24th February 2020

Initial prospects for irrigation - forecast for 2020

Summary

Overview

This document provides the initial prospects for irrigation across areas of England where irrigation is most significant. We will be updating these prospects into the spring. Figure 1 shows a map of irrigation prospects for 2020. The insert shows the position this time last year. We are generally seeing an improved situation this year compared to last year.

Cumulative rainfall totals for the past six months to January 2020 are exceptionally high within catchments in much of central England and parts of south-west, east and north-east England. February rainfall has already been well above average across the country.

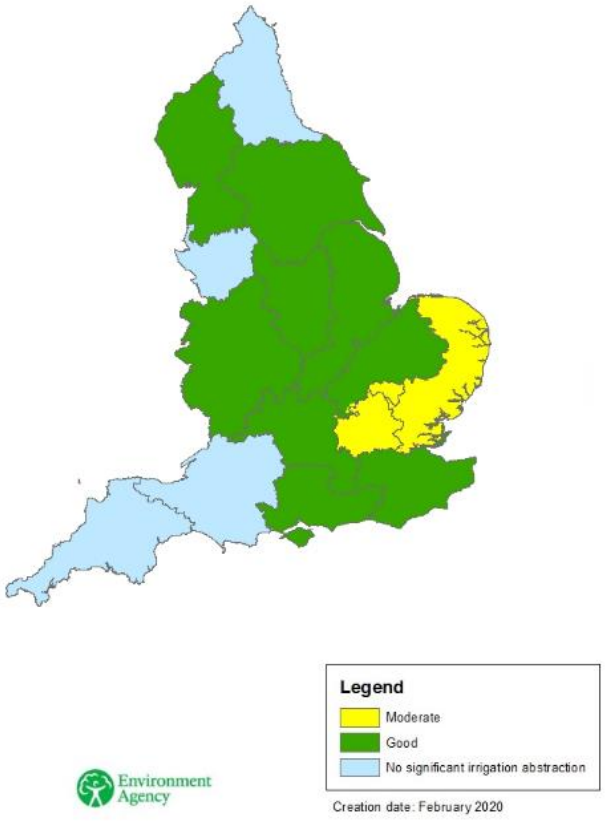
The latest three month Met Office forecast from March to May indicates above-average precipitation is slightly more likely than below-average precipitation. For March below average rainfall is slightly more likely than above average. Above-average temperatures are more likely than below-average temperatures for this three month period.

Conditions will likely turn more settled across most areas by the middle of March, with more prolonged dry spells possible, especially in the south. The irrigation prospects reflect the current hydrological conditions and latest available weather forecasts.

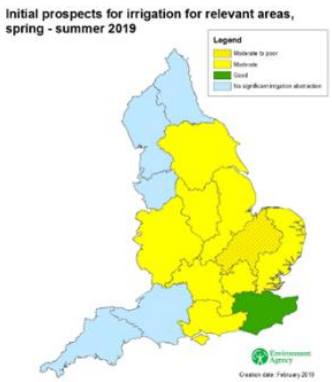
Many areas are classed as good while others are good to moderate or moderate under the most likely rainfall scenarios. Groundwater levels in some catchments are still below normal for the time of the year. Some areas have provided detailed prospects which are contained later in this document, including should the remaining winter rainfall scenarios turn out to be more pessimistic (drier) than expected continuing into the summer. Therefore a range of prospect forecasts are presented for some areas. Given a generally improving position we will not be allowing flexible abstraction this year as we expect abstractors to be effectively refilling their winter storage reservoirs while flows are available. If the remaining winter/spring turns dry and/or the summer is hot and dry we will review our position.

Figure 1

Initial prospects for irrigation for relevant areas, spring - summer 2020



Initial prospects for irrigation for relevant areas, spring - summer 2019



Definitions

Prospects for spray irrigation are defined as ‘Good’, ‘Moderate’ or ‘Poor’.

