damage related to river flow conditions.

LTA – Long Term Average

N:Drive – Drive of the Environment Agency's computer network.

NEP – National Environmental Programme: WC five-yearly environmental improvement programme

NFU – National Farmers Union

NIRS – National Incident Recording System

NOIMT - National Operational Incident Management Team

PWS – Public Water Supply

Q95 – The flow of a river which is exceeded on average for 95% of the time

Section 57 restrictions – Emergency restrictions, applied under Section 57 of the Water Resources Act 1991, on abstractions for spray irrigation purposes. Not used in Devon & Cornwall.

SMD – Soil Moisture Deficit: The difference between field capacity and the actual amount of water in the soil

SWW - South West Water

SW – Surface Water

WW – Wessex Water

Links

Drought Plan Guidance

[Drought Walkthrough powerpoint presentation](#)

[Area drought plan guidance roll out presentation](#)

[Intro to drought presentation](#)

[Roll out training](#)

[Drought organisational structures](#)

[Area drought plan briefing note](#)

Operational Instructions

[Responding to Drought OI](#)

[Being prepared for drought](#)

[105_10 How to plan for and manage our response to drought](#)

[109_05 Roles and responsibilities](#)

[Working with LRFs](#)

[Drought permits and orders forms and information](#)

[How to respond to a drought order application](#)

[How to deal with a water company drought permit application](#)

[228_04 Drought order/permit cost recovery](#)

[Water resources: drought permits and drought orders](#)

[HELP report IO](#)

[Mutual aid during an incident IO](#)

[Approaches to fish rescues](#)

[Section 57 of the Water Resources Act 1991](#)

[Section 57 spray irrigation restrictions briefing note.](#)

[203_05 Guidance for Environment Agency representatives at local resilience forums](#)

[226-10 Screening and assessing new water resources permissions for impacts on conservation, heritage and landscape](#)

[359_10 Environmental considerations for drought permits and drought orders that affect designated conservation sites](#)

[400_04 Responding to requests for information 400_04](#)

Other related documents

[National Drought Framework](#)

[Drought direction 2011](#)

[Water company drought plan guideline 2011](#)

[Drought permits and drought orders. Information from Defra, Welsh Assembly Government and the Environment Agency](#)

Water company drought plans

[South West Water Drought Plan](#)

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