

## SWT Somerset Levels and Moors Water Quality Position Statement (August 2021)

Somerset Wildlife Trust's National Nature Reserve (NNR) Westhay Moor is a haven for wildlife including Bittern, Marsh Harriers, Great White Egrets, Cattle Egrets, dragonflies, Otters and the insectivorous Sundew. It is one of 14 Sites of Special Scientific Interest (SSSIs)<sup>i</sup>, a national designation first recognised under the National Parks and Access to the Countryside Act 1949, on the Somerset Levels and Moors. These sites are recognised for their special features for wildlife, geology and/or landform. This designation gives these sites protection through the Wildlife and Countryside Act and means they must be kept in good condition. The government is responsible for ensuring this happens, landowners are required to manage their SSSI land to protect and conserve the SSSI features. Anyone proposing actions that could impact or damage a SSSI must take steps to protect it, even if the work is outside the boundary.

[Read more on SSSI responsibilities.](#)

Together these SSSIs make up the [Special Protection Area \(SPA\)](#), designated by EU and UK law under the Wildlife and Countryside Act, as areas protected for bird species; in Somerset these include Wigeon, Teal, Lapwing, Snipe and Bittern. They also form part of the Somerset Levels and Moors RAMSAR site, recognised in international law under the [RAMSAR convention](#) as a wetland of international importance containing rare and unique wetland species bringing additional protection.

In short, these SSSIs on the Somerset Levels and Moors have the highest protection our legal system can provide.

### **Status: Unfavourable - declining**

In May 2021 Natural England informed Somerset Wildlife Trust that they were changing the condition status of all the Somerset Levels and Moors SSSI (Site of Special Scientific Interest) including the nature reserves we manage to 'Unfavourable – declining' (the worst status before 'destroyed'), along with all other SSSIs, due to poor water quality across the area. Their monitoring work along with Wessex Water and the Environment Agency, shows that Phosphate inputs are at least 3 times the target causing ditch and invertebrate assemblage to fail.

The assessment concludes with this sentence "Whilst clear cause and effect relationships have yet to be established it seems entirely feasible that the excessive nutrients, combined with climate change, could lead to a situation where it is far more difficult, if not impossible, to maintain the supporting habitats of these bird species."

[You can read more about the condition assessment for Westhay Moor National Nature Reserve and SSSI here.](#)

### **What does this mean for wildlife?**

Nutrients (phosphorous, nitrogen and potassium) are essential for plant growth and are found at balanced levels in healthy soils. On the Levels and Moors nutrient loads are too high.

"The overall condition across all Somerset Level and Moors SSSI s\* is 'Unfavourable Declining' due to evidence of failing water quality, most notably high Phosphate levels." – [Natural England's Briefing Note](#)

The overload of nutrients, particularly phosphates results in vigorous growth of plant species (duckweed and algae) on the water surface of the ditch systems of the Levels.( While it looks natural, the Levels and Moors are a completely human-engineered landscape with a complex ditch and river system tightly controlled for water levels to allow for farming activity and to deliver flood protection in low-lying villages ). These plants form extensive mats of vegetation that block out sunlight killing other aquatic plant species, preventing photosynthesis and reducing oxygen levels in the water. (Recent readings at our newest site on the Levels, Honeygar, showed almost no oxygen in some ditches ) These conditions cause a significant decrease in the biodiversity of the water courses of the Levels and can result in the deaths of invertebrates and fish that require oxygenated water. In turn, the birds (that the wetlands of the Levels are renowned for and that give these sites their legal designations and protections) that feed on these species will most likely lose their food source.

### **Why has this happened?**

There is not one single cause or source of this pollution unless of course you count the fact that for far too long – decades if not centuries – we have failed to recognise the value of our water courses, and the importance of protecting them. Instead, treating them as a glorified rubbish bin for chemicals - fertilizers, washing detergents and other pollutants, human and animal waste, and more.

Indeed, this is the national picture. The Environment Agency released figures in 2020 showing that only 14% of English rivers are of good ecological standard and none reached good chemical status. For more on this we recommend you watch the [Rivercide documentary](#).

There are three key areas that are contributing to the poor water quality on the Somerset Levels and nationally. For an in depth look at the causes do read the blog post by [Tony Whitehouse at RSPB on West Country Bylines](#).

1. Domestic: using our toilets and sinks like a rubbish bin, misconnections in homes and businesses causing detergents and other chemicals to find their way into our water courses, and urban runoff ([read about this here from the Environment Agency](#))
2. Agriculture: three key areas here:
  - a. chemical fertilizers used on crops that run through the soil and into the water courses, as fertilizers they encourage growth of algae and duckweed;
  - b. slurry either spread on fields or leaking from storage; or from grazing livestock again running through the soil into water courses.
  - c. Arable crops leave bare soils after harvest or during cultivations for autumn sown crops. When it rains the soils wash into watercourses carrying phosphates that are bound to the soil particles. Climate change will exacerbate this as we will see more heavy rain pounding the soil.
3. Sewage discharges into water courses by water companies, Wessex Water in the case of Somerset. To find out about how and why this happens [read The Rivers Trust report here](#).

It is important to note that the sources of nutrient pollution mainly come from the surrounding river catchments, not just from the management of the SSSIs. A river catchment is an area of land where water collects when it rains, often bounded by hills, and flows into streams, through soil and eventually into a particular river. River catchments on the Somerset Levels are the Brue, Axe, Parrett, and Tone. Find out more on [FWAG SW Catchment website](#).