Good	Water levels are average or above average and supplies are expected to be safe. There is a possibility of minor local controls on abstraction from surface water in late summer if the weather is exceptionally hot and dry.
Moderate	Water levels are low. Some controls on surface water abstraction are possible by midsummer if the weather is hot and dry. Controls on abstraction from groundwater are possible in small, sensitive groundwater areas.
Poor	Water levels are well below average. Soil moisture deficit is developing early and significant restrictions on abstraction from surface and groundwater are probable.

Paul Hammett, NFU's water specialist said “With the agricultural sector currently coping with too much water as a result of widespread heavy rainfall, farmers will welcome early season indications of generally good water availability from both groundwater and surface water sources. However, weather patterns remain unpredictable and consistently low river flows led to a challenging irrigation season in 2019. With this in mind, farmers will undoubtedly continue to closely monitor weather and water availability as the year unfold”.

Prospects for individual areas

Yorkshire

Prospects for water resources availability for spray irrigation in Yorkshire for 2020 are GOOD.

Kent, South London and East Sussex (KSL)

Over the winter period so far (Oct 2019 to 10 Feb 2020) we received 132% of the Long Term Average (LTA) rainfall to date. As a result, in Kent and South London (KSL) Area the water resource availability outlook for the 2020 irrigation season is: GOOD

Favourable conditions this winter to date have been sufficient to address any residual deficits that had arisen over the previous dry years. The accelerated recharge season observed to date has resulted in a significantly improved water resources situation and irrigation outlook throughout KSL Area.

East Anglia (East)

The irrigation prospects under the most likely rainfall scenario (average rainfall) are GOOD in North Norfolk while GOOD to MODERATE in all other catchments. Under the worst case rainfall scenario prospects would be MODERATE to GOOD and MODERATE respectively.

East Anglia (West)

The overall summer prospects for water resources availability for spray irrigation in East Anglia (West) area are currently GOOD to MODERATE (in places).

Hertfordshire and North London

The prospects for water resources availability for irrigation in Hertfordshire and North London are currently MODERATE, and likely to remain MODERATE based on the latest weather forecasts.

Lincolnshire and Northamptonshire

Higher than normal recharge over the winter period means that the overall summer prospects for water resources availability for spray irrigation in Lincolnshire and Northamptonshire are currently GOOD.

East Midlands

Currently the spray irrigation outlook for spring - summer 2020 for the East Midlands area is GOOD. Rivers are currently exceptionally high and boreholes have also responded to the wet winter so they are in a good position in terms of water resources at the moment. This will however, be reassessed if the spring becomes warm and dry.

West Midlands

The summer prospects for water resources availability for irrigation in the Environment Agency's West Midlands area is currently GOOD.

Solent and South Downs

The indicative spray irrigation prospects for spring/summer is currently GOOD. It is rather early to produce a spray irrigation prospects as we are still in the groundwater recharge season. Groundwater and river flows have improved significantly from this time last year due to above average winter rainfall but the Area will have a better idea of formal prospects later in March/April.

Thames

Thames haven't yet produced a formal irrigation prospects for this year but currently the assessment is GOOD. Rainfall through the first half of 2019 remained below Long Term Average for the time of year, which meant groundwater levels were below normal going into the summer. Following the autumn and much of the winter so far with rainfall above the Long Term Average, the river and groundwater situation has markedly improved. We are expecting to go into spring and summer 2020 with groundwater levels and river flows above normal for the time of year which will support abstraction for irrigation. Hands off Flow conditions may still be experienced by abstractors but these are likely to be later in the season once flows have dropped back off.

Devon, Cornwall and the Isles of Scilly

Devon, Cornwall and the Isles of Scilly do not anticipate any restrictions with regards to irrigation in the coming 6 months due to the high levels of rainfall this winter so far. This position will be reviewed during 2020 dependent on the rainfall patterns and river / groundwater levels. The indicative spray irrigation prospects for spring/summer is currently GOOD.

North East

The North East area will remain as 'no significant irrigation abstraction' with the prospects defined as GOOD.

