



Northumberland Rivers Abstraction Licensing Strategy

(295_14) A strategy to manage water resources sustainably

March 2019

Version 2

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We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the [Defra](#) group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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1. About the licensing strategy

This strategy sets out our approach to managing new and existing [abstraction](#) and [impoundment](#) within the Northumberland Rivers [Management Catchment](#) in the Northumbria river basin district. The Northumberland River Management Catchment covers an area of approximately 2790 km². The area includes the catchments of the Rivers Aln, Coquet, Lyne, Wansbeck, Font, Blyth, Pont and the Northumberland Coastal Streams.

Our approach ensures that River Basin Management Plan objectives for water resources activities are met and we avoid deterioration within this catchment.

We apply this approach to the [water body](#) in which the abstraction is located. It also applies to all downstream [surface water](#) bodies that may be affected by any reduction in abstraction-related flow, or adjacent [groundwater](#) bodies affected by any reduction in groundwater level.

Please see [Managing Water Abstraction](#) for the technical explanation, legal and policy requirements behind the Abstraction Licensing Strategy ([ALS](#)).

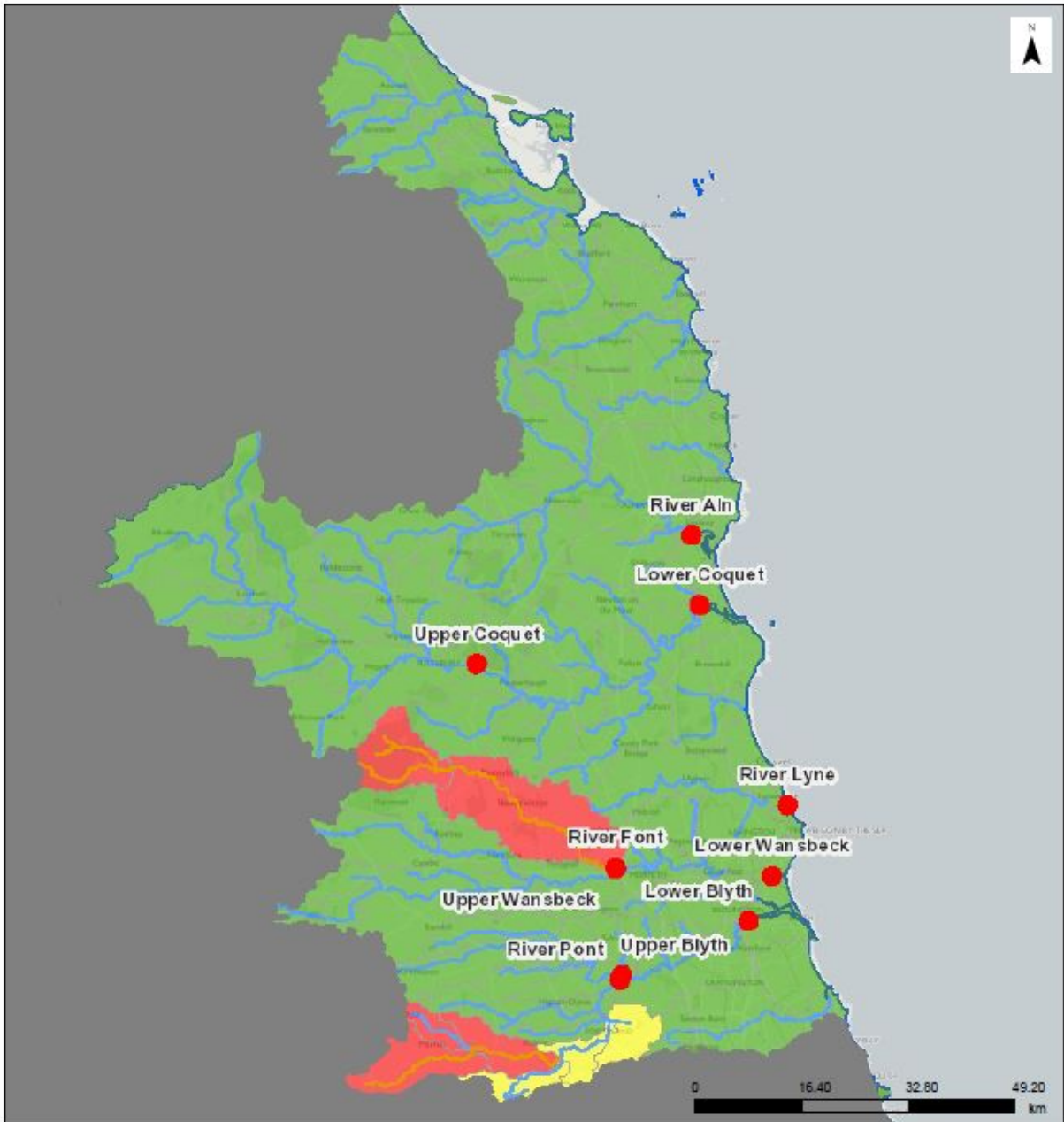
Please see [abstraction pages on gov.uk](#) for advice on who needs an abstraction or impoundment licence, and how to apply.

2. Water resource availability of the Northumberland Rivers ALS

2.1. Resource availability

The water resource availability, calculated at four different flows, Q95 (the flow of a river which is exceeded on average for 95% of the time i.e. low flow), Q70, Q50, and Q30 (higher flow) for this ALS are presented and explained in Maps 1-4 and section 2.1.1 below.

Map 1 - Water resource availability colours at Q30 for the Northumberland Rivers ALS.



