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## RESPONSE TO THE ENVIRONMENT AGENCY CONSULTATION PAPER:

### RIVER BASIN PLANNING: CHALLENGES AND CHOICES

This paper sets out the Cam Valley Forum's response to the [Consultation paper](#) issued in October 2019.

#### **1. The way we treat water today will shape all our futures. What changes can you make to improve the water we rely on?**

Individual voluntary actions are important but it is national policy that needs to change because it is this that will bring about the necessary changes in attitudes and actions, at a much faster pace, than any amount of exhortation. To give just one example: while no one would seriously consider taxing tap water so that it costs the *same* as petrol - because it then be some 1,250 times more expensive per litre - *any* increase in price would signal to everyone that we must value water more highly. It would shift attitudes among consumers, stimulate innovation in water-saving technologies, and also yield funds to help create an environmentally-sustainable water management system.

Bold Government action is needed: an 'environment first' approach and policies that are informed by a better understanding of the value of water as natural capital. As an example of the step-change in thinking that is required, actions by water companies in the five-yearly price reviews to tackle the environmental impacts of abstraction and wastewater discharges should be the *starting point* for discussions about future investment, not *marginal add-ons* as hitherto under the Water Industry National Environment Programme.

We welcome evidence of leadership as, for example, in the 'Achieving a Green Future' letter to the water companies from Defra, OFWAT and the Environment Agency on 21 August 2020. This welcome exhortation on Chalk streams needs urgently to be translated into meaningful actions:

*'Restoring England's internationally important chalk stream habitats is a government priority. Many suffer from low flows, poor water quality and habitat loss and we need your help to tackle these pressures. Positive work is already improving these catchments and it is important that you continue to work through regional water resource planning groups and with regulators to agree a clear long term environmental destination. We want to look at what further action you can take to improve the condition of chalk streams, including by tackling groundwater infiltration and storm overflows.'*

The Government must also will the means to deliver the ends. We value highly the work of dedicated staff in the Environment Agency and Natural England yet cuts in funding have greatly impaired their ability to undertake the monitoring, research, practical projects, and advocacy at all policy levels that is all essential if we are to put the environment first. It is equally shocking that only 5 out of 250 staff at OFWAT work primarily on the environment. These delivery bodies need much greater Government support to enable them to challenge unsustainable behaviour and to guide and implement the new policies, investments and actions that are necessary.

## **2. What more can we do to tackle the impacts of climate change on the water environment and what additional resources (including evidence, targets, tools and additional mechanisms/measures) do we need to do this?**

Water companies, the most significant abstractors, have long been driven by Government policy to ensure the resilience of water *supplies*. Locally, in the Cam Valley, this focus has already led to significant environmental impacts on Chalk streams over many decades. Climate change is likely to add to current pressures. An 'environment first' approach means placing far more stress on ensuring the resilience of the *water environment*.

The Government should require water companies to redraft their Water Resources Management Plans and Drought Management Plans to put the environment first. The Environment Agency, not the water companies, should set water company service standards based on environmental needs and decide when and where temporary use bans and non-essential use bans should be introduced. The needs of the water environment, not supply needs, should be the primary starting point.

## **3. What can we do to address this biodiversity crisis and meet the 25 Year Environment Plan targets for wetlands, freshwater and coastal habitats and wildlife?**

The Government, OFWAT, the Environment Agency and water companies all need to recognise that, under *natural* conditions, water from Chalk aquifers, with its constant year-round temperature, stable chemistry, and reliable supply through periods of low rainfall, supports Chalk-stream habitats that are internationally rare. There are only 225 or so Chalk streams *in the world*.

The Chalk streams in the Cam Valley have been substantially degraded over many decades by a combination of groundwater abstraction, pollution, and habitat modifications:

- **Groundwater abstraction, especially for public water supplies, deprives the Cam of about half its average natural flow.** Too often, summer flows are greatly reduced and, after successive winters of below-average rainfall, daily abstraction for public supplies can exceed river flows. If abstraction lowers the water table under stream beds, water flows back down into the ground below them and they dry out. Some of this reverse flow will be of polluted water because it derives from wastewater treatment works.
- **The impacts of low flows are exacerbated by pollution.** Sources of pollutants include farmland (e.g. nutrients, pesticides, sediment and animal waste), urban highways and drains (e.g. hydrocarbons and silt), and sewage treatment works (especially nutrients). Inputs from sewage works are constant year-round but their impact, especially in the upper river stretches, is magnified when there is less flow available to dilute them.
- **The impacts of low flows are exacerbated by habitat modifications.** River modifications, such as over-deepening, straightening and field drainage, have disconnected rivers from their floodplains, and reduced habitat quality. River bed gravels, essential for spawning fish, have been removed by dredging or buried by sediment.