Cumbria and Lancashire

Cumbria and Lancashire will not be providing a formal spray irrigation prospects report but the current situation is normal and if we have average rainfall then the irrigation prospect for the summer is GOOD. The last three months rainfall was classed as normal, with soils remaining saturated by the end of January. Cumbria and Lancashire has quick responding rivers and therefore the situation can change relatively

quickly. The main spray irrigation area is in Crossens and we will be monitoring the situation as appropriate given river levels. There are no concerns with regard to spray irrigation from groundwater.

Greater Manchester, Merseyside and Cheshire

Greater Manchester, Merseyside and Cheshire will not be providing a formal spray irrigation prospects report but the current situation is normal and if we have average rainfall then the irrigation prospect for the summer is GOOD. The last three months rainfall was classed as normal, with soils remaining saturated by the end of January. Greater Manchester, Merseyside and Cheshire has quick responding rivers and therefore the situation can change relatively quickly. There are no concerns with regard to spray irrigation from groundwater.

Wessex

Wessex area is 'no significant irrigation abstraction' with the prospects defined as GOOD.

Currently soil deficit moisture is at zero, with farmers being able to fill their winter storage facilities without constraint. Looking forward conditions still appear wetter than average with high groundwater levels and higher than long term average flows. It is not expected issues occurring this year at this stage.

Area detail

Yorkshire

Background

Yorkshire experienced a year of changeable weather in 2019, ending with a period of very wet weather. Following the very dry summer of 2018, surface water stocks recovered during 2019, but groundwater stocks struggled to reach the highs of April 2018. The summer of 2019 did not result in any significant water scarcity across the region. However, in the mid-summer of 2019, groundwater stocks in the East of the county were at risk. This was in contrast to surface water stocks which remained at a consistent level throughout the summer.

The above average rainfall this autumn and early winter saw unprecedented recharge, with many river flows and groundwater levels ending 2019 with high flows and levels. 2020 has begun with storage reservoirs across the region at 100% full for all purposes (Navigation, Public Water Supply, and Agriculture).

Despite the wet weather at the end of 2019, 2020 started dry and mild for the time of year with small declines in storage reservoir levels and river flows in the East of the County. Soil Moisture Deficit* throughout Yorkshire remains classified as Wet. The result is that reservoir stocks are maintained through relatively low volumes of rainfall accompanied by high levels of run off. Reservoirs regulate the flows in many of the rivers in Yorkshire, such as the Don, Aire, Calder and Holme.

January 2020 groundwater levels in the Chalk, Sherwood Sandstone, Magnesian Limestone and Millstone Grit are all above average with the Corallian Limestone at Average. These levels mean that reductions in groundwater supply are unlikely in spring and perhaps right into early summer.

Forward look

Spray irrigation prospects are currently GOOD for spring/summer 2020.

A dry start to the spring this year however, will not provide stocks with the additional pre summer top up they have had in the last two years which may result in Hands off Flow restrictions being imposed on winter fill abstraction licences.

Abstraction in the region is primarily controlled by conditions on licences and licence holders must ensure that they adhere to these at all times. If a dry summer does materialise, it is still possible that we may need to implement 'Hands off Flow' (HoF) or 'Hands off Level' (HoL) conditions on licences as we would in any normal year.

For the most up to date water situation reports please visit our website here: https://www.gov.uk/government/statistics/water-situation-report-yorkshire-and-north-east

Conclusions

The prospects for spray irrigation for spring - summer 2020 are currently assessed as ***GOOD*** for all catchments across Yorkshire.

For more information please contact us by emailing AEPYorkshireandNE@environment-agency.gov.uk

Kent, South London and East Sussex

Background

Over the winter period so far (Oct 2019 to 10 Feb 2020) we received 132% of the Long Term Average (LTA) rainfall to date.

Favourable conditions this winter to date have been sufficient to address any residual deficits that had arisen over the previous dry years. The accelerated recharge season observed to date has resulted in a significantly improved water resources situation and irrigation outlook throughout KSL Area.

Forward look

As a result, in Kent and South London (KSL) Area the water resource availability outlook for the 2020 irrigation season is: GOOD.

In KSL Area due to the healthy water resource position we are not planning to produce full Area 'indicative irrigation prospects' report prior to April when we normally issue our irrigation prospects for the summer.