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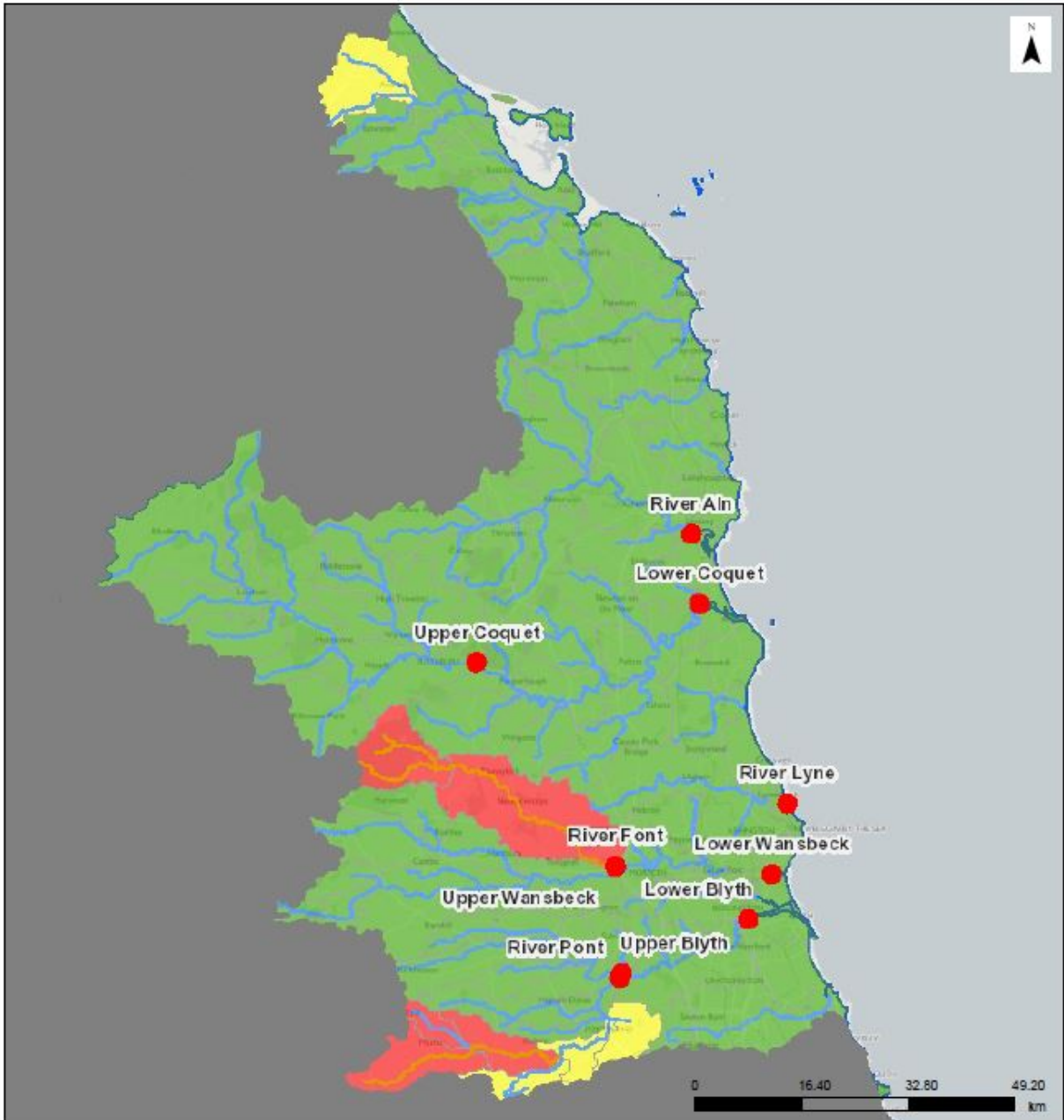
Legend:

- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Water Availability at Q30:

- Water available
- Restricted water available
- Water not available

Map 2 - Water resource availability colours at Q50 for Northumberland Rivers ALS.



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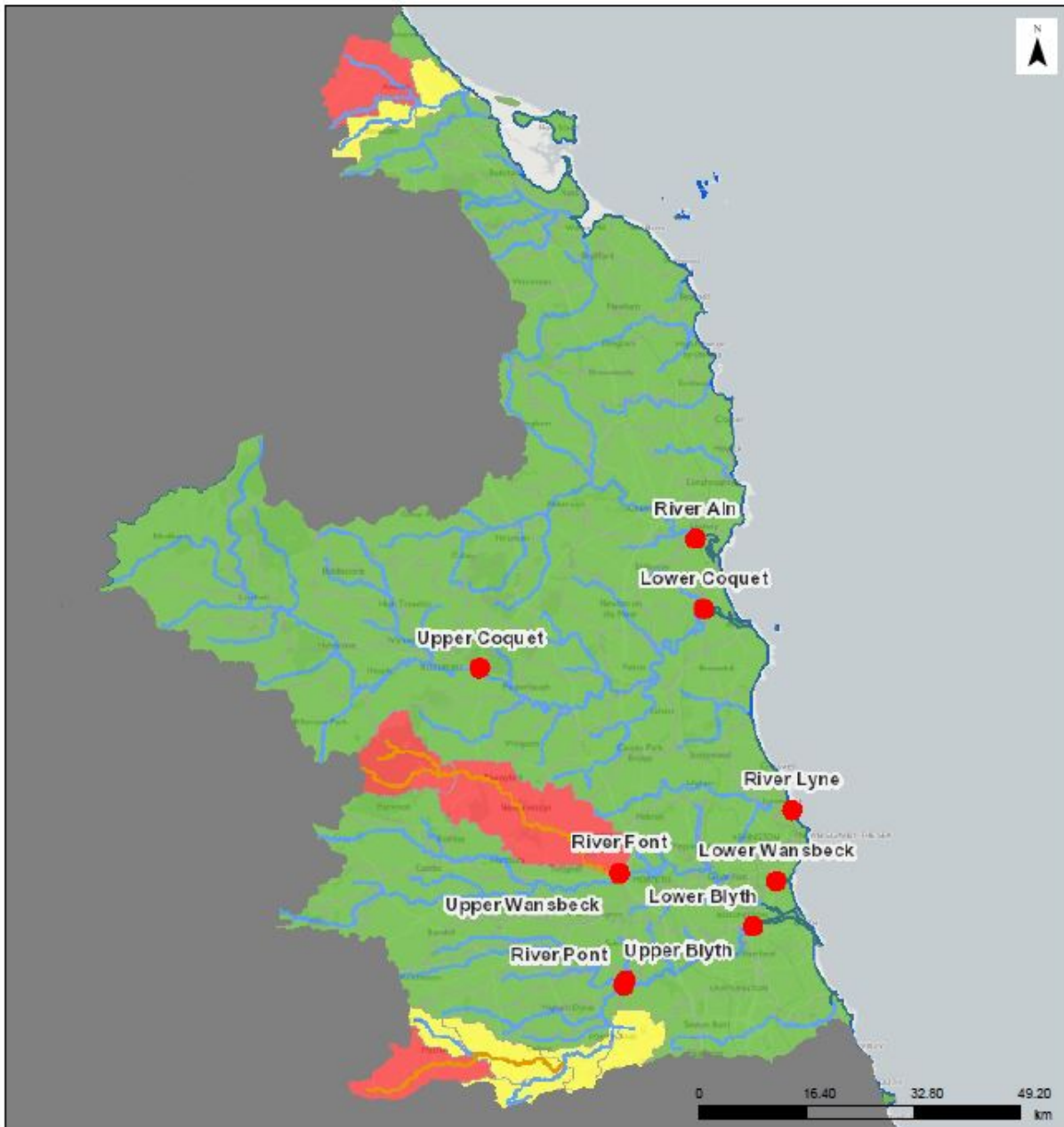
Legend:

- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Water Availability at Q50:

- Water available
- Restricted water available
- Water not available

Map 3 - Water resource availability colours at Q70 for Northumberland Rivers ALS.



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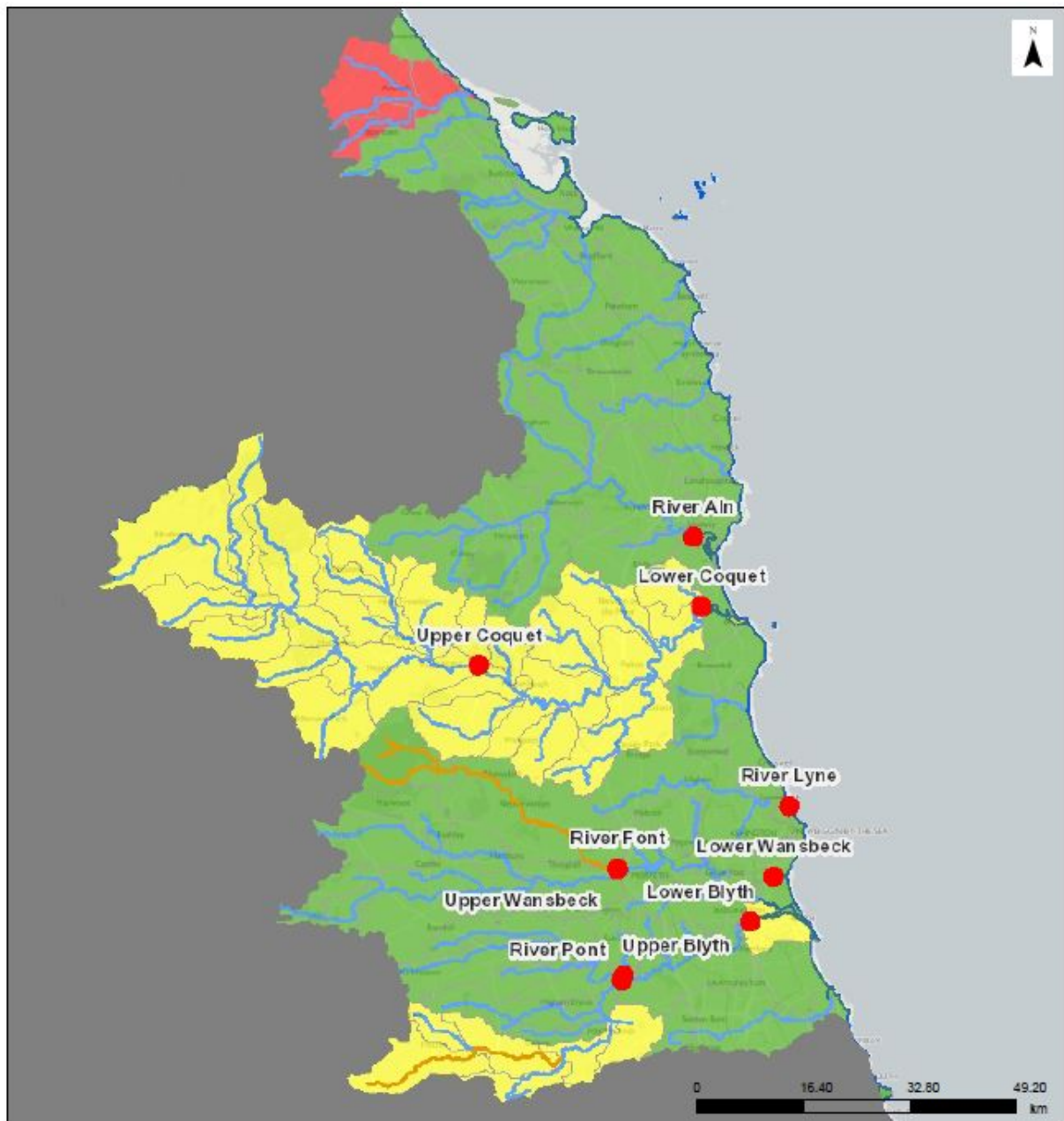
Legend:

- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Water Availability at Q70:

- Water available
- Restricted water available
- Water not available

Map 4 - Water resource availability colours at Q95 for Northumberland Rivers ALS



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Legend:

- Assessment Points
- Heavily Modified and Artificial Rivers
- Heavily Modified Artificial lakes
- Rivers

Water Availability at Q95:

- Water available
- Restricted water available
- Water not available

2.1.1. Water resource availability colours and implications for licensing

Water available for licensing

Green 

There is more water than required to meet the needs of the environment.

