



# Dry Weather Advice to Farmers

This paper contains our advice to farmers after period of prolonged dry weather and provides clarification on our policies relating to:

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2. [Alternative Sources Available Across Wales](#)
3. [Licence Variations](#)
4. [Section 57 Spray Irrigation Restrictions](#)
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Droughts are natural events which occur as a result of a prolonged period of low rainfall which creates a shortage of water. They affect the availability of water supplies to different users. Droughts can also affect rivers or aquifers, depending on when the lack of rainfall occurs. Every drought is different (duration, scale and severity) and can have a different effect on people, business and the environment. Some droughts affect a large area of Wales while others are concentrated in a few catchments.

There is no single definition of drought, but all droughts are characterised by some degree of rainfall shortage. A drought is a natural event that we can't prevent and each drought is different, with the nature, timing and impacts varying according to location and which sectors are affected such as public water supply, agriculture, the environment or industry.

We identify three main types of drought which may occur separately or together.

- Environmental drought
- Water supply drought
- Agricultural drought

## **Environmental drought**

Environmental drought happens when a shortage of rain is having a detrimental impact on the environment. It is likely that there will be reduced river flows, exceptionally low groundwater levels and insufficient moisture within soils. These conditions often result in signs of stress for wildlife, fish and habit

Fisheries are affected when low winter rainfall causes low flows in rivers and low levels in still-waters, at the time when some fish rely on flows being both variable and sufficient to allow upstream movement (for example for fish migration). In drought conditions, migratory fish are likely to pool up in estuaries and the lower reaches of river systems where they may become vulnerable to legal fishing and illegal activity. Over a period of time, if flows continue to reduce or remain at critically reduced levels fish will die.

Many wetlands can dry out and the usual wet pools will either dry or reduce. In hot dry summer conditions fire can also devastate vulnerable areas of heath land and moorland which is home to wildlife. In addition to these short-term effects, the longer term impacts of drought can become more severe.

When droughts occur during warmer than normal conditions, higher water temperatures present an extra problem. Some aquatic plants will no longer grow in warmer areas of standing and flowing water. This can have major long-term effects on the animals and plants that live in water, and also on animals that depend on water. As a drought develops there is also the risk that particular local species may die out where they are unable to move to areas that retain a suitable habitat. Whereas they may be able to survive one season of drought, several poor breeding seasons could threaten some vulnerable species with extinction.

### **Water supply drought**

Drought can significantly reduce the availability of water supply by reducing river flows, groundwater recharge and reservoir levels. Therefore, a **water supply drought** happens when a shortage of rain is causing water companies concern about supplies for their customers. It will tend to take longer to develop than environmental or agricultural drought as water company supply systems are developed to cope with dry weather. For example, multi-source supply systems, often using both surface and groundwater resources, have increased resilience to drought particularly to shorter drought periods

**Agricultural drought** happens when there is not enough rainfall and moisture in soils to support crop production or farming practices such as spray irrigation. These conditions often happen alongside an environmental drought situation but usually before public water supplies are impacted.

A prolonged period of low rainfall can severely impact agriculture through crop failure, reduced crop yield (quantity and/or quality), disrupted access to drinking water for livestock and increased fire risk (particularly in upland/heath areas). On the other hand, hot summers can be favourable for vegetable planting and the production of soft fruit.

# 1. Abstraction of Water

Natural Resources Wales is responsible for the management and effective use of water in Wales to balance the needs of people and the natural environment. This is done by issuing water abstraction and impoundment licences.

You are likely to need to apply for a licence if you want to impound water in any watercourse or take more than 20 cubic metres (m<sup>3</sup>)<sup>1</sup> (4,000 gallons) of water per day from a:

- river or stream
- reservoir, lake or pond
- canal
- spring
- underground source
- dock, channel, creek, bay, estuary or arm of the sea

Current information about water abstraction and impoundment licences is available on our website: <https://naturalresources.wales/permits-and-permissions/water-abstraction-and-impoundment/information-about-water-abstraction-or-impoundment-licensing/?lang=en>

## Legal abstraction without a licence

### Up to 20 cubic metres per day exemption threshold

Abstractors may legally take up to 20 cubic metres (4,400 gallons) per day **per source of supply** without an abstraction licence. These are known as exempt abstractions.