If constraints do come into force, we encourage abstractors with Hands off Flow conditions (HoFs) to keep track of daily river levels on our website: *https://flood-warning-information.service.gov.uk/river-and-sea-levels* , so they can take advantage of brief increases in flows following rainfall events. Further advice and details will be sent to affected abstractors prior to when constraints come into force.

What else can Irrigators do?

We are encouraging irrigators to take the following actions:

- Abstraction Licences – Check the licence details and special conditions and at all times adhere to them – these are in place to protect the natural environment and neighbouring abstractors downstream.
- To help other abstractors, please tell us if you're not planning to use your licence in 2019.

We encourage all abstractors to provide email contact details, so we can improve our river flow messaging services to abstractors.

For further updates or advice please contact your local environment officer or the Groundwater Hydrology team on: ksl.gwh@environment-agency.gov.uk

East Anglia (West)

Background

During the 2018-2019 autumn and winter our Chalk aquifer received very limited recharge, particularly in the Cam Chalk. This resulted in very low base flows in the rivers at the start of the summer 2019. As the dry weather continued during the summer, the majority of river flows continued to recede until reaching levels similar to those in the droughts of 1976 and 1990. At the end of the summer the groundwater levels in the chalk aquifer reached either notably low or exceptionally low categories across the majority of the catchment, the soil moisture deficit was above normal for the time of year, and the rainfall deficit had reached 150mm.

- Rainfall

At the end of September a change of weather brought above average rainfall to the area. This above average rainfall pattern continued up until the end of the year. Rainfall in January was also close to the long term average. Average rainfall in the last 5 months (Sept – Jan) has been recorded at 136% of long term average. We have received 34% of long term average rainfall over the first ten days of February.

- River Flows

River flows are in the normal range, except for the Cam catchment that is below normal. The recharge rate has slowdown compared to previous months, however, groundwater levels are still increasing. The latest weather forecast suggests unsettled conditions will remain, with drier spells in the southeast.

- Groundwater

The end of September and October rainfall reduced the high soil moisture deficit, and by the end of October aquifer recharge started to take place across the majority of the area. The exception to this was the Cam catchment where recharge did not take place until November.

At the end of January the majority of groundwater levels have recovered to normal levels or above, and the most affected area, the Cam Chalk, has recovered to below normal levels.

Forward look

Prospects across East Anglia west area are GOOD for 2020. Soil Moisture Deficit is below normal, hence recharge is taking place at all sites. Average rainfall during the rest of winter and spring would show river flows likely to be normal in the groundwater fed catchments throughout the irrigation season, and groundwater levels are expected to remain in normal levels at most sites.

If weather conditions turn dry for the remainder of the winter and spring, river flows would return to below normal levels in the Cam and Lark catchments. If the dry weather persisted into the summer the Cam Chalk would fall to notably low levels. Therefore prospects could be MODERATE in the Cam catchment if dry conditions occur.

It is likely that local water management actions, using existing licence conditions, will be required in Fenland catchments during the irrigation season. Even in average conditions any dry periods during the summer can result in some form of local water management actions. These actions will most likely be required in the Middle Level, South Level, Counter Drain and/or the Hundred Foot catchments.

Please talk to us now about actions you can take by calling Andy Chapman on 02030 251786.

East Anglia (East)

Background

The heat wave summer of 2018 was followed by a dry autumn and winter resulting in very low rates of recharge to the chalk and drift aquifers which sustain the summer baseflow. Dry conditions continued into 2019 causing a number of rivers to experience their lowest rates of flow since the prolonged drought years of the early 1990's. The impact of the dry weather varied considerably across the area. Rivers North of the Wensum were not as severely affected due to wetter conditions prevailing in north Norfolk. The worst affected rivers were the headwaters rising on the Essex, Suffolk and Cambridgeshire boundary. By September 2019 some rain gauges had recorded 250 mm less than normal rainfall over the last three year period.