New licences can be considered depending on local and downstream impacts.

Restricted water available for licensing

Yellow 

Full Licensed flows fall below the [Environmental Flow Indicators \(EFIs\)](#).

If all licensed water is abstracted there will not be enough water left for the needs of the environment. No new consumptive licences would be granted. It is likely we'll be taking action to reduce full licensed risks. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder.

Water not available for licensing

Red 

Recent actual flows are below the EFI.

This scenario highlights water bodies where flows are below the indicative flow requirement to help support a healthy ecology in our rivers. We call this 'Good Ecological Status' ([GES](#)) or 'Good Ecological Potential' ([GEP](#)) where a water body is heavily modified for reasons other than water resources.

Note: we are currently taking action in water bodies that are not supporting GES or GEP. We will not grant further licences. Water may be available if you can buy (known as licence trading) the amount equivalent to recently abstracted from an existing licence holder.

Heavily Modified Water Bodies ([HMWBs](#)) and/or [discharge](#) rich water bodies

Orange 

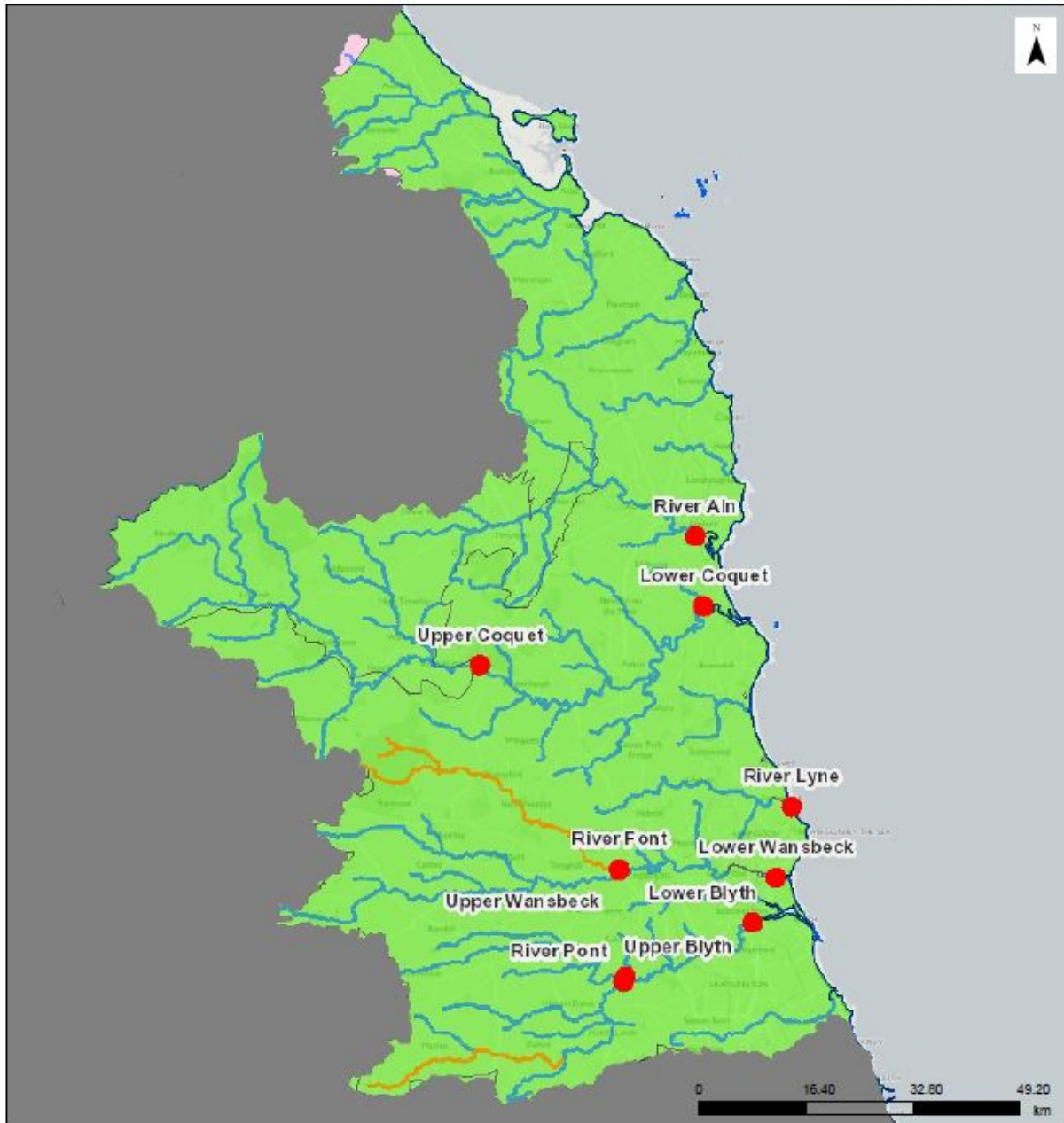
These water bodies have a modified flow that is influenced by reservoir compensation releases or they have flows that are augmented. These are often known as 'regulated rivers'. They may be managed through an operating agreement, often held by a water company. The availability of water is dependent on these operating agreements. More detail if applicable can be found in section 4.2.1 Surface Water

There may be water available for abstraction in discharge rich catchments, you need to contact the Environment Agency to find out more.

2.2. Groundwater resource availability

There are no water availability concerns for groundwater in the Northumberland ALS Area. Section 2.2.1 explains the groundwater resource availability colours, and Map 5 shows these colours for groundwater Northumberland ALS area.

Map 5 - Groundwater Resource Availability for Northumberland Rivers ALS.



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2.2.1. Groundwater resource availability colours and implications for licensing

Water available for licensing

Green 

Groundwater unit balance shows groundwater available for licensing. New licences can be considered depending on impacts on other abstractors and on surface water.

