

Public Document Pack

Witney Town Council

Mrs Sharon Groth FSLCC fCMgr
Town Clerk

Cllr Duncan Enright
Mayor of Witney



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12 March 2020

To: Members of the Climate & Biodiversity Sub Committee - *J Aitman, R Bolger, L Duncan, D Enright, A D Harvey, A Prosser, R Smith and D Temple (and all other Town Councillors for information)*

You are hereby summonsed to a Meeting of the **Climate & Biodiversity Sub Committee** to be held in the Gallery Room, The Corn Exchange, Witney on **Wednesday, 18th March, 2020 at 4.00 pm** for the transaction of the business stated below.

RECORDING OF MEETINGS

Under the Openness of Local Government Bodies Regulations 2014 the council's public meetings may be recorded, which includes filming, audio-recording as well as photography. As a matter of courtesy, if you intend to record any part of the proceedings please let the Town Clerk or Democratic Services Officer know before the start of the meeting.

AGENDA

All Council Meetings are open to the public and press, unless otherwise stated.

1. **Apologies for Absence**

To receive and consider apologies for absence.

2. **Declarations of Interest**

Members are reminded to declare any disclosable pecuniary interests in any of the items under consideration at this meeting in accordance with the Town Council's code of conduct.

3. **Minutes** (Pages 3 - 8)

To receive and consider the minutes of the meeting held on 6th November 2019.

4. **Trees** (Pages 9 - 10)

To receive and consider the report of the Compliance and Environment Officer.

5. **Renewable Energy** (Pages 11 - 18)

To receive and consider the report of the Compliance and Environment Officer.

6. **Response from WODC concerning Housing Stock** (Pages 19 - 22)

To receive and consider a letter from the Cabinet Member for Climate Change at West Oxfordshire District Council.

7. **Environment Agency Challenges and Choices Consultation** (Pages 23 - 68)

To receive and formulate a response to the Environment Agency's Challenges and Choices Consultation concerning water courses.

<https://consult.environment-agency.gov.uk/environment-and-business/challenges-and-choices/>

8. **Active Travel Links**

To discuss developemnt of active travel routes in the town.

9. **Traffic Advisory Committee**

The Traffic Advisory Committee wishes to invite the Climate & Biodiversity Sub Committee to feed any relevant issues back to it, in the evet that it may be able to assist or advise.

10. **LAKE & COUNTRY PARK MANAGEMENT PLAN** (Pages 69 - 86)



Town Clerk

**CLIMATE & BIODIVERSITY SUB MEETING OF
WITNEY TOWN COUNCIL**

Held on Wednesday, 6 November 2019

At 4.00 pm in the Gallery Room, The Corn Exchange, Witney

Present:

Councillor J Aitman (Chair)

Councillors:	L Duncan A Prosser	R Smith
Officers:	Sharon Groth John Hickman Nicky Cayley	Town Clerk Operations & Estates Officer Democratic Services Officer
Others:	Janice Bamsey – Planning Policy Officer from WODC Rachel Crooks – Project Officer for LWVP Jenny Tricker – Witney Resident Brian Newant – Witney Resident Tim Walker – Witney Resident Toby Swift – Wychwood project Nick Dalby – Landscape and Forestry Officer from WODC Soraya Wooler – WASP Richard Carter – Witney Resident Amanda Stilbrany – Witney Resident Susan Payne – Witney Resident Ben Williams – Programme Manager from Earthwatch 3 additional residents who arrived after the start of the meeting	

429 **ELECTION OF CHAIR**

RESOLVED: that Cllr Bolger be elected as Chair of the Sub Committee for the ensuing municipal year and Cllr Smith be elected as Vice Chair for the ensuing municipal year.

430 **APOLOGIES FOR ABSENCE**

Apologies for their absence were received from Cllrs Bolger, Enright and Harvey.

431 **DECLARATIONS OF INTEREST**

There were no declarations of interest in items to be discussed at the meeting.