Conditions changed quite abruptly at the end of September 2019 with much wetter conditions prevailing over the next 14 week period. Most locations will have experienced over 125% of the long term average rainfall for this period. This above average amount of rain can typically be expected once every eight years. The particularly wet autumn resulted in a very early recovery of the soil moisture deficit to a level where recharge was possible and field drains became active. Rainfall has not been uniform across the area. The Essex/Suffolk headwaters were notably drier whereas the North West Norfolk Rivers experienced a rapid recovery to normal levels following exceptionally high rainfall. Over the winter months most rivers have experienced flows consistently above average. Whilst this has allowed most storage reservoirs to fill early these high flows will not necessarily indicate continuing high baseflow flows next summer.

Whilst most groundwater levels have now recovered to normal seasonal levels they have been slower to achieve full recovery at a few locations. With the soil still saturated we can expect further recharge over the next few weeks and most areas of major aquifer should attain normal spring levels. The exception could be the confined clay covered headwater areas of Essex and Suffolk and the coastal secondary aquifers including the crag and sands and gravel**.** These minor aquifer units are recovering at similar rates to those which followed the droughts of the 1990's. However, because of the high storage within these formations, once depleted they may take a number of years to fully recover to average levels. It is therefore likely that the Suffolk crag and Essex gravels will remain below normal levels next summer but not at the exceptionally low levels experienced during drought conditions.

Prospects

Significant geographical differences in rainfall and recharge, including the groundwater dominated nature of the Norfolk river catchments will this year give rise to significant geographical variation in the prospects across the Area particularly under the lower rainfall scenarios?

Prospects are assessed against rainfall totals between 1st February and 1st May. This is the period over which further recharge of groundwater is probable.

During a 'normal' summer the hard surface runoff from urban areas and the reduction in demand through reduced evaporation and abstraction will for most rivers be sufficient to curtail the need for further demand reduction measures. The risk identified in the following prospects therefore refer to likely actions during any further prolonged summer hot dry period resulting in high rates of weed growth, high water temperatures and a sudden increase in demand for water.

- Prospects 60 % to 80 % rainfall Feb to May- Probability of Occurrence 10 % to 30 %

Recharge is unlikely to continue beyond mid - March and at a lower rate than recently. Catchments north of and including the Wensum will have recovered sufficiently to sustain normal summer flow rates. Prospects

here remain MODERATE to GOOD. Catchments further south will show increasing pressure in response to the dry conditions. Highest risk of incidents during hot dry weather will be in a zone from the upper and middle reaches of the Waveney to the Chelmer and tributary catchments. Prospects for these rivers would be MODERATE, but vulnerable to an extreme weather event such as occurred in 2018. Therefore surface water Section 57 restrictions cannot be ruled out if needed to manage periods of elevated environmental stress. Current probability of combined conditions leading to surface water Section 57 is less than 10 %.

Groundwater recovery in the minor aquifers can be slow and the recovery period back to normal can take at least two years. The prospects therefore reflect the potential for a discontinuous or prolonged period of recovery. Therefore abstractions from streams and rivers supplied by minor aquifers including the Essex gravels and coastal crag are likely to remain at moderate over the next year following these more extreme dry weather scenarios.

- Prospects 100 % rainfall February to May- Probability -50%

Groundwater levels should continue to recover to normal or near normal levels in most catchments – above normal in the groundwater dominated rivers of North Norfolk where prospects would be GOOD for irrigation from streams and rivers. Elsewhere prospects would be MODERATE to GOOD reflecting a tendency for localised areas of the confined chalk to remain below normal in areas of heavy abstraction pressure. Higher risk catchments include the Gipping, Stour, Brett and Colne. Normal (average rainfall) conditions continuing into the summer would preclude any need for surface water Section 57s in 2020.

- Prospects 120 % rainfall – probability of occurrence > 30 %

A very wet scenario and a continuation of weather so far this winter. Demand for irrigation water would be very low with uptake of 15-20 % of average expected. These weather conditions would result in a prolonged season for recharge possibly into May or June. Prospects would be GOOD at all locations. Baseflows in north Norfolk catchments could be notably or exceptionally high by the early summer. Elsewhere flows would remain above normal well into the autumn. Full recovery of the minor aquifers could occur within a single season improving the prospects for the coastal crag and Essex gravels abstractors.