### **It's important to note and adhere to the following:**

- If an abstractor wishes to take water from multiple locations within the same source of supply the total of all the abstractions must not exceed 20 cubic metres per day.
- If an abstractor already holds an abstraction licence for a source of supply (because they are abstracting above 20 cubic metres per day) they cannot also abstract under the 20 cubic metres per day exemption from that source of supply without making changes to their licence.

For exempt abstractions, there are no rights of access requirements to the abstraction point under Water Resources legislation. Any access arrangements would be a private matter between the person wishing to abstract and the owner of the land the source of supply is located on. We cannot grant access to any sources that are not located on our land.

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<sup>1</sup> In simple terms, one cubic metre is 220 gallons.

A tanker of 2 thousand gallons capacity could collect in a single abstraction activity approximately 10 cubic metres. A tanker of 3 thousand gallons capacity could collect in a single abstraction activity approximately 14 cubic metres.

The onus is on the abstractor to demonstrate that they are abstracting less than 20 cubic metres per day per source of supply. It is recommended that abstraction logs detailing date, time and volume abstracted are maintained for this purpose.

Where abstraction is necessary, for example for stock watering, it should be carried out in a way that minimises any potential risks to the habitat and its features as much as possible by ensuring:

- minimum required quantities are taken,
- intake pipes/pumps are appropriately screened to prevent the ingress of fish,
- the abstracted water is used as efficiently as possible,
- abstraction location and operation are considerate of any potential impacts to designated sites and species that may be present, and other abstractions.

Allowing up to 20 cubic metres to be abstracted per 24 hours without the need for an abstraction licence, takes into account a risk-based approach that the level should not have a significant impact on the environment.

However, for all exempt abstraction, we expect the spirit of the exemption to be applied and due regard paid to the potential environmental impact that could occur as a result of the exempt abstraction activities.

If a situation arises where an abstraction is causing or has the potential to cause any kind of environmental damage, e.g. a fish mortality, we reserve our right to take enforcement action should it be necessary. In this case we would also consider what, if any, other legislative provisions may be available for enforcement action to be pursued.

### **For previously exempt activities**

Some farmers have historically been able to abstract above 20 cubic metres per day without requiring an abstraction licence due to their activity being previously exempt (e.g. trickle irrigation) or because of their location within a previously exempt geographical area.

Most historic exemptions were removed with effect from 01/01/2018 and existing abstractors are required to submit a transitional water resources licence (by 31/12/2019) to legally continue their historic abstraction. Such abstractors may continue to abstract in line with their historic operation (as per the seven-year 01/01/2011 to 31/12/2017 qualifying period) until we determine their application or until the 31/12/2019 deadline if no application is submitted.

Please see our [website](#) for further advice on exemption removal and licensing.

## **2. Alternative Sources Available Across Wales**

### **Steps for farmers seeking alternative supplies**

We recommend that if a farmer (who has concerns that their private water supply may run dry or, whose private water supply has run dry) needs to seek an alternative water supply for their livestock they should follow these steps:

- Where possible reduce water demand required for livestock, refer to [waterwise on the farm](#) for water saving ideas.
- Check for and repair any leaks
- Use mains supply where available
- Ask a neighbour if they have any spare water available in their water supply\*.

If a farmer is unable to use mains or source water from a neighbour, they should contact their local farmers union office and us for advice on whether there have been any nearby alternative water supplies identified. The options will vary on a case by case basis depending on the availability of options within their catchment. The options may be as follows:

- Abstraction of less than 20 cubic metres per day from a local water course,
- Consider if there is scope to apply for or vary an abstraction licence, or
- Directed to a specific alternative supply (see next two sections) near their location if available

\*Note you are advised to contact us to check for any licensing requirements/amendments and abstraction quantity advice if over 20 cubic metres per day is needed.

If you wish to take more water from water sources you will also need to consider the following:

- If you are not the land owner, do you have the permission of the land owner?
- Have you considered any potential environmental impact that could occur as a result the activity?
- Is the water safe to give to livestock, has it been tested?
- Are you taking more than 20 cubic metres per day for your business? If so, you will need to apply for an abstraction licence from us.
- If you already have an abstraction licence but wish to increase the amount, you will also need to apply to us for licence variation.