The first priority is to restore flows, so that Chalk streams enjoy adequate flows that sustain their ecology all year, every year, whatever the weather. We understand that no reaches of any of the Chalk streams in the Cam Valley are 'winterbournes' that dry up naturally in the summer. An initial aim should be to make redundant all the (costly) support schemes put in place to augment flows in Chalk streams. These address the symptoms of low flows, not their causes. Action to improve flows is needed, literally, 'at source'.

Our [Let it Flow!](#) report sets out proposals to improve flows. In particular, the Government, through the water price review process, informed by the work of Water Resources East on future water infrastructure, should require Cambridge (South Staffordshire) Water and Affinity Water to:

- Cease, or at least substantially reduce, abstraction from boreholes in the upper Cam Valley, so that Chalk springs run naturally. Water for public supplies should instead be abstracted as surface water, lower down the river, stored in reservoirs, and redistributed from there.
- Supply future development within the Cambridge Water supply zone by buying in water from Anglian Water, which has a surplus. The Government needs to make it clear that existing abstractions are already damaging and, even if theoretically the water companies could abstract more water within their current licences to meet future needs, their duty to supply needs to be discharged instead by buying in water from outside the catchment.

The Government should also:

- Actively encourage farmers and industry to replace direct abstraction from boreholes in Chalk catchments, or direct abstraction from Chalk streams, with storage reservoirs that are filled from surface water when river flows are high. Collaborative approaches between several businesses should in particular be encouraged.
- Add 'Managed aquifer recharge' as a specific new option under Tier 2 of the Environmental Land Management scheme. An East Suffolk example is promising (Defra Policy Statement on [Flood and coastal erosion risk management](#) p21): freshwater that would otherwise be lost to the sea is being applied to trenches with the aim of recharging the underlying aquifer to support flows or for future abstraction. Further research should be undertaken to develop a full menu of 'aquifer recharge' ELM options for land managers.
- Support actions under Environmental Land Management schemes that maintain and improve the organic matter content of soil, its structure (e.g. avoiding compaction) and its biodiversity. Soils rich in organic matter tend to hold more water, require less irrigation in summer, and help to reduce runoff (and hence flooding and sedimentation), in winter. Such actions will bring important agronomic benefits, as well as environmental benefits.
- Assess the impact of small-scale unlicensed abstractions by householders, farmers and others on water resources. The recent hot dry summer has seen some interest among gardeners in drilling their own wells and boreholes. Collectively, these could have a substantial impact on water availability for the environment.

Improving flows will not in itself ensure 'Good' status for Chalk streams. Parallel action to reduce pollution from both point and diffuse sources is also needed. In particular, the Government should:

- Set tighter limits for discharges of phosphate in treated wastewater from sewage treatment works. It is now nearly 30 years since the 1991 Urban Wastewater Treatment Directive required phosphate stripping at works serving more than 10,000 people. That threshold should now be reduced significantly, to say 2,000 people, so that the phosphate burden on Chalk streams from treated wastewater can be substantially reduced.
- Require water companies to adopt treatment processes that produce wastewater of near drinking water standards, as at the Langford Recycling Scheme in Essex, at works serving, say, more than 10,000 people.
- Where phosphate stripping is impractical, and/or where feasible, require water companies to add reedbed attenuation schemes to wastewater treatment works to further cleanse discharges before they reach the rivers. These small additions to the local environments of human communities add to natural environments. They are a win-win for 'doubling' nature.

- Use Environmental Land Management incentives within 'Riverscape Opportunity Areas' - riparian margins 50 metres either side of watercourses - to encourage beneficial changes in land use and management. These could include converting arable land to grassland or wet woodland, creating managed wetlands to capture silt and nutrients, or simply promoting natural processes, subject to any necessary interventions to assist this approach.
- Tackle diffuse pollution in urban areas by: controlling the sealing of land surfaces; reducing run-off; and capturing silt, hydrocarbons and other pollutants before they can enter watercourses.
- Assess the impact of rural septic tanks on water quality on Chalk stream catchments and take action to promote good practice in their management. Where necessary, they should be replaced by small-scale treatment plants or main connections.

Action is also needed to tackle habitat modifications made for (often misguided) flood risk management, drainage, industrial (e.g. mills) or other reasons. As far as possible, consistent with maintaining high standards of flood protection for built land, natural hydrogeomorphological processes should be restored so that rivers can function effectively for fish and other wildlife without constant intervention.

The Government should:

- Fund collaborative work between the Environment Agency, Wild Trout Trust, Salmon & Trout Conservation, River Restoration Centre and the Wildlife Trusts to update the *Chalk Rivers Handbook* of 1999 to bring together good practice in enhancing Chalk streams.
- Fund a walkover survey of the entire length of every Chalk stream in the country to assess what further actions are needed to restore and improve them. For example: improving channel flows, enhancing habitats for fish and water voles, establishing fish passes, capturing road run-off, restoring gravel spawning grounds, removing culverts and piped sections, encouraging meandering, and reconnecting streams with their floodplains.
- Fund the implementation of a national programme of work to restore and enhance Chalk streams, working with riparian landowners within 'Riverscape Opportunity Areas', and supporting their work where necessary with Environmental Land Management funds.
- Secure a step-change in the Environment Agency's approach to flood risk management, away from over-engineering towards the use of nature-based solutions that slow the flow, reconnect rivers with their floodplains, encourage natural meandering, restore natural river beds with pools and riffles, and enable culverts, concrete and pipelines to be removed.
- Require the Environment Agency in its operational work to recognise that Chalk streams are *different* from other rivers and merit a distinctive and tailored approach. For example, recent discussions with flood risk management staff over the use of herbicides to control river vegetation have shown that a better understanding is needed of the unique ecological identity of Chalk streams and the need for much more sensitive management.

Far more effective action should have been taken in the past, and is still needed, to tackle invasive non-native species (INNS). The poverty of effective action is illustrated in the lower Cam and Ely Ouse catchment. Here the Environment Agency has wasted valuable resources on clearing Floating Pennywort. The River's eutrophication (to which this weed responds with alacrity) reflects failure to invest in reducing pollution from wastewater treatment discharges, industry and diffuse sources. This illustrates well the point that Government failure to invest in the environment brings even greater costs over time.

#### **4. Environmental targets can generate action and provide a strong signal of intent. Could additional statutory targets contribute to improving the water environment? If so, what types of targets should be considered?**

Targets can be helpful if they are backed up with the policy changes and the necessary resources. Past experience, for example in achieving the targets set by the Water Framework Directive, has not been encouraging. Targets need to be SMART (Specific, Measurable, Assignable, Realistic and Time-related). A target should always be accompanied by a road-map setting out how it will be met.

Targets that are set must be adhered to. As the latest water quality monitoring data show, as a nation we are failing dismally to meet the targets set in 2003 by the EU Water Framework Directive. Current targets in the 25-Year Environment Plan are significantly less demanding. This leads to deep cynicism. The necessary resources, whether from water companies, or public sources, need to be put in place to deliver SMART targets for water quality effectively, and on time.

#### **5. What can be done to address the challenge of changing water levels and flows?**

Our report [Let it Flow!](#) documents the environmental impacts of low (and often non-existent) flows in Chalk streams in the Cam Valley. That 14 support schemes have been put in place since 1990 to support some 30 springs and headwaters affected by low flows, testifies to the extent of the problem. The current problem needs to be tackled at source, by reducing groundwater abstraction, and the aquifer needs to be protected from any future pressure to supply even more. The two key actions needed by our water companies to restore flows in our Chalk streams are to:

- Cease, or at least substantially reduce, abstraction from boreholes in the upper Cam Valley, so that Chalk springs run naturally, and instead abstract water for public supplies as surface water, lower down the river, store it, and redistribute it from there.
- Supply future development within the Cambridge Water supply zone by buying in water from Anglian Water, which has a surplus. The Government needs to make it clear that existing abstractions are already damaging and, even if theoretically the water companies could abstract more water within their current licences to meet future needs, their duty to supply needs to be discharged instead by buying in water from outside the catchment.

#### **6. The abstraction plan, referenced in the changes to water levels and flows narrative, explains our current and future approach for managing water abstraction. What else do we need to do to meet the challenges of climate change and growth while balancing the needs of abstractors and the environment?**

The licensed quantities established in the 1960s for many abstractions were set with little, if any, regard to the environment. Points to consider in determining whether they should change include:

- The starting point should not be the maximum quantities, or indeed the current average level of abstraction, but the needs of the environment.
- There is little value in a paper saving that simply reduces a maximum licensed quantity to a lower figure that has never yet been reached.
- It should not be assumed that the existing average level of abstraction, even over many years, is an acceptable level of abstraction that can safely be maintained. This is certainly not the case in the Cam Valley.

- Where groundwater abstraction is involved, the option of taking the water lower down the river as surface water instead needs to be considered: how the water is abstracted is just as important a consideration as the actual volume abstracted.

We question the assertion on page 12 of the consultation paper that only '18% of chalk river water bodies are impacted by abstraction'. We see adverse impacts on all the Chalk streams in the Cam Valley, and there are similar concerns in Suffolk, Norfolk, and to the south in the Chilterns. The Environment Agency should undertake a more in-depth review of the evidence of adverse impacts, recognising that in many cases (e.g. the Cam Valley) these have been felt over many decades.

Action is also needed to manage water demand, now and in the future. The Government should:

- Seek to ensure that all new development is water neutral - i.e. that additional demand is met from savings by efficiency savings in the use of water in existing towns. If more water is still needed, it should be supplied from surface water sources, not Chalk aquifers.
- **Set more demanding targets for leakage control by the water companies (e.g. a 50% reduction on current levels by 2025, 75% by 2035 and 90% by 2040) and prioritise the renewal of pipe networks outside Chalk areas where leakage will not contribute to the recharge of Chalk groundwater and will represent a net loss to the aquifer.**
- **Set more demanding targets for metering programmes (e.g. to meter at least 90% of supplies by 2025, and equip 50% of households and businesses with smart meters by then, with 100% coverage for both being the target by 2030).**
- Roll out smart water meters in homes, schools, businesses, hospitals and public buildings to enable continuous tracking of water use and encourage savings supported by effective training and incentives for building managers to reduce consumption.
- Classify catchments where water is abstracted from Chalk aquifers as 'water-stressed areas' to enable local water companies to introduce programmes of compulsory water metering.
- Set targets for reducing 'Distribution Input' (the total amount of treated water used for the public water supply). This target is much more relevant to the objective of leaving more water in the environment for nature than targets based on individual per capita use.
- Establish minimum mandatory restrictions on household and business use of water to apply at all times; impose further restrictions as a matter of course at least in the four months from May to August every year (e.g. a ban on household use of sprinklers, hosepipes, and high-pressure washers); and impose progressively more demanding restrictions on household and business use of water linked to groundwater level 'trigger' points.
- Reduce water pressure as groundwater 'trigger' points are reached. and install water management devices in pipes supplying those customers whose use of water regularly exceeds guideline targets.
- Work with voluntary groups and the media to communicate the importance of water and water-saving messages to households and businesses.
- Learn from other countries about the costs and benefits of introducing progressive tariffs, linked to water supply 'trigger' points, to discourage profligate use of water.

**7. What kind of a water flow environment do we want? Should we maintain statutory minimum water flow and level standards universally across England as we do now, or go further in some places based on environmental risk?**

An 'environment first' approach should be taken for Chalk streams (at least). Target flows should be set for all Chalk rivers so as to protect their ecology (as recommended in *The State of England's Chalk Rivers*, 2004). The next step should be to define how and where water might best be abstracted to minimise environmental impacts, and then adjust the quantities, hands-off flows, etc.

**8. What can be done to address the challenge of chemicals in the water environment?**

Polluting chemicals in Chalk streams can originate from leaching from the surface through the Chalk, into the aquifer, run off from farmland and highways, spray drift from farmland, and chemicals used by the Environment Agency itself on vegetation in or adjacent to streams. We are particularly concerned about pesticides, fertilisers, hydrocarbons, and endocrine-disrupting compounds.