Summary

The irrigation prospects under the most likely rainfall scenario (average rainfall) are GOOD in North Norfolk while GOOD to MODERATE in all other catchments. Under the worst case rainfall scenario prospects would be MODERATE to GOOD and MODERATE respectively. These prospects issued for 2020 are slightly less favourable than would be issued under hydrologically normal conditions. This reflects the continuing recovery following the prolonged dry period over the last three years. The exceptionally wet conditions which have prevailed since September have significantly improved prospects for the majority of our rivers. Within this much improved broader picture we have identified local areas where the natural character of the aquifer and the baseload pressures arising from public supply create a small residual risk next summer. We remain within a recovery phase and cannot rule out a return to much drier conditions later in the winter. We cannot therefore at this date of issue preclude the potential need for section 57 surface water restrictions for all catchments. We would normally only be able to issue such assurance if January groundwater levels were consistently above normal. Current planting advice is therefore of a slightly elevated risk but much improved over last year's situation.

Please talk to us now about actions you can take by calling Dawn Goodhall on 02030 258371.

Hertfordshire and North London (HNL)

HNL consider spray irrigation (SI) prospects moderate and likely to remain moderate based on the present weather forecasts.

Background

The Hertfordshire and North London Area has received above average rainfall since September improving the water resource situation. Soils are now fully saturated and river flows have responded as the groundwater situation has improved. Monitoring boreholes in the Colne and Upper Lee areas have readings currently in the normal range. However, following nearly three years of below average rainfall, we still have some way to go before the system builds sufficient resilience against further dry weather.

Abstraction concerns

Summer irrigation abstractors mainly rely on groundwater. There is limited direct river abstraction due to historical licensing policies. HNL has 15 spray irrigation licences with flow constraints. Further rain will both assist with building groundwater resilience and postponing the need for early irrigation activity.

An early decline in river flows and groundwater levels are not forecast but could start to occur if further rain is not received. This is likely to have a more noticeable effect on the Upper Lee as further groundwater recovery is still needed. Irrigation constraints are still likely to be active over some parts of the summer irrigation season. This should not be as extensive as experienced in summer 2019.

Forward Look

Average or above average rainfall totals over the remaining recharge period will build further resilience within local groundwater systems. Below average rainfall could lead to an earlier decline in groundwater levels. The implication of this outcome would be most noticeable with the drying out of the upper most reaches of the Colne and Upper Lee tributaries.

If you would like further information please contact: alastair.wilson@environment-agency.gov.uk or call 0203 025 8953.

Lincolnshire and Northamptonshire

Background

Spring 2019 started with aquifers across the area considered to be below normal and river flows classified as below normal or notably low for the time of year. This was followed by exceptionally high rainfall in June, when the area received between 200% and 300% of the long term average rainfall, the majority of which fell between the 11th and 15th of June, ranking it the third wettest June on record after 2007 and 1982. The impact of this was high river flows and some flooding, along with recharge to the areas limestone aquifers bringing levels up to normal to above normal for the time of year.

However, the impact of the rainfall didn't last long and during July's average rainfall, flows began dropping back to where they were before the rain; with the Nene catchment returning to being classified as having below normal flows by the end of the month. However some aquifer recharge continued to be seen in the slower reacting chalk aquifer. August had average rainfall and river flows and aquifer levels continued to be classified as normal for the time of year. Then from September to November the area received close to 200% of the long term average rainfall for each month. This led to exceptionally high river flows and groundwater levels and saw flooding from both rivers and groundwater.

Since November the area has received average rainfall in December, January and the start of February which has led to river flows across the area being classified as normal for the time of year. Groundwater levels have decreased over this time with levels currently been classified as notably high for the time of year. The groundwater levels give a clearer indication of the overall state of water resources as they largely determine the level of base flows in rivers during the summer months.

Forward look

With average rainfall we are likely to see above normal groundwater levels meaning that river base flows will likely be above normal in both the chalk and limestone fed rivers. The River Welland and River Nene are likely to also see normal flows.

With 80% of long term average rainfall groundwater levels are likely to be normal this summer leading to normal base flow in groundwater fed rivers. The River Welland and River Nene are also likely to have normal flows.

It is likely however, that local water management actions may be required across the area during the irrigation season. Even in average conditions any dry periods during the summer can result in some form of local water management actions.

If you would like further information or have a specific query about your abstraction licence please contact us at: Drought.LNA@environment-agency.gov.uk

West Midlands

Background

Between June and December 2019, all catchments in West Midlands received rainfall above their monthly Long Term Average (LTA). For at least 1 month during this period, all areas received more than double their monthly LTA. For 4 months during this period, the majority of catchments received rainfall greater than 150% of their monthly LTA.

As a result of the consistently above LTA rainfall, all river flow sites in West Midlands recorded 'Exceptionally High' status multiple times between September and November 2019. Flooding was experienced in all hydrological areas between October and November. During this time levels on the River Teme in Tenbury reached their highest since 2007 and levels on the River Wye were recorded at their highest since 1988. By the end of December the majority of river flow sites had returned to 'Normal' status.

West Midlands soils overall have been wetter than the soil moisture LTA for the whole period of June to December 2019. At the end of December the soil moisture deficit for all hydrological areas was recorded as below 10 mm and therefore nearly saturated.

Consistent rainfall and wetter soils have improved the status of all groundwater sites. In the summer of 2019 groundwater levels at most monitoring sites in the West Midlands were below their 'Normal' status but have since risen to all being 'Normal' or higher by the end of 2019. Groundwater aquifer recharge can support watercourse flows during the summer, which may be needed if the coming months are dry.

Ten major reservoirs that provide water to the Midlands have been above their LTA for at least the last six months. At the end of January 2020 three reservoirs were recorded as being full, with six being above 90% full and one 89% full. With reservoir stocks being healthy for the time of year and groundwater having had reasonable recharge over the winter, the prospects are good for water availability for 2020. However, this may change depending on the weather and amount of rainfall.

Forward look

Spray irrigation prospects are GOOD across the West Midlands area. Abstraction licence Hands off Flow restrictions may still be imposed on surface water abstractions, especially in late summer, if the weather becomes hot and dry.

The principal aquifers of the Permo-Triassic sandstones in the West Midlands are a large store of groundwater and relatively resistant to drought conditions. The key indicator Permo-Triassic sandstone sites across the West Midlands are all within normal ranges for the time of year having received good recharge following the months of wetter weather.

Anthony's Cross observation borehole in Gloucestershire is well within the normal range and is currently showing an upward trend.

Weir Farm observation borehole in Shropshire is currently within the notably high range and showing an upward trend.

St. Mary's Church observation borehole in Worcestershire is showing a stable level at the upper limit of the normal range having been above normal towards the end of 2019.

Four Crosses borehole in Staffordshire is currently well within the normal range and is displaying an upward trend.

Ram Hall borehole is near Coventry and within the Permo-Carboniferous sandstone and mudstone. The levels are currently showing a slightly receding trend but remain well within the normal range.

If you would like further information please contact: IEP_WMD_waterresources@environment-agency.gov.uk

Ensuring your business is resilient to drought

Climate change predictions suggest the extremes of weather we have seen in the last few years are likely to become more frequent in the future. It will become increasingly important to ensure we are as resilient as possible to periods of reduced water resource and drought. The section below gives you some ideas on what you could consider before and during a drought to help make your business more resilient.

We will work with abstractors to minimise the impact of drought and related restrictions on businesses in the future. If you have ideas on things such as voluntary initiatives to conserve water whilst reducing the impacts of imposed restrictions in your area, or would like to set up an abstractor group in your area to work together to improve resilience, please get in contact, our details are at the end of this document.

We continue to recognise the importance of irrigation to the agricultural industry and will aim to work with farmers and others to try to minimise, where possible, the impact of any dry weather on their businesses.