432 **MINUTES**

The Sub Committee received and considered the minutes of the Nature and Wildlife Working Party held on 17 July 2019 and the minutes of the Climate Change Working Party held on 11 September 2019.

RECOMMENDED: that the minutes of the Nature and Wildlife Working Party held on 17 July 2019 and the minutes of the Climate Change Working Party held on 11 September 2019 and that in the Nature and Wildlife Working Party Minutes, page 2, section 5, third paragraph “biodiversity” be changed to “nature”.

433 **PUBLIC PARTICIPATION**

There was extensive public participation from both members of the public and invited participants, which is contained in the attached appendix.

434 **TERMS OF REFERENCE**

The Sub Committee received and considered the adopted Terms of Reference for both the Nature and Wildlife Working Party and the Climate Change Working Party. The Town Clerk explained the original intention of the working party which was superseded by the Nature and Wildlife Working was to draw up a vision for the Lake & Country Park. She was concerned that members may lose sight or focus on this, but it was important as there currently was no management plan in place for this asset managed by the Town Council. A member recalled that at the previous Climate Change Working Party it had been felt that this should be kept separate from the Climate Emergency issues.

There was a discussion about various patches of land around the town in terms of ownership and management. Nick Dalby from WODC commented that perhaps focusing on land that was owned by the Town Council would be best and to look at how these could be managed differently.

A member proposed that Halls and Green Spaces Committee should formulate a policy on how the land should be managed. The Operations and Estates Officer commented that it would be very helpful if all three tiers of councils were aware of what they owned as currently WODC always referred a query to the Town Council. There followed a discussion about what might go into such a policy.

The Town Clerk advised that Continental Landscapes had provided an options paper on the management of the Lake and Country Park and that this might be a good starting point. There had been no policy decision on that document.

A member proposed that management of the Lake and Country Park should be managed in terms of biodiversity and not developed for further leisure pursuits. This would retain fishing rights. Members felt that both original sets of Terms of Reference should be kept but just “tidied up”.

RECOMMENDED:

1. that the Terms of Reference for both the Climate Working Party and the Nature and Wildlife Working Party are combined to form the Terms of Reference for the Climate and Biodiversity Sub Committee – this would ensure that the importance of the Lake and Country Park was not lost;
2. that the Halls and Green Spaces Committee should formulate a policy on how the Town Council owned land should be managed;

3. that management of the Lake and Country Park should be managed in terms of biodiversity and not developed for further leisure pursuits – but retaining fishing rights.

435 **LAKE AND COUNTRY PARK**

The Sub Committee discussed the potential of the Lake and Country Park for education – for example involving Forest Schools and having an outside classroom.

Members felt that to improve biodiversity it would be important to link with partners such as the Grounds Maintenance Contractors.

A member stressed that the Planning Committee would be pushing for paths from new developments (such as the one proposed at Cogges in Witney East) should have footpaths that link to this area.

RECOMMENDED: that the vision for the Lake and Country Park places biodiversity at the heart of the management process and that the Town Council works alongside its partners to provide expert advice to achieve an improvement in this.

436 **CLIMATE EMERGENCY**

The Town Clerk advised that the Compliance and Environment Officer would start his role the following Monday. He would support the Sub Committee in terms of drawing up an action plan. A member advised that the Christmas Sub Committee would be looking at timers for Christmas Lights when the contract was up for renewal. She added that also new developers were not exploring the potential to include environmentally friendly housing as this was not a requirement of the Local Plan and she felt that the Town Council could push the concept a little more.

Janice Ramsey from WODC advised that the Local Plan had the option to issue supplementary documents that would include environmental requirements. Nick Dalby from WODC advised that the Town Council should think about how it fitted into what was going on around it.

Members also discussed “Healthy Lines” to encourage people to walk and cycle along set routes. The cost could be around £17,000. A member proposed that a working party be set up to develop this and that this proposal is put to the Policy, Governance and Finance Committee.

RECOMMENDED: that the Policy, Governance and Finance Committee be presented with the case study for the Healthy Line Scheme in Bicester together with an outline proposal for a scheme in Witney.

