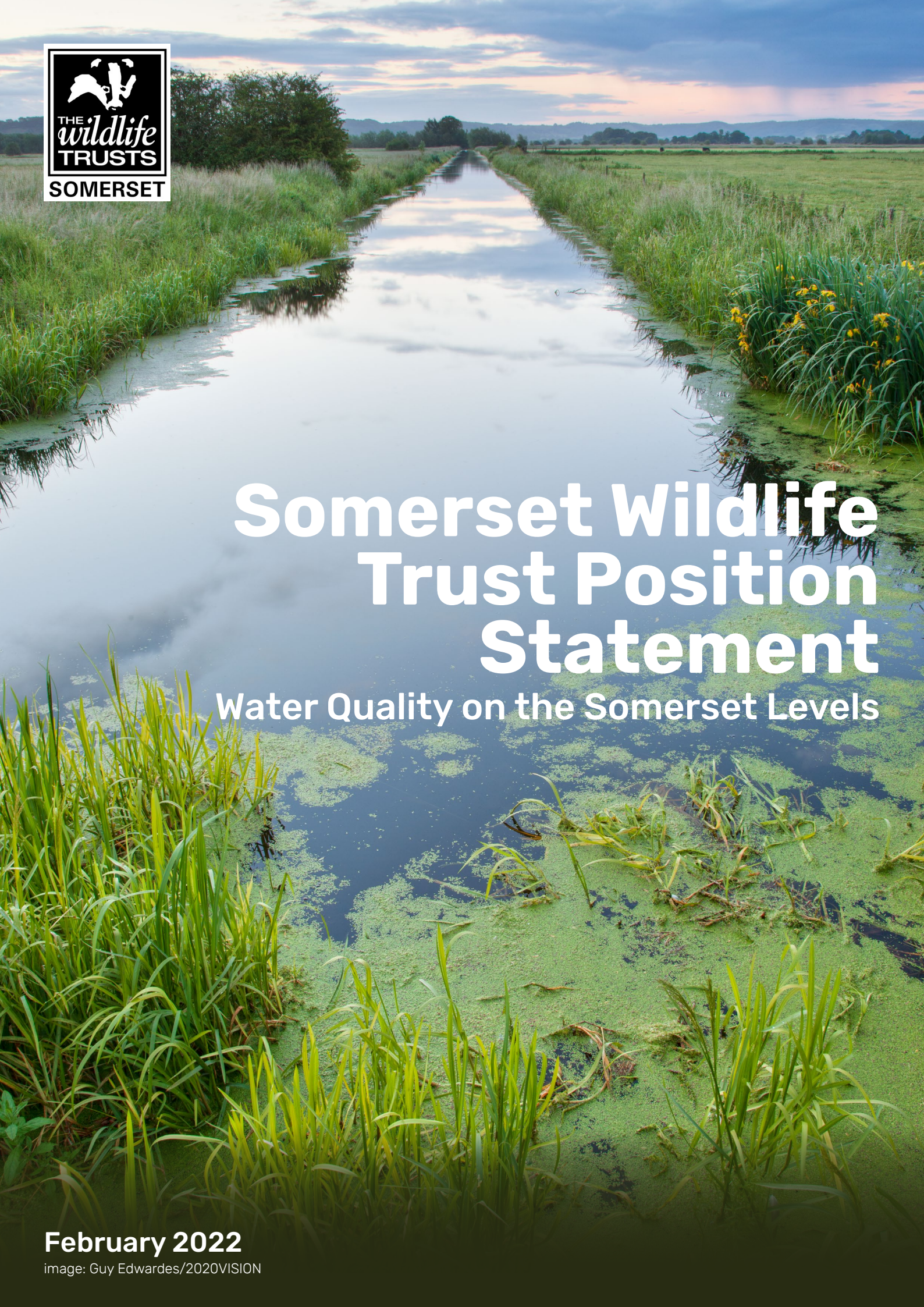

Somerset Wildlife Trust Position Statement

Water Quality on the Somerset Levels

February 2022

image: Guy Edwardes/2020VISION

Rivers and water courses are vital ecosystems, when healthy they are home to a wide range of species, protect against flooding and bring important benefits for human health and wellbeing.