Abstraction is primarily controlled by conditions on licences and licence holders must ensure that they adhere to these at all times. We would encourage all abstractors to review their licences to ensure that they continue to meet their needs following the experiences of 2018 and 2019. You may also need to extend the winter season on your licence from February to March.

For those farmers who wish to extend their licensed abstraction period, we strongly recommend that you apply now to formally vary your licence. In most cases these variations will be relatively straight forward and will provide you with long term drought resilience without the need to talk to us in the future for a temporary dispensation. This is particularly important as the allowances in the last few years are unlikely to be made in the future as more farmers formally vary their abstraction periods.

We do have powers to further restrict the abstraction of water for irrigation from rivers, streams and underground sources, and will use those powers should the situation become critical. If such a situation arises, however, we will always seek to achieve as much as possible through voluntary savings before imposing formal restrictions. Total bans will only be used as a last resort.

An up to date version of the Environment Agency Flexible Abstraction position can be found here: https://www.gov.uk/guidance/water-abstraction-flexible-options-in-exceptional-dry-weather

Water Rights Trading Map is available for East Anglia, Midlands and Lincolnshire and Northamptonshire areas.

More detailed hydrological information for all the areas can be found in the Environment Agency's Weekly and Monthly Water Situation Reports at:

https://www.gov.uk/government/collections/water-situation-reports-for-england

What can irrigators do?

For their part, irrigators are encouraged to take such actions as they can to minimise the impacts on the environment and their businesses: Please talk to us now about actions you can take. If you don't know your local EA contact, please call our customer service line on 03708 506506 and ask to speak to your local water resources member of staff dealing with spray irrigation prospects.

Abstraction Licences

- Check your licence details and, at all times, adhere to licence conditions. The Environment Agency is developing its secure online water resources licensing service, which can be found by searching GOV.UK for 'Manage your water abstraction or impoundment licence'.

As part of the digital service you can now:

- Submit your abstraction returns
- View your licence and previous returns
- Receive letter notifications (expiry reminders, HoF warnings and irrigation bans)
- Give permission to a named contact to manage your licence

Voluntary Restrictions

- Comply with voluntary restrictions where they are requested. This will delay, and may avoid the need for more formal restrictions.

Storage Reservoirs

- Take every possible opportunity to ensure that high flow storage reservoirs are as full as possible by the start of the irrigation season;
- Continue to plan for the future. Is there an opportunity to convert from direct summer abstraction to high flow storage? The Rural Payments Agency may be able to help with funding.
- Ensure your reservoir is regularly maintained, checking for cracks and leaks.
- The Environment Agency has a range of literature available to help support your business including Rain Water Harvesting; Think about installing an irrigation Reservoir and adopting Best Metering Practice. Guidance on the planning and design of irrigation reservoirs in Kent, jointly produced by Environment Agency, Kent County Council and EMR.
- If you are currently having trouble filling your irrigation reservoirs, please contact us as early as possible to enable maximising any potential that may exist to fill your reservoir.

Irrigation Management

- Make sure that meters are in good working order and properly fitted;
- Check irrigation systems and replace worn or broken items before the start of the season;
- Make sure that irrigation systems are properly set up and operated in accordance with an accurate and reliable irrigation scheduling system;
- Ensure you are prepared to change your irrigation plans if necessary;

- Prioritise crops and fields in terms of water need;
- Choose irrigation times carefully, e.g. avoid the heat of the day; irrigate at night, if possible;
- Undertake a water audit. Know the cost of your water, calculate crop per drop.
- Keep updated on the latest water situation reports at https://www.gov.uk/government/collections/water-situation-reports-for-england

Abstractor Groups and Guidance

- Where appropriate, discuss issues, share ideas etc. with neighbouring farmers. A number of local liaison groups already exist for this purpose. Consider joining or setting up a group.
- Maintain an awareness of developing guidance from academic institutions and farming organisations (e.g. NFU, UKIA, Cranfield University etc.);
- The Environment Agency has a range of literature available to help support your business including Rain Water Harvesting; Think about Installing an Irrigation Reservoir and adopting Best Metering Practice.