437 **DATE OF NEXT MEETING**

The date of the next meeting was 26 February 2020 at 4pm.

The meeting closed at: 5.45 pm

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APPENDIX – PUBLIC PARTICIPATION

Resident 1

The resident proposed a starting point would be to set up a Climate Fund to fund things such as tree planting to be funded by various initiatives. He proposed that free parking for polluting vehicles should be removed and become chargeable. It may not change behaviour but it would provide income. He asked whether the Town Council would support this. Another resident pointed out that it was WODC who managed parking and charges and therefore he asked those Town Councillors who were also District Councillors if they would support this.

Cllr Aitman explained that WODC had called its own Climate Emergency and now had a committee dedicated to dealing with it and this proposal would need to be discussed at the committee.

The Town Clerk explained that in terms of the Town Council such a proposal would need to go through the Policy, Governance and Resources Committee and then to Full Council. The minutes from this meeting would be following that process.

Cllr Prosser added that the Town Council was going to have an environmental action plan. Cllr Aitman explained that everyone was welcome to come to the District Council's Environment Committee. Janice Bamsey asked if the Town Council had any parking that it controlled. The Town Clerk explained that there was some by the Leys and also at Burwell Hall. Janice Bamsey suggested trying this in those locations.

Resident 2

The resident urged information sharing between the Town Council and other Councils. The Town Clerk advised that she did attend meetings with other councils and they did share best practice and ideas.

Resident 3

The resident commented about cars idling and that perhaps they could be fined by Community Wardens. Councils could apply to the Secretary of State for the power to do this. Another resident said that at least the Council could put up notices stating that idle engines must be turned off.

Resident 4

The resident advised that the inaugural meeting of the Witney Extinction Rebellion had taken place the previous evening and it had been well attended.

Resident 2

The resident asked for clarity about definitions. Was the Town Council committing to trying to be carbon neutral by 2028 or actually being carbon neutral by 2028? Is this just the Town Council officers, or the residents etc? There were huge possibilities for misunderstanding. She recommended watching a video from the Oxford Citizens Assembly called Net Zero. Janice Bamsey added that this needed to be monitored but there needed to be something to measure it against.

Tony Swift – The Wychwood Project

Toby explained that he did public engagement and activities for organisations such as the Scouts. The Project also offers corporate membership and these members were offered advice on their grounds. The Project would like to get into schools but it was impossible to make money on conservation and

schools wouldn't pay. They worked with the Cotswold AONB and Witney Woodland Volunteers. In Witney they had been working with the Town Council to see if some re-wilding could be done. A town plan for how rewilding could be done would be great. Neil Clennell, the CEO of the Wychwood Project was working on a scheme starting from the north Windrush and coming through Grimes Meadow, picking up all the places that used to be cut, pollarded etc and he would be happy to come and speak to the committee about what this might look like. A resident asked Toby if they planted trees. He replied that they would but the issue was land to plant up. If Witney Town Council had some land available they would gladly plant trees. Toby did add that we needed meadows etc as well as trees.

Rachel Crooks – LWVP Project officer

Rachel explained that the LWVP cover an area south of Witney all the way to Newbridge. The Project carries out biodiversity projects and looks after areas including Tar and Rushy Lakes. They had worked in the past with Witney Town Council on the Lake and Country park and were keen to become involved again.

Ben Williams – Earthwatch

Ben explained that he was specifically involved in a naturehood project – a community wildlife project. This supported people and communities to take action in terms of nature – such as hedgehog houses and log piles. Ben spoke at length about the work of Earthwatch.

Janice Bamsey – Policy Officer, WODC

Janice asked if the Town Council had a welcome pack for new residents – as this could influence people's actions before their habits are established. The Town Clerk said that it did not have one.

Soraya Wooler - WASP

Soraya gave an overview of the work of WASP. The aim was to get the Windrush River back to a healthy state and to get it blue flag status. They were trying to stop raw sewage from being released into the river and took samples. They would be keen to work with the Town Council.