The government's 25 Year Environment Plan commits to cleaner rivers, to protect species and provide richer wildlife habitats pledging to 'secure clean and plentiful water by improving at least three quarters of our waters to be close to their natural state as soon as is practicable.'

But, right now our rivers are in crisis. For too long we, as society, have treated our rivers and water courses as dumping grounds. The Environment Agency conducts a river health report established by the EU Water Framework Directive which found that only 14% of rivers in England are of good ecological status, and that no river has met the standards for good chemical status.

The Environment Act 2021, requires a long-term target for the improvement of water to be set by 31st October 2021 with a minimum 15 years duration.

This Position Statement – Somerset Levels and Moors

Somerset Wildlife Trust is working with a wide range of partners on water quality issues including through Somerset's Local Nature Partnership (need link to new website here) and nationally through The Wildlife Trusts – a federation of all 46 Wildlife Trusts.

While water quality issues are a problem everywhere, the Somerset Levels and Moors has a particular issue due to the high phosphate levels causing degradation of the SSSIs (explained below).

This position statement concerns directly the current situation on the Somerset Levels and Moors.

Our unique Somerset Levels and Moors

The Somerset Levels and Moors are a highly protected and unique wetland providing a multitude of wildlife habitats, a national and internationally recognised haven. The Levels and Moors have the highest possible designations for protection in the UK including a number of SSSIs (Sites of Special Scientific Interest).

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.

Westhay Moor is one of many Sites of Special Scientific Interest (SSSIs) 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 law 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 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.

Under Threat – Declining Condition

In May 2021 Natural England informed landowners including Somerset Wildlife Trust that they were changing the condition status of the SSSIs (Sites of Special Scientific Interest) on the Somerset Levels and Moors to 'Unfavourable – declining' (the worst status before 'destroyed') due to poor water quality.

The full SSSI Condition Change Briefing Note can be read here: SSSI Condition Briefing note 24 May 2021 (somersetwestandtaunton.gov.uk)

The note states "The overall condition across all Somerset Levels and Moors SSSIs is 'Unfavourable Declining' due to evidence of failing water quality, most notably high Phosphate Levels."

NE 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.

Water Quality & Biodiversity

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 excessive.

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.

These plants form extensive matts 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.

Causes of poor water quality

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 - fertilisers, washing detergents and other pollutants, human and animal waste, and more. For more on this we recommend you watch the Rivercide documentary.

The Environmental Audit Committee (EAC) consultation into water quality found that "challenge to good water quality in rivers were not confined to sewage pollution from storm overflows – significant though this is – and that agricultural pollution and road run off also need urgent attention."

Three Main Issues

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 Whitehead at RSPB on West Country Bylines.

1. **Urban run-off (diffuse pollution):** 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 pollution from our roads and transport systems (read about this here from the Environment Agency). Affecting 18% of water bodies.

2. **Agriculture:** a few key areas here: chemical fertilisers used on crops that run through the soil and into the water courses, as fertilisers they encourage growth of algae and duckweed; and slurry either spread on fields or leaking from storage; or from intensive livestock and poultry farming risking contamination as rainfall runoff carries pollutants into nearby water courses plus soil sediment run off where bare soils are eroded through rainfall.

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 themselves. How people manage their land on the uplands around the Levels has a significant impact on the water quality of the Somerset Levels and Moors.

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.

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.

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."

National Policy Solutions

You may wonder how it's possible that sites with such heavy legislative protection as those on the Somerset Levels and Moors 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, are already being put in place and are set out above. Others are yet to be devised.

The large reduction in funding over the past decade to statutory bodies such as Natural England and the Environment Agency, who 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.

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 January 2022, the Environmental Audit Committee reported the findings of their consultation with a long list of recommendations.

Somerset Wildlife Trust fully supports these and all recommendations in the EAC report and urge the government and water companies to adopt them, in full, urgently.

These can be read in full at the link below with a summary here:
Environmental Audit Committee Water Quality Consultation.

- Improving the quality of the water in rivers in England should be considered a principal objective through which the Government and public bodies can deliver on the legally binding duty, established in the Environment Act 2021, to halt the decline in domestic species by 2030.
- A 'chemical cocktail' of sewage, agricultural waste, plastic and persistent chemicals is polluting rivers. River water quality has improved by some measures in recent decades, but in others it appears to be getting worse. The establishment of a complete overview of the health of rivers in England and the pollution affecting them is hampered by outdated, underfunded and inadequate monitoring regimes. Many harmful pollutants are not routinely monitored, and the Environment Agency has reduced the number of monitoring sites

Restoring Good Ecological Status of our Rivers

- If it is to meet the Environment Act's legally binding target to halt the decline in the abundance of species in England by 2030, the Government must make it clear, in strategic guidance to Ofwat and to National Highways, that from now on natural capital needs to be taken into account in all economic decision making, and priced at a level that preserves and enhances it.
- The biodiversity crisis requires public agencies, regulators and water companies to adopt new decision-making methodologies. The idea, for instance, that pollution can be tolerated in areas with low 'amenity value' belongs to a different era. Pollution of rivers must be addressed wherever it occurs because of the impact of such pollution has on freshwater ecosystems and ultimately the health of the oceans.
- We recommend that the level of financial support provided to the Environment Agency be reviewed as a matter of urgency in the light of its new statutory responsibilities and the scale of the regulatory task it faces, recognising its continued need for efficiency.
- The Catchment Based Approach partnerships provide a useful forum for this coordination: we consider that Ministers should examine means to increase the funding and resources available to them so as to achieve more effective coordination of all stakeholders across each river catchment in measures to improve water quality.

Urban Run-Off Solutions

We must all play a role in this. Ideas for how you can take action to reduce the phosphates your home or business contributes are below.

Developers have a role to play. 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.

EAC recommendations for diffuse pollution and urban run-off include:

- The water and grease management industry must develop standards for the sectors which use FOG (fats, oils and greases) routinely to collect and dispose of such responsibly without it

entering the drainage network.
- We urge the Government to adopt the measures outlined in the Plastics (Wet Wipes) Bill to prohibit the manufacture and sale of single use cleaning and hygiene products containing plastic.
- Tyre, motor vehicle and fashion manufacturers, among many others, must take greater responsibility for the contribution their products make to microplastic pollution in waterways.
- Highways authorities at the national and local level must place a greater priority on preventing pollution from the strategic road network and from major roads maintained by local authorities in England. Solutions are available. These need to be rolled out as rapidly as possible.

Agricultural Solutions
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, reduced use of fertilisers 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.

Environmental Audit Committee recommendations on agriculture include:
- The potential impact of intensive agricultural practices on river water quality must be fully acknowledged and the risks mitigated. One means of doing this is through farming which is as sensitive as possible to its effect on water quality in catchments.
- We therefore recommend that DEFRA commission a periodic (five yearly) appraisal of catchment-wide nutrient flows across each of the major river catchments in England. Such appraisals should then be used by local authorities and planning authorities to inform decisions on new housing developments and intensive livestock units, taking into account the cumulative impact of such developments on river catchments.
- The agricultural sector has a responsibility for improving water quality in rivers, just as the water industry and other stakeholders do. The Farming Rules for Water ought to be amended over time so as to reduce phosphorus surpluses in land and water and thereby improve water quality. This must be done in a way that promotes cooperation from farmers.

Sewage Discharge Solutions
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. OFWAT has a role too, and should require water companies to take immediate action, it must be given the powers to set targets for zero sewage discharges as soon as possible,

and more enforcement methods available. Read here for more on the changes happening with the water regulator [Government signals strategic shift on environment for Ofwat - CIWEM]

EAC recommendations for water companies include:

- We recommend that water companies take immediate steps to install volume monitors at all points where overflows may discharge from their sewerage networks, so as to provide continuous real-time monitoring of the volume of discharges consistent with the provisions of the Environment Act 2021.
- We recommend that Ofwat require water companies, as a condition of their continued licensing, to deliver year-on-year reductions in the number of pollution incidents, with a target of zero serious incidents by 2030.
- We further recommend that, in the interests of promoting public confidence in the criminal justice system and reducing the likelihood of reoffending, the Sentencing Council review the sentencing guidelines for water pollution offences. In our view, penalties for such offences should be set at a level that will ensure that the relevant risk assessments are routinely on the agenda of the boards of each water company.
- We recommend that Ofwat examine the scope of its existing powers in respect of water company remuneration, with a view to limiting the awards of significant annual bonuses to water company senior executives in the event of major or persistent breaches in permit conditions.