Restricted water available for licensing

Yellow 

Groundwater unit balance shows more water is licensed than the amount available, but that recent actual abstractions are lower than the amount available OR that there are

known local impacts likely to occur on dependent wetlands, groundwater levels or cause saline intrusions but with management options in place.

In restricted groundwater units no new consumptive licences will be granted in impacted areas. It may also be appropriate to investigate the possibilities for reducing fully licensed risks. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder.

In other units there may be restrictions in some areas e.g. in relation to saline intrusion.

Water not available for licensing

Red



Groundwater unit balance shows more water has been abstracted based on recent amounts than the amount available.

We will not grant further licences.

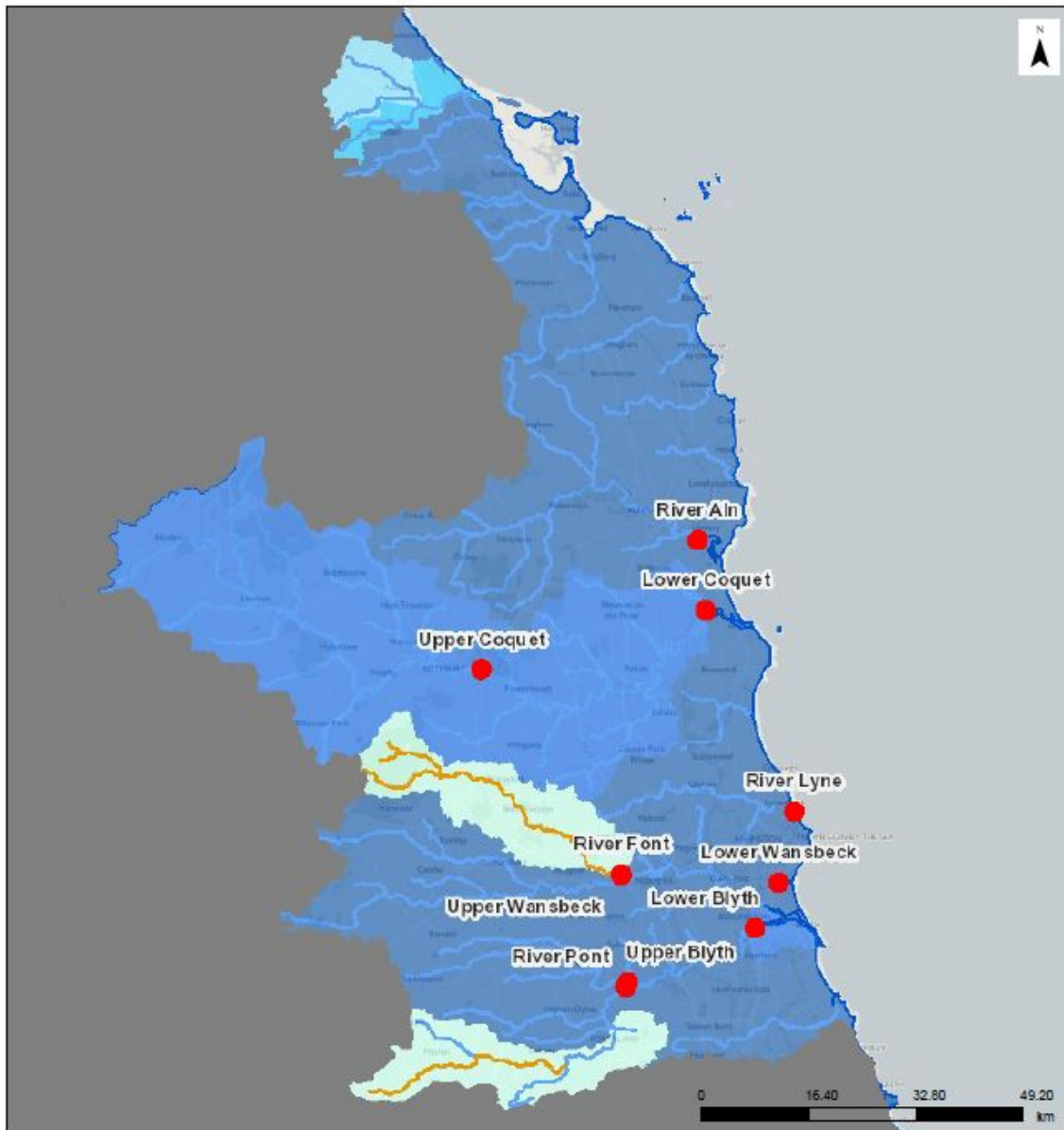
2.3. Resource reliability

If you want to apply for a licence, it's worth considering the reliability of your abstraction.

By assessing the quantity of water available at different flows it's possible to see when there is a surplus or deficit of water and the associated reliability of an abstraction. This is an indication only; actual reliability of a licence will be discussed when you apply.

Map 5 gives an indication of the resource availability for [consumptive abstraction](#) in the Northumberland Rivers ALS area expressed as a percentage of time.

Map 6 - Water resource reliability of the Northumberland Rivers ALS expressed as percentage of time available



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Legend:

- Assessment Points
- Heavily Modified and Artificial Rivers
- Rivers

Percentage of the time additional consumptive resource may be available:

- Consumptive abstraction available less than 30% of the time
- Consumptive abstraction available at least 30% of the time
- Consumptive abstraction available at least 50% of the time
- Consumptive abstraction available at least 70% of the time
- Consumptive abstraction available at least 95% of the time

2.4. Other considerations for availability and reliability

We may have to add constraints to licences such as [‘hands off flow’ \(HoF\)](#) conditions to protect the environment and the rights of other abstractors. As a result, when we grant a licence, it doesn't mean that we guarantee a supply of water. These conditions specify that if the flow in the river drops below what's needed to protect the environment, abstraction must reduce or stop. So, in dry years, restrictions are likely to apply more often, which will affect the reliability of supply.

There may also be restrictions on new groundwater abstractions in some locations if they pose a risk to existing water users or groundwater dependent features. For example, we may impose a [Hands Off Level \(HOL\)](#). A HOL restricts abstraction when water levels drop below a certain level in a borehole or well.

Whilst this document may say that water is available for abstraction, this doesn't guarantee that all applications will be successful. This is because we have to determine each application on its own merits, and local factors may mean we're either unable to grant a licence as applied for, or even at all.

New licences within an ALS are usually given a Common End Date ([CED](#)), which allows them to be reviewed at the same time. The next CED for this ALS is 31st March 2029 and the subsequent one is 31st March 2041.

2.5. Impoundments

Applications for impoundments will be dealt with on a case by case basis. More information may be found on our [water management web pages on gov.uk](#).

3. How we manage abstraction in the Northumberland Rivers ALS

3.1. Assessment points

We assess surface water flows at [Assessment points \(APs\)](#), which are significant points on a river, often where two major rivers join or at a gauging station. APs cover multiple surface water bodies.

Where groundwater abstractions directly impact on surface water flows, the impact is measured at the surface water AP.

Table 1 gives an indication of how much water is available for further abstraction and the associated restrictions we may have to apply to new and varied [abstraction licences](#) from the main river. Tributaries to the main river may be subject to different restrictions and quantities and will be assessed locally on a case by case basis.

Each HoF is linked to an AP and is dependent on the resource availability at that AP. In some cases additional restrictions may apply to licences where there is a more critical resource availability downstream to protect the ecological requirements of the river. This is detailed in the last column of Table 1 if applicable.

All abstraction licence applications are subject to an assessment to take account of any local and downstream issues and may be subject to further restrictions.

Reading from top to bottom in Table 1 are the APs in the Northumberland Rivers ALS area. Reading across the columns you can see the potential HoF that may be applied to a licence, the number of days water may be available under this restriction and the

approximate volume of water in [M/d](#) that may be available etcetera. In cases where there is water available at all flows we may apply a Minimum Residual Flow (MRF) to protect very low flows. We'll decide this on a case by case basis.

AP	Name	Water Resource Availability	HOF Restriction (MI/d)	Number of days per annum abstraction may be available	Approximate volume available at restriction (MI/d)	Is there a gauging station at this AP?
1	River Aln	Water Available for Licensing Water	MRF (27.1)	365	4.0	No
2	Lower Coquet	Limited Water Available for Licensing - see comment 1 (below)	MRF (58.4)	365	4.4	Yes (Morwick)
3	Upper Coquet	Limited Water Available for Licensing - see comment 1 (below)	MRF (41.1)	365	1.1	Yes (Rothbury)
4	River Lyne	Water Available for Licensing	MRF (1.7)	365	0.8	No
5	Lower Wansbeck	Water Available for Licensing	MRF (10.2)	365	7.3	Yes (Mitford)
6	Upper Wansbeck	Water Available for Licensing	MRF (5.1)	365	1.1	No
7	River Font	Limited Water Available - see comment 2 (below)	139.6	329	59.0	No
8	Lower Blyth	Water Available for Licensing	MRF (8.0)	365	8.4	Yes (Hartford Bridge)
9	Upper Blyth	Water Available for Licensing	MRF (2.3)	365	1	No

AP	Name	Water Resource Availability	HOF Restriction (MI/d)	Number of days per annum abstraction may be available	Approximate volume available at restriction (MI/d)	Is there a gauging station at this AP?
10	River Pont	Limited Water Available - see comment 3 (below)	3.3	365	0.5	No

Table 1 - Summary of licensing approach for the assessment points of the Northumberland Rivers ALS.

Comment 1 - Water Availability Assessment at AP 2 (Lower Coquet) and AP 3 (Upper Coquet)

The maps in Section 2.1 indicate that there may be limited water availability at low flows (Q95) across the Coquet catchment. The availability assessments in these maps have been impacted by a large Public Water Supply (PWS) abstraction at the Tidal Limit which requires the availability of water from upstream. Licence applications on the Coquet catchment are likely to require low flow protection (i.e. HOF conditions) but would be considered on a case by case basis.

Comment 2 - Water Availability Assessment at AP 7 (Font)

The maps in Section 2.1 indicate that there may be limited water availability at medium to high flows (Q70 - Q30) downstream of Fontburn Reservoir. As releases from the reservoir are typically constant (except for any additional spills), most of the natural variability in river flows is removed which reduces naturally high flows (storm/winter flows). The reduction in high flows has classified some of the waterbodies downstream as no water available, however each new application will be dealt with on a case by case basis.

Comment 3 - Water Availability Assessment at AP 10 (Pont)

The maps in Section 2.1 indicate that there may be limited water availability at all flows (Q95 - Q30) in the Upper and Middle Reaches of the River Pont. The restriction is related to a complex abstraction at Matfen which is linked to a water company transfer that uses a section of the River Pont. We are currently working with the water company to improve flows at Matfen however at this time it is assumed there is no water available for abstraction in the upper reaches of the River Pont. On the middle / lower reaches of the Pont applications will be considered on a case by case basis.

3.2. Groundwater

Where groundwater abstractions directly impact on surface water flows, including reduction of base flow, the impact is measured at the surface water AP. In these cases, restrictions may be applied to licences, such as Hands off Level ([HoL](#)) conditions. The HoL is a groundwater level below which an abstractor is required to reduce or stop abstraction.

Other restrictions may apply where availability is limited or to protect the environment, for example to prevent saline intrusion.

There are two large groundwater bodies within Northumberland Rivers; the Northumberland Carboniferous Limestone and Coal Measures (GB40302G700200) and Northumberland Devonian and Lower Carboniferous (GB40302G703800).

3.2.1 Licence restrictions on groundwater abstractions in the Northumberland ALS area

Northumberland Carboniferous Limestone and Coal Measures (GB40302G700200)

The Carboniferous Limestone and Coal Measures extend the length of the Northumberland ALS. Although the waterbody has been assessed as having Water Available for Licensing the following restrictions may apply:

Saline Intrusion	A 5km buffer zone is in place along the coast. The groundwater body is at risk from saline intrusion. The buffer is to mitigate groundwater abstraction causing saline intrusion and to protect groundwater status. New applications should be located outside this zone or demonstrate that new abstractions will not result in saline intrusion.
Water Quality Impact from Coal Measures Connectivity	Due to concern about the dissolution of minerals into groundwater from the mixing of water from the coal measures, applicants will need to demonstrate that new abstractors will not cross connect aquifers. Connectivity between the aquifers will increase the risk of deterioration in the water quality of the overlying Carboniferous Limestone aquifer and reduce effectiveness of mitigation measures already in place to protect water quality.

Table 2 - Summary of Licence Restrictions associated with the Northumberland Carboniferous Limestone and Coal Measures

3.3. Coasts and estuaries

Coquet Estuary (GB510302203000)

There is currently a large public water supply abstraction at the tidal limit. As a result, any new application for abstraction in the estuary would have to demonstrate that the cumulative impact of existing and proposed abstractions would not cause environmental

impact. The large abstraction at the tidal limit does not affect the environment of the river upstream but is reliant on sufficient upstream flows reaching the estuary which need to be maintained.

3.4. Heavily modified water bodies

Across the Northumberland ALS area, 3 waterbodies are designated as Heavily Modified as the result of a recognised impact on flows associated with reservoir impoundment, river regulation and / or strategic transfers.

WBID:	Waterbody Name:	
GB103022076850	River Pont from source to Fenwick Burn	Waterbody includes a strategic water transfer, near to Matfen, which diverts water from Hallington Reservoir (Tyne Catchment) to the Whittle Dene Reservoir System (Tyne Catchment) by using the River Pont
GB103022076840	Fenwick Burn to Med Burn	Waterbody includes a strategic water transfer, near to Matfen, which diverts water from Hallington Reservoir (Tyne Catchment) to the Whittle Dene Reservoir System (Tyne Catchment) by using the River Pont.
GB103022076510	River Font from source to Wansbeck	Waterbody includes Fontburn reservoir, which is used for water supply. As a result of the reservoir the flow regime of the river downstream is impacted. The reservoir has a constant compensation release of 2.3 MI per day and regularly overtops.

Table 3 - Summary of Heavily Modified Water Bodies within the Northumberland ALS

3.5 High Ecological Status water bodies

High ecological status water bodies are those that are close to a natural condition. We restrict abstraction in these water bodies to maintain this condition.

The Northumberland Rivers ALS area has two High ecological status waterbodies:

WBID:	Waterbody Name
GB103022076650	Barrow Burn catchment (Upper Coquet)
GB103022076680	Ridlees Burn catchment (Upper Coquet)

Table 4 - Summary of the High Ecological Status Waterbodies

3.6 Protected areas

UK law provides a very high level of protection to two types of designated sites due to their special environment. These are:

- Special Areas of Conservation ([SAC](#)), which contribute to biodiversity by maintaining and restoring habitats and species;
- Special Protection Area ([SPA](#)), which provides protection to birds and their nests, eggs and habitats

Ramsar sites and Sites of Special Scientific Interest ([SSSI](#)) also carry a high level of environmental importance.

In the Northumberland Rivers ALS Area, there are over 60 conservation sites that have been designated in relation to the character of the Water Environment. These sites can be identified using the MAGIC mapping interface available at www.magic.defra.gov.uk.

The following sites are notable as they comprise distinct areas of riverine environment. Applications for surface water abstraction in these locations, if eligible, would require a more restrictive assessment than that described in section 2 of this document.

Feature:	Name:	Sub-catchment:
SSSI	River Coquet and Coquet Valley Woodlands	Coquet Upper
SSSI	Big Waters	Blyth

Table 5 - Summary of designated sites within the Northumberland Rivers ALS that are notable for distinct areas of riverine environment.

Applications for groundwater abstraction would also need to be rigorously considered in relation to the potential impact to any groundwater fed designated sites.

4. Managing existing licences

4.1. Water rights trading

We want to make it easier to trade water rights. A water rights trade is where a person sells all or part of their water right, as defined by their abstraction licence(s), to another person on a permanent or temporary basis. In the majority of cases a trade will involve a change in abstraction location and/or use which we will need to approve through the issue or variation of abstraction licences.

In licensing trades, as with new abstraction licences, we need to make sure that we don't cause any deterioration in water body status both within the water body / bodies where the trade will take place and to downstream water bodies. The section below provides a guide to the potential for trading in water bodies of a particular ALS water resource availability colour.

To find out more about licence trading please go to our [water management web pages on gov.uk](#)

Guide to the potential trading in water bodies of a particular ALS water resource availability colour

High hydrological regime

Blue 

Opportunities for trading water rights will be limited.

Water available for licensing

Green 

Allow trades of recent actual abstraction and licensed abstraction, but little demand for trading expected within water body as water available for new abstractions.

Restricted water available for licensing

Yellow 

There may be opportunities for licence holders to trade up to their full licensed quantities, but the quantities of water available to trade may be restricted once levels of actual abstraction reach sustainable limits. We will not permit licence trades in water bodies where we are taking action to prevent deterioration unless the trade is consistent with achieving water body objectives.

Water not available for licensing

Red 

We will only trade recent actual abstraction but no increase in recent actual abstraction is permitted in water body. Licensed abstraction will be recovered for the environment.

HMWBs

Orange 

Opportunities for trading will depend on local operating agreements and local management.

4.2. Taking action on unsustainable abstraction

4.2.1. Action being taken on unsustainable abstraction in the Northumberland Rivers ALS

AP 10: River Pont

The River Pont is known to be impacted by a strategic transfer that intercepts with the waterbody in the upper reaches. Measures are being delivered by Northumbrian Water Limited, through the Water Industry National Environment Programme, to investigate changes to the operation of the strategic transfer and improve the downstream flow regime. This will likely result in changes to the Water Availability Assessment and result in more water being available for licensing.