**We encourage farmers to consider their current and future water requirements. If it is identified that an alternative supply is/may be required due to prolonged dry weather please contact NRW's Customer Care Centre on 03000 065 3000 (Mon – Fri 9 am – 5 pm) or via [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk) as soon as possible to commence discussions.**

### Alternative sources on our land

There may be stock watering points available across the Welsh Government Woodland Estate that could potentially be utilised by farmers to access livestock drinking water (subject to the 20 cubic per day exemption threshold). Further work would be required to identify, and if practical to progress and implement, alternative source options at times of prolonged dry weather.

The information that would need to be considered on a site by site basis include:

- Quantity of water required on a daily basis.
- Number of persons/companies requiring the use

- Hydrological assessment (quantity of water available on a daily basis).
- Water quality assessment
- Environmental assessment
- Access to the site – can the site be accessed directly or would water need to be released into a river before being abstracted which would require an environmental assessment.
- Availability and suitability of equipment for abstracting, transporting and storing the water.
- Abstraction licence and other permit considerations.
- Operational considerations - safe set up, method of operation, control of activities, access arrangements, security and abstractor responsibility.
- Biosecurity measures

Please note: Should a licence application be required, it will be subject to the usual statutory 3 or 4 month (if advertising required) determination timescales. We will however endeavour to fast track applications where possible.

It should also be noted that there may be water quality issues with any previously unused sources and as a result of storage in the warm weather and will require testing. As an example, Blue Green algae (which is toxic to livestock) may not be present at the time of abstraction but may occur if the water is subject to bowser storage for several days in warm weather.

### Alternative third-party sources

There are currently some unused sources of water, such as reservoirs and groundwater sources that are owned and/or operated by third parties. These could potentially be used as strategic collection points for water for livestock over the dry weather period. In addition, there may be water available from licensed and currently unlicensed (exempt) de-watering activities e.g. quarry dewatering and engineering projects.

NRW would require further information from farmers/farming unions on potential need for using third party sources so we can discuss these options further. **This is because prior agreement would be required with the third party where there may be an unused source, particularly in terms of volumes required, accessibility and any other health/safety considerations. Access and collection arrangements will be the responsibility of the farmer (not the third party).**

Please note: Should a licence application be required, it will be subject to the usual statutory determination timescales. We will however endeavour to fast track applications where possible.

## 3. Licence Variations

If prolonged dry weather we anticipate that some abstractors may contact us with requests to amend their existing licences. This could be to:

- increase quantities,
- extend the authorised abstraction period,

- to move/add abstraction locations or
- to amend current abstraction cessation conditions.

We therefore encourage abstractors to consider their water needs over the coming months and in the future, and to discuss with us as soon as possible.

## 4. Section 57 spray irrigation restrictions

As flows continue to fall we may need to introduce restrictions on spray irrigators who do not have "Hands off flow" conditions on their licences. This would be through Section 57 (s57) of the Water Resources Act (1991 as amended) which enables us to impose restrictions if there has been an exceptional shortage of rain.

A separate briefing note on [s57 spray irrigation](#) restrictions is provided alongside this paper.

## 5. Sustainable Land Management

During exceptionally hot dry weather, the availability of forage for livestock is significantly reduced compared with more usual weather conditions. Grass species (particularly rye grass) have shallow roots and are stressed quickly when the top layers of soil have low water content. In many circumstances, more semi-natural habitats that have a variety of species often with deeper roots will continue to provide forage as the ground water table drops and soil moisture deficits increase. If hot weather continues, more semi-natural habitats could provide valuable forage for livestock providing resilience to farm business.

Drier soil conditions allow machinery to access wet land that is normally inaccessible. Semi-natural land is covered by the EIA (Agriculture) Regulations. The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017 apply to all uncultivated land and semi-natural areas in Wales.

Landowners are required to seek a screening decision from Welsh Government before undertaking any improvement work (including ploughing, re-seeding or draining) on any uncultivated or semi-natural land ([EIA.Unit@wales.gsi.gov.uk](mailto:EIA.Unit@wales.gsi.gov.uk)). Land is considered uncultivated or semi-natural if it contains less than 25-30% improved agricultural species (such as rye grass or white clover).