Ross Hoddinott/2020VISION

Our Position

Somerset Wildlife Trust will raise the issue of water quality in general and on the Somerset Levels and Moors directly with our MPs, our Councillors and statutory agencies. Specifically we will:

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. Call for the government to implement immediately the recommendations from the Environmental Audit Committee.
4. Call for government to link the new Environmental Land Management Schemes to directly link to improving water quality and soil health, rewarding land managers who do this well with stronger

enforcement and penalties for breeches.

5. Manage our sites without increasing the phosphate load and look for opportunities to remove phosphates from the system through our land management.
6. Through Team Wilder, 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.
7. Work with and support the Somerset Catchment Partnership to develop local solutions.
8. Develop our land management advice services to provide support to landowners and farmers to be able to manage their land that is beneficial to nature, reduces impact on water quality and delivers other benefits such as carbon storage and flood water management.
9. Through the Local Nature Partnership, and working with Somerset Catchment Partnership, bring together key stakeholders to identify solutions.
10. Work with scientific partners to develop and trial new approaches to reducing the phosphate load in the Somerset Levels and Moors.

What you can do - individuals

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. This is especially important if you have a septic tank which should be maintained regularly.
2. Check your home for misconnections and sort them out, some advice here.
3. Make sure your cleaning products are phosphate free.
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. Be a conscious consumer – think about what you are buying, where it has come from and how it was produced. Buying local and direct from farmers is often a good way of doing this while also supporting our local communities.
6. Support local farmers who are reducing fertiliser use and actively improving soil health, where

your budget will allow buy good quality products, when meat ideally grass fed.
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.
8. Ask your MP to make sure that the Environmental Audit Committee recommendations are implemented in full, immediately.

What you can do – Farmers/Landowners

1. Consider how to use the new Environmental Land Management Schemes to help improve soil health and water quality on or near your land, seek advice from advisors such as FWAG SW or indeed our own Somerset Wildlife Trust advisors on the best ways to do this.
2. Engage with Catchment Sensitive Farming and other Somerset focussed projects that have funding available to make changes to infrastructure and nutrient management like Hills to Levels | Farming and Wildlife Advisory Group South West Limited (fwagsw.org.uk) Somerset Catchment Market - SCM
3. Integrating trees into your farm where appropriate, to slow the flow of water moving through the catchment and add additional enterprises like selling carbon credits, Biodiversity Net Gain credits for hedges or agroforestry. Funding available through England Woodland Creation Offer - GOV.UK (www.gov.uk) Trees for Landowners and Farmers - Woodland Trust
4. Protect your soils: Test your soils so you can develop a nutrient and manure management plan and use precision applications of fertiliser.
5. Carry out visual soil assessments to build up a picture of your soil health across the farm, and try water infiltration tests as a key tool to measure your soil's ability to reduce run off and erosion which in turn increases productivity if water can be stored effectively. One app that could help, others are available, is the Soil Mentor App Soilmentor – The app for regenerative farmers (vidacycle.com)
6. Use cover crops and riparian buffer strips to prevent excess nutrients and soil being lost from your farm.
7. In an arable system using low density, grass-fed livestock can reduce the need for inorganic fertilizer which can bring wider soil health benefits alongside multi farming enterprise opportunities.
8. Using the Farm Equipment and Technology Fund to pay for new precision farming equipment. Farming Equipment and Technology Fund: Round 1 manual - Guidance - GOV.UK (www.gov.uk)

Resources

i) Shocking state of English rivers revealed as all of them fail pollution tests | Rivers | The Guardian
ii) 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
iii) Water quality in rivers - Environmental Audit Committee (parliament.uk)