The Natural England briefing note shows that on the Levels the main causes of phosphate pollution are from waste water treatment works, livestock and arable agricultural practices. Pollution from water treatment works is reducing thanks to investment by Wessex Water which leaves agricultural

pollutants increasing as a proportion of the whole. The Natural England briefing note states that “The challenge now is to reduce nutrient inflow arising from agricultural practices.”

### **What are the solutions?**

You may wonder how it's possible that sites with such heavy legislative protection can still be so polluted and damaged. And you would be right to question this.

Just as there are multiple causes of the poor water quality and high phosphate load in the Somerset Levels water courses, a range of solutions are required. Some are known and are already being put in place. Others are yet to be devised.

The large reduction in funding over the past decade to statutory bodies Natural England and the Environment Agency, which have essential roles in monitoring and enforcing these requirements and the requirements of the Water Framework Directive designed to improve water quality, has helped allow this situation to develop. Proper funding of these agencies is essential if water quality of all our rivers, including on the Somerset Levels, is to improve.

Landowners of SSSIs and land within the catchment must comply with all the requirements on them to deliver improved water quality and this needs to be enforced, they may need advice and support to do this including whole farm finance advice to enable them to fund the measures they need to deliver.

Breaches must be identified with existing penalties imposed (fines or government funding support cut). There needs to be appropriate funding for enforcement and advice to farmers on how they can achieve compliance. As Tony Whitehouse says in his article this is the 'stick' to ensure that landowners prevent nutrients from entering the river system through . good land management practices such as the use of cover crops and buffer strips, reduced use of fertilizers and careful management of slurry and livestock.

Then there are the 'carrots' with voluntary schemes paying farmers to do more to manage their land for nature such as holding water on their land for longer. With the changes coming to the agri-environment subsidies through the phasing out of Basic Payment Scheme and introduction of the new [Environmental Land Management Schemes](#), land owners must be incentivised to go beyond legal compliance by delivering natural solutions to improve water quality, which could include creation of wetland / reed bed habitat or flood plain that can slow or hold water that can break down nutrients into the soils and prevent them entering the water course.

Phosphate removal is difficult, and more research is needed. It takes time, probably up to 80 years, but reductions may be achieved in shorter timescales by storing water in soils for longer allowing phosphates to be absorbed into the soils and broken down, or allowing water to flow through reed beds that suck out phosphates as the water passes through.

Government has announced it will review the Habitat Regulations, the legislative framework for all these designations. It is essential that they are strengthened, not weakened, with proper resource for government agencies to be able to enforce these regulations.

In August 2020 Natural England wrote to all Somerset planning authorities advising them that the unfavourable water condition of the Ramsar site should be given 'due consideration' before granting planning applications based on recent caselaw known as the 'Dutch Nitrogen' case ([legal summary here](#)). The result of this requires all new developments to demonstrate 'phosphate neutrality' to avoid increasing the phosphate load within the Ramsar.

Wessex Water must play an important role in preventing sewage discharges into water courses. They have committed £57m by 2024 towards this, but will need to be held to account to do more if it isn't enough.

#### **What you can do**

1. Think very carefully about what goes into your toilet or down your plug hole. Find out more about the [Three Ps here](#); [fats, oils and greases here](#).
2. Check your home for misconnections and fix them, [some advice here](#).
3. Make sure your cleaning products are [phosphate free and biodegradable](#).
4. Report pollution incidents immediately to the Environment Agency 0800 80 70 60 or Wessex Water 0345 600 4 600 (who will also inform the EA). Signs of pollution can include a sewage smell, dead or gasping fish, cloudy water or items like toilet paper and wipes.
5. Join our [Water Guardian](#) volunteer programme in partnership with Wessex Water and help monitor the health of your local water course.
6. Support local farmers who are reducing fertiliser use and actively improving soil health.
7. Hold the government to account by writing to your MP and DEFRA asking for the Habitat Regulations review to ensure water quality requirements are strengthened and enforced with sufficient funding for statutory agencies; and to support farmers to manage their land differently to improve soil health, water quality and all the biodiversity benefits that brings. You can use our template letter [here](#)

#### **What we will do**

1. With The Wildlife Trusts nationally, call for strong legislation through the Habitat Review to improve water quality, and for landowners to be incentivised to manage their land reducing nutrients and removing them from the catchment
2. Call for existing laws to be followed with funded, stronger enforcement mechanisms for those who pollute, whether landowners, businesses, individuals, developers or water companies.
3. Manage our sites without increasing the phosphate load and look for opportunities to remove phosphates from the system through our land management.
4. Continue to work with communities to promote wider understanding of the challenges facing our wetlands and waterways, from source to sea – including expanding our [Water Guardian](#) volunteer programme in partnership with Wessex Water. Water Guardians are volunteers who are trained to spot and report pollutions, monitor key indicators of water quality such as phosphates and litter pick along their local stretch of river.

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<sup>i</sup> Catcott, Edington and Chilton Moors, Curry and Hay Moors, King's Sedgemoor, Langmead and Weston Level, Moorlinch, North Moor, Shapwick Heath, Southlake, Tealham and Tadham Moors, West Moor, West Sedgemoor, Westhay Heath, Westhay Moor, Wet Moor