**Livestock may also have access to different plant species as land, normally inaccessible due to water levels, dries out. Livestock owners should check such areas for the presence of toxic plants such as hemlock water dropwort. The risks of livestock eating toxic plants may be increased where they have had no previous familiarity with the plant or forage availability is restricted.**

## Requests for changing practices on land with a SSSI designation

On SSSI land, we will be as flexible as possible in considering requests to temporarily change grazing or cutting regimes on habitat such as wetlands, heathlands and woodlands. Advice will be given on a site by site basis. Outside SSSI, many habitats will tolerate a temporary increase in grazing level, but landowners should ensure that they do not over-graze the habitat and damage it, otherwise the benefit that these habitats deliver in terms of grazing will be diminished.

### If SSSI designated land is also under a Glastir contract

If the land is also under a Glastir contract, the land owner will need to discuss with the Welsh Government before changing management. We can only advise in relation to the SSSI requirements.

<https://beta.gov.wales/cross-compliance-exemptions-due-prolonged-hot-and-dry-weather>  
<https://beta.llyw.cymru/trawsgydymffurfio-eithriadau-oherwydd-cyfnod-hir-o-dywydd-poeth-sych>

## 6. Alternative sources of Animal Bedding

### Types of bedding material

There are alternative sources of animal bedding that can be used within the agricultural sector. Some of this material may be waste and hence subject to further regulation (see section on waste exemptions).

### Woodchip and wood derivatives

Woodchip bedding is intended as a straight replacement for straw when housing livestock **indoors**. Outside corral systems require a different type of chip and infrastructure development to manage runoff (see leaflet produced by Hybu Cyg Cymru in 2012- *Improved design and management of woodchip pads for sustainable out-wintering of livestock*). The details of which can be found on the following link:

<https://beefandlamb.ahdb.org.uk/wp-content/uploads/2016/03/BRP-plus-Improved-design-and-management-of-woodchip-pads-220316.pdf>

Virgin timber and virgin timber residues are not waste and can be utilised subject to their suitability as alternative bedding material. Virgin timber chip and virgin timber residues can be used without the need to register a waste exemption.

Wood and associated residues from post saw mill production processes, e.g. furniture manufactures, such as off-cuts, shavings chippings and sawdust, either treated or not treated, is waste. Waste exemptions exist for the use of the untreated wood waste as animal bedding. See later section.

Following use of woodchip as an animal bedding it requires treatment in the same way as straw. As it requires several years to break down it may require a separate farm yard manure pile.

## Other plant material (e.g. Miscanthus, Bracken)

There are materials grown on farm or sourced from local common land that have been used as replacement animal bedding. Harvested when dry and following further drying can be used as a bedding. The attributes of each material would have to be considered on a case by case basis and meet the approval of animal health.

## Shredded Paper and cardboard

Shredded paper and cardboard from the waste industry can be used as an animal bedding. This paper and cardboard will need to have been treated to remove any physical hazards such as plastic and metal. A waste exemption allows its use. See later section.

## Paper fibre, de-inked paper pulp and de-inked paper sludge from paper manufacturing

Paper fibre and pulp can provide a suitable alternative bedding material. The material deemed suitable would originate from the paper manufacturing industry only. The reason there is this limitation is to ensure that any paper pulp and sludge is de-inked prior to use. This removes the physical and chemical risks from these waste types. A waste exemption allows its use. See later section.

## Studies into the use of wood chip as an animal bedding

A number of studies have been undertaken in Wales looking at woodchip bedding. It should be noted that these studies are over 10 years old. It is therefore important that any use of alternative material that are part of these studies are confirmed as being suitable for use by Animal Health.

Two pilot studies were undertaken at Pontbren and Llysfasi College and a larger study undertaken as part of the Farming Connect project lead by Hybu Cyg Cymru (HCC) in 2006. <https://hccmpw.org.uk/en/industry-resources/animal-health-and-welfare/research/woodchip-for-livestock-bedding-project>

There were a number of discrete projects undertaken by ADAS Pwllpeiran, IGER Plas Gogerddan and Glynllifon college.

## Regulation of waste used for animal bedding

There are waste exemptions that can be registered that allows specified waste to be used as alternative animal bedding. This exemption is a Use exemption called U8.