The Upper Cam valley had serious historic pollution at Hauxton and Sawston. This was from an agrochemical works and a tannery, respectively. The vestiges of that pollution have taken decades to resolve and there are still traces of seriously toxic compounds in our River's water analyses. The harm that such works can cause should be advertised and not forgotten.

Action should be taken at source to reduce the need to use polluting chemicals. Actions to minimise the risk that they will enter water should include installing buffer strips on farmland, managed wetlands to collect run-off and water from field drains, and silt traps on highways. Herbicides should be used on Chalk streams only by exception, and then only for spot-spraying.

Levels of polluting chemicals in wastewater should be reduced by installing advanced treatment processes at sewage works serving more than 10,000 people. An early example is provided by the Langford Recycling Scheme operated by Essex Water. Processes that remove nutrients, pesticides endocrine disruptors and hydrocarbons should be progressively added to all sewage works.

**9. Do you support the Environment Agency's proposed strategic approach to managing chemicals as referenced in the Chemicals in the Water Environment challenge document? If not, what changes would you make?**

We welcome the Environment Agency's proposed approach.

**10. What balance do you think is needed between current chemical use, investing in end-of-pipe wastewater treatment options and modifying consumer use and behaviour?**

Action should proceed in parallel on all three fronts, with the aim, over time, of reducing the need for end-of-pipe treatments to remove chemicals that ideally would not be present in the first place.

**11. What can be done to address invasive non-native species?**

Far more effective action should have been taken in the past, and is still needed, to tackle invasive non-native species (INNS). Cam Valley Forum volunteers have worked over several years to seek to eradicate Floating Pennywort from upstream of Baits Bite Lock on the River Cam downstream from Cambridge. Action is also being taken to tackle infestations of Himalayan Balsam. This work should not be left to volunteers alone but become part of the mainstream river management operations of local authorities, navigation authorities and the Environment Agency.

The poverty of effective action is illustrated in the lower Cam and Ely Ouse catchment. Here the Environment Agency has wasted valuable resources on clearing Floating Pennywort. The River's

eutrophication (to which this weed responds with alacrity) reflects failure to invest in reducing pollution from wastewater treatment discharges, industry and diffuse sources. This illustrates well the point that Government failure to invest in the environment brings even greater costs over time.

**12. How would you promote Check, Clean, Dry to all recreational users of water, including those who are not in clubs or attend events?**

Permanent *Check, Clean, Dry* posters are very useful as part of an educational and awareness programme. They should be A3 size and made of aluminium dibond material, with metal ties so that they can be fixed to structures at appropriate locations, with the text attuned to particular recreational users. Additional signage ought to be placed where thought necessary.

The message should be promoted through companies selling equipment for use in all forms of water recreation, as well as on-site locally. TV programmes such as *Mortimer & Whitehouse: Gone Fishing* could usefully highlight the problems caused by INNS and promote the *Check, Clean, Dry* message.

**13. Are there any barriers stopping you adopting good biosecurity when you are in or near water?**

We have no specific comment.

**14. What can be done to address the physical modification of our rivers and coasts?**

We support the four priority actions to tackle the environmental impacts of physical modifications:

- Remove redundant structures and modifications.
- Provide space for rivers and coasts to move and adjust.
- Improve new developments and activities.
- Keep soil on the land and out of our waters.

Environmental Land Management schemes will play an important role in enabling riparian land managers to take actions that will provide space for rivers to move and to keep soil out of the water. Appropriate Tiers should support nature-based interventions highlighted in the recent [Policy statement on flood and coastal erosion risk management](#), including: slowing flows, diverting flows, temporary water attenuation, creating ponds and larger flood storage areas, restoring floodplains or washlands, and creating better linkages between land drainage and water storage needs.