AP 2 and 3: Lower Coquet

The Coquet Estuary is known to have limited water available for licensing under Fully Licensed conditions due to the demand for water associated with a large Public Water Supply Abstraction at the tidal limit. Further, historical infrastructure related to extinct licences is suspected to be impacting the ecological quality of the Coquet Estuary. Measures being delivered by Northumbrian Water Limited, through the Water Industry Environment Programme, aim to investigate the feasibility of removing the legacy infrastructure. This would improve the ecology of the estuary and may result in changes to the Water Availability Assessment.

AP 7: River Font

Fontburn Reservoir is known to impact the flow regime at this Assessment Point and, as a result, water is available at lower flows but not available at higher flows. Measures delivered by Northumbrian Water Limited, through the Water Industry Environment Program, aim to investigate the options for creating an improved flow regime in the downstream waterbody and this may result in more water being available for licensing.

4.2.2. Action being taken on unsustainable groundwater abstraction

Northumberland Carboniferous Limestone and Coal Measures (GB40302G700200)

Groundwater levels within the Coal Measures are currently being managed by the Coal Authority across much of Northumberland to prevent widespread mine water pollution of ground and surface waters. The depression of water levels is likely to be impacting flow

availability in some surface waters however this is preferable to the alternative pollution risks. At present mine water schemes are not incorporated into our Water Availability Assessment, this is currently under review. We will work with the Coal Authority in order to obtain sufficient information to understand the impact of their mine water management and identify where surface water flows are impacted. Any new abstractions in catchments overlying the Coal Measures may need to undertake an assessment to demonstrate availability and reliability of the resource e.g Seaton Burn.

4.3. Regulating currently exempt abstraction

As the abstraction licensing system in England and Wales developed over the past 50 years, certain abstractions have remained lawfully exempt from licensing control. This meant that unlimited supplies of water could be abstracted, even in areas that are water stressed.

This means that those exempt abstractions could potentially take unlimited amounts of water, irrespective of availability and without regard to impacts on the environment or other abstractors.

Following two public consultations Government have introduced new Regulations to take effect from 1st January 2018. The Water Resources (Transitional Provisions) Regulations 2017 have removed the majority of previous exemptions from licensing control, and current exempt abstractors will now require a licence to lawfully abstract water.

The main activities affected are:

- transferring water from one inland water system to another in the course of, or as the result of, operations carried out by a navigation, harbour or conservancy authority;
- abstracting water into internal drainage districts;
- dewatering mines, quarries and engineering works, except in an emergency;
- warping (abstraction of water containing silt for deposit onto agricultural land so that the silt acts as a fertiliser);
- all forms of irrigation (other than spray irrigation, which is already licensable), and the use of land drainage systems in reverse (including transfers into managed wetland systems) to maintain field water levels;
- abstracting within currently geographically exempt areas, including some rivers close to the borders of Scotland; and
- abstractions covered by Crown and visiting forces (other than Her Majesty the Queen and the Duchies of Cornwall and Lancaster in their private capacity).

The Northumberland Rivers ALS area has previously been considered to be a geographically exempt area. This meant that licences have historically not been required for abstractions from underground strata and springs provided that the quantity abstracted did not exceed 1,000,000 gallons per year (4546m³/year), with a daily rate not exceeding 50,000 gallons per day (227 m³/day) (Northumbrian Water Act (NWA, 1981). From the 1st January 2018, the controls governing abstraction from ground and surface waters in the Northumberland Rivers ALS have been the same as those in the rest of England and Wales, with only abstractions that do not exceed 20 m³/day, 7300 m³/year being exempt.

Where we have details of previously exempt abstractions, we will endeavour to include them in our assessments to consider how they impact on the catchment.

5. List of abbreviations

ALS

Abstraction Licensing Strategy.

AP

Assessment Point.

CED

Common End Date.

Defra

Department of Environment Fisheries and Rural Affairs.

EFI

Ecological Flow Indicator.

GEP

Good Ecological Potential.

GES

Good Ecological Status.

GW

Groundwater.

HMWB

Heavily Modified Water Body.

HoF

Hands off Flow.

HoL

Hands off Level.

MI/d

Megalitres per day.

SAC

Special Areas of Conservation.

SPA

Special Protection Areas.

SSSI

Sites of Special Scientific Interest.

UKTAG

United Kingdom's Technical Advisory Group.

WB

Water body.

6. Glossary

Abstraction

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

Abstraction licence

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

Assessment point

A significant point on a river, often where two major rivers join or at a gauging station.

Catchment

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

Consumptive abstraction

Abstraction where a significant proportion of the water is not returned either directly or indirectly to the source of supply after use. For example for the use of spray irrigation.

Discharge

The release of substances (for example, water, treated sewage effluent) into surface waters.

Environmental flow indicator

Flow indicator to prevent environmental deterioration of rivers, set in line with new UK standards set by [UKTAG](#).

Groundwater

Water that is contained in underground rocks.

Hands off flow

A condition attached to an abstraction licence which states that if flow (in the river) falls below the level specified on the licence, the abstractor will be required to reduce or stop the abstraction.

Hands off level

A river flow or borehole (groundwater) level below which an abstractor is required to reduce or stop abstraction.

Impoundment

A structure that obstructs or impedes the flow of inland water, such as a dam, weir or other constructed works.

Management Catchment

An organisational area which contains waterbodies in close proximity to each other but which may not be hydrologically linked.

Surface water

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

Water body

Units of either surface water or groundwater which we use to assess water availability.

Would you like to find out more about us or your environment?

Then call us on

03708 506 506 (Monday to Friday, 8am to 6pm)

email

enquiries@environment-agency.gov.uk

or visit our website

www.gov.uk/environment-agency

incident hotline

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