Many farmers will have registered this exemption with NRW already, and registrations can be checked on our public register here:

<https://nrwregulatory.naturalresources.wales/Exemptions/PublicRegister/Search>

If it has not been registered, it is very easy to register the exemption through the link below (registering is free): <https://naturalresources.wales/permits-and-permissions/waste/register-your-waste-exemptions/?lang=en>

By registering, the exemption holder is agreeing to operate in line with the criteria set out in the U8 exemption as laid out below. If the criteria are not followed, the exemption is invalid and NRW may consider enforcement action.

It allows up to 100 tonnes of shredded waste paper and cardboard, paper fibre and sludge from paper manufacturing or untreated wood to be used as animal bedding.

The 100 tonnes is per '[place](#)' which generally means per farm.

<b>EWC Codes (waste codes)</b>	<b>Specific Waste types</b>	<b>Specified purpose</b>	<b>Quantity limit (at any one time)</b>
191201	Shredded paper and cardboard	Use as animal bedding	100 tonnes
030305, 030310, 030311	Paper fibre, de-inked paper pulp and de-inked paper sludge from paper manufacturing only	Use as animal bedding	100 tonnes
030105, 191207	<b>Untreated</b> wood (including shavings, woodchip and sawdust) and over-sized compost only	Use as animal bedding	100 tonnes

***No other wastes unless listed above have been approved by the regulator to use as animal bedding. Before any waste can be used as an animal bedding the regulator and animal health will have to fully approve its use.***

***There are some wastes that Animal Health specifically exclude because of disease risk – these may include for example dried fibre derived from Anaerobic digestion.***

Below are links to useful guides that were produced with the farming unions to help farmers protect their livestock and land from importing onto the farm poor quality and unsuitable waste. <https://www.nfuonline.com/land-spreading-documentv2/>

A press release was issued in 2017 to assist farmers in preventing poor quality wood chip entering the farm. Farmers are reminded to be cautious of offers of woodchip from unknown sources and are encouraged to ask the supplier where the wood has come from and whether it is from untreated sources. If in doubt, speak with the local NRW representative. <https://naturalresources.wales/about-us/news-and-events/news/farmers-warned-about-illegal-waste-woodchip/?lang=en>

### **Market value of woodchip as an alternative animal bedding**

Currently untreated woodchips derived from small roundwood or sawmilling are used in biomass plants for energy, board manufacturing or landscaping. This material has an associated market value and many suppliers will have pre-existing contractual commitment to supply into these markets. Currently demand for material is dominated by the biomass sector.

The high value of timber currently experienced is also driving the value associated timber products for example wood chip. There are a range of prices for a wide array of products.

Given the very high value of timber products it seems unlikely that much of the current wood or sawmill residues will be diverted for animal bedding use unless the agricultural sector is prepared to pay more and compete for supplies.

Felling of timber on farms at this present time is unlikely to provide significant volumes to use as an alternative to current materials, as there is a need to deploy industrial chippers and infrastructure is required for the drying of the wood (e.g. either air-dried undercover or a heated drying floor), as chipped wood is only good for bedding when it is dry. Felling at the scales required for bedding will also require a felling licence from NRW.

NRW could also assess if there is suitable volumes of dry wood available within the Welsh Government Woodland Estate at roadside which could be used as the need arises. These will of course be subject to standard marketing processes.

A list of current woodchip suppliers can be accessed by following this link: <https://biomass-suppliers-list.service.gov.uk/find-a-fuel> Please check with supplier that you are only sourcing “virgin” wood as animal bedding.

## 7. Avoiding agricultural pollution in hot weather

The impact and severity of any pollution is exacerbated by the naturally low levels of oxygen brought about by warmer water as well as low flows.

Allowing stock to enter water courses can result in decreases in water quality. Keeping stock from walking (and bathing) in watercourses by using drinking bays could help in relation to provision of cleaner water for stock to drink and for neighbours downstream.

The hot weather can also result in changing farming practices for example reduced silage cuts and increased slurry spreading. If slurry is applied to dry cracked ground, there is potential for increased connectivity to water courses, so we urge farmers to apply light applications of slurry and avoid spreading on land that has land drains.

Should you become aware of an environmental incident we would urge you to contact us at the earliest opportunity by calling 0300 065 3000;

- Select 1 for Welsh language or 2 for English language service
- Press 1 for the 24-hour incident reporting line