We would also add a fifth challenge: changing the culture of flood risk management practice. The Environment Agency's responsibilities in this area need to be aligned with national policy, as set out in the [Policy statement on flood and coastal erosion risk management](#). This places a much stronger emphasis than ever previously seen on the need for the *Environment Agency* itself to adopt 'nature-based solutions' and to tackle flood risk by 'slowing the flow':

- *Managing the flow of water through catchments can reduce pollution of rivers and streams; helping to ensure enough availability in times of drought and slow and store water in times of excess.* (Page 19)
- *We will increase the number of water management schemes across catchments to reduce flood risk and help manage drought risk. We recognise there may be more untapped opportunities to maximise the temporary and permanent storage of water in places or times when flood risk is highest, and, where possible, capture that water to be used when or where needed. Unlocking this potential means looking across the catchment from source to sea, using a range of small and large scale actions that slow, hold and release water when needed.* (Page 20)
- *In the upper catchment this might include opportunities to slow or divert flow, or taking actions to allow temporary water attenuation. In the middle of catchments it might mean large flood storage areas to better protect communities, smaller scale flood ponds or basins in urban areas and well managed flood*



*plains or washlands. In the lower catchment and low lying areas it could include better links between land drainage and water storage needs. (Page 20)*

This policy steer represents a significant break with the historic emphasis on engineered solutions designed to evacuate water to the sea as quickly as possible. It is a step change in approach that needs to be positively and quickly embraced, now, by Environment Agency operational staff.

**15. Giving more space for rivers and coasts to move and adjust naturally will regenerate habitat, improve wildlife and help us adapt to climate change. What can you and others do to support these changes?**

The Cam Valley Forum has provided financial and practical support for local river groups working to restore Chalk streams and encourage natural processes as far as possible. We also contribute to the national policy debate, as it is changes in national policy that offer the best prospect of beneficial changes in the protection and enhancement of Chalk streams.

**16. What can be done to address plastics pollution in the water environment?**

We welcome the actions being taken to tackle plastics pollution. The results of a current (2020-21) pilot investigation of water pollution by plastics in the Great Ouse catchment should be actively promoted locally so that the public understand their own contribution to plastics pollution.

**17. What actions should the Environment Agency take to reduce plastic pollution?**

We welcome the Environment Agency's proposed approach.

**18. What can be done to address pollution from abandoned mines?**

We have no specific comment.

**19. What can be done to address pollution from agriculture and rural areas?**

Pollution from point sources (e.g. slurry stores) should continue to be tackled through strict regulation and enforcement. Reducing pollution from diffuse sources should be a primary target in the development and implementation of future Environmental Land Management incentives. These will need to fund actions that go beyond simply complying with regulatory requirements.

In particular, 'Riverscape Opportunity Areas', riparian corridors up to 50 metres wide on both banks of watercourses, should be viewed as target areas not only for smaller-scale interventions under Tiers 1 and 2 but also for projects to 'rewild' land by restoring natural processes, as far as possible, under Tier 3. Reductions in the intensity of land use adjacent to watercourses will benefit water flow and quality, flood risk management, and biodiversity. Collaboration between land managers should be encouraged by specific incentives to secure significant benefits on contiguous areas.

**20. How can we support the farming sector to excel at innovative solutions which benefit both productivity and the environment? What should these solutions look like?**

Interventions to improve land management practice and safeguard watercourses are most likely to succeed if they are tailored to specific local circumstances. Localised information is needed:

- Farmers often argue that water pollution is 'caused by someone else' and demand proof that they specifically are to blame. Hence there is a need for highly localised monitoring of soil, nutrient and pesticide losses at a field level. Intelligent detection and monitoring systems that provide real-time feedback will help not only to improve understanding but also to improve our knowledge of the magnitude of the problems to be tackled.

- Local knowledge, ideas and techniques should be used to involve local people and attune actions to local needs. For example, members of River Protection and Restoration Groups and Angling Clubs in the Cam Valley have detailed knowledge of local watercourses, often gained over many years (e.g. they know about the locations of old oxbows and former ponds). Such groups may already work well with local land managers.
- Staff working for the Wildlife Trusts, Wild Trout Trust and Farming and Wildlife Advisory Groups, also often have relevant knowledge and experience. Data and knowledge held by the Centre for Ecology and Hydrology, British Geological Survey and National Soil Resources Institute should also be tapped in delivering local Environmental Land Management aims. The Catchment Sensitive Farming Initiatives have a particularly important role to play.

## **21. What can be done to address pollution from towns, cities and transport?**

Actions to tackle pollution from towns and cities includes:

- Doing more to facilitate safe travel by walking, cycling, and public transport, than by the use of private cars.
- Avoiding sealing surfaces wherever possible, and replacing sealed surfaces with porous surfaces wherever possible, so as to encourage infiltration rather than run-off.
- Increasing the ratio between greenspace and built development.
- Defining 'Riverscape Opportunity Areas' within local plans as areas within which developers, homeowners and land managers will be encouraged to maximise green cover, avoid sealing surfaces, restore habitats and encourage natural river processes.
- Equipping all major roads with silt traps to capture run-off to reduce inputs of silt and hydrocarbons.
- Removing clean water (e.g. run-off from roofs) from public sewers, so that this does not contribute to increased flows at times of heavy rainfall and overburden sewage treatment works, leading to the discharge of raw sewage through combined sewer overflows.

## **22. How can sustainable drainage systems and green infrastructure be most effectively used to tackle pollution from urban areas? What challenges are there to using them?**

Sustainable drainage systems and green infrastructure should be essential components in all new housing and business developments. Where possible, they should be accompanied by rainwater harvesting and greywater recycling schemes. The [Eddington development](#) in Cambridge demonstrates good practice in this respect. Green infrastructure should use native species, ideally from local seed sources, and create linkages with existing green space.

## **23. What can be done to address pollution from water industry wastewater?**

The Urban Wastewater Treatment Directive of 1991 ushered in a period of significant investment in improving the quality of discharges from sewage treatment works. Thirty years on, the time is ripe for a further step change in the treatment and purification of wastewater. Chalk stream catchments, where flows from sewage works can account for all, or nearly all, the flow during periods of dry weather, should be prioritised for action to upgrade their facilities to the highest levels.

In particular, the Government should:

- Set tighter limits for discharges of phosphate in treated wastewater from sewage treatment works. The threshold at which phosphate stripping is required should be reduced significantly, from works serving 10,000 people to say 2,000 people, so that the phosphate burden on Chalk streams from treated wastewater can be substantially reduced.
- Require water companies to adopt advanced water treatment processes that produce wastewater of near drinking water standards, as at the Langford Recycling Scheme in Essex, at works serving, say, more than 10,000 people. These works should be able to disinfect the water and remove phosphate, pesticides, hydrocarbons and endocrine disruptors.
- Require water companies to invest significantly in increasing the capacity of treatment works so that combined sewer overflows, which discharge untreated effluent at times of high flows, are no longer necessary. This action should proceed hand in hand with action in towns to develop sustainable drainage systems that retain water (e.g. from roofs) that would otherwise be directed to public sewers and contribute to increased flows.
- Where phosphate stripping is impractical, and/or where feasible, require water companies to add reedbed attenuation schemes to wastewater treatment works to further cleanse discharges before they reach the rivers, at the same time creating new wetland habitats.

#### **24. What opportunities exist for water companies to collaborate with other sectors and organisations on measures to improve the water environment?**

The national water resources planning framework provides an excellent opportunity for water companies to work with others towards a shared vision for the water environment. The regional water resources planning organisations, such as Water Resources East, have a very important role. We welcome the opportunity to work with them to find solutions to shared challenges.

#### **25. How can local partnerships become more inclusive and representative of all of the stakeholders within their catchments?**

We support the catchment-based approach and would like to see it working even more effectively in the Cam Valley. A key requirement is for the partnerships to be transparent about their actions, and to provide up to date information on their strategies and activities, e.g. via their websites. This helps those not directly involved to understand what is happening and to get involved if they wish.

#### **26. How can local partnerships achieve a better balance of public and private funding to support and sustain their environmental work?**

As in any field of life, partnerships have to show individuals, businesses, local organisations and statutory bodies that they are doing worthwhile work that will bring wide benefits. They need to be focused on solutions, and on demonstrating the value that their work brings to everyone.

#### **27. How should the step change in protecting and improving the water environment be funded and who should pay? Are there any barriers to doing this?**

The consumer is the ultimate polluter and it is ultimately the consumer that will need to pay to protect and restore the water environment, and Chalk streams in particular. Water needs to be valued much more highly. Other water-stressed countries, such as South Africa, have progressive pricing systems whereby, beyond a basic allowance, increasingly higher charges per litre apply as consumption increases. The UK should learn from other countries that see tariffs as an important tool to encourage wise use of water and discourage profligacy.

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