Resident 5

The resident asked why there was such a big gap between this meeting and the next one on 26th February. The Town Clerk explained that the Town Council had a great number of meetings to fit in and the Chair explained that this did not mean that work would not happen before then. There were also queries about cycle paths.

Members of the public and invited representatives left at 5.05pm. Janice Bamsey and Nick Dalby remained.

CLIMATE & BIODIVERSITY SUB-COMMITTEE

Date: Wednesday 18 March 2020
Title: Tree Report
Contact Officer: Compliance and Environment Officer - Angus Whitburn

BACKGROUND

The purpose of this is to inform Councillors about potential projects that could be developed by Witney Town Council Officers to increase tree planting in Witney.

TREE SPONSORSHIP SCHEME

A tree sponsorship/donation scheme is a method to remove the barriers for residents wishing to donate trees to be planted on Witney Town Council land. This would not enable a resident to plant the tree themselves but instead, fund a tree getting planted. Witney Town Council would purchase, plant and maintain the tree still, but the initial cost of the tree would be funded by the resident or residents. This benefits residents by setting up a system for them to plant a tree in memory of loved ones, for their community or just to do their bit for the environment. The advantage to Witney Town Council is it increases our tree planting of established trees. A similar scheme is used by Norwich City Council and they have planted 26 trees extra trees as a result. Norwich City Council provide sponsors with a certificate and have a list of sponsors online.

WITNEY TOWN COUNCIL TREE NURSERY

Currently, the Council only replaces trees that have been removed. The main reason for this is the current budget restricting planting additional trees. The cost of replacing these trees is a combination of planting a suitable size tree, installing a tree guard, insurance and ongoing maintenance.

To reduce the cost significantly we could look at developing a small tree nursery to raise trees from shoot to small trees. Protected land would have to be set aside, an outlay of cost for equipment and preparation works and staff hours invested in nurturing the trees. We would take shoots to a small-size tree (2-3 meters) that are normally bought for over £200.

TREE CHARTER DAY 2020/NATIONAL TREE WEEK

Tree Charter day marks the start of national tree week. Nationally tree planting take's place, from small community planting to large scale event's planting thousands of trees. Through the tree charger trust, we can obtain free saplings to plant. These saplings can be planted in pre-defined areas by volunteers. Would the members of the council like to support our own planting project outside of these volunteer planting events?

A small area of land is available on Thorney Leys opposite Burwell park and across the road. The area of land would be ideal for planting trees along with no impact on residents or sporting grounds. It was not suitable for the tiny forest project due to its size and the grass mounds. Additionally it would in future provide a sound barrier from the dual carriageway to residents.

ENVIRONMENTAL IMPACT

Having declared a Climate Change Emergency at its Council meeting on 26 June 2019 – with this in mind Councillors should have due regard to the environmental impact of any decisions they make with regard to its facilities and services it operates.

There is a global campaign to increase tree planting, this enhances carbon capture helping to offset our carbon footprint. Witney Town Council although small with multiple low-cost tree projects could accumulatively increase tree coverage substantially in relevance to our size.

RISK

In decision making Councillors should give consideration to any risks to the Council and any action, it can take to limit or negate its liability.

FINANCIAL IMPLICATIONS

The projects purposed have all been developed to find a way to increase tree planting without increasing outlay on tree planting.

RECOMMENDATIONS

Members are invited to note the report and consider the following:

1. Discuss tree sponsorship scheme and terms and conditions for applications
2. Commit officer hours being spent researching and planning a Witney Town Council Tree Nursery
3. Discuss tree planting plans for National Tree Week and if the area selected is acceptable or if additional/alternative location would be preferred.

CLIMATE & BIODIVERSITY SUB-COMMITTEE

Date: Wednesday 18th March 2020
Title: Renewable Energy
Contact Officer: Compliance and Environment Officer - Angus Whitburn

BACKGROUND

The purpose of this is to inform Councillors about potential projects that could help Witney Town Council to reach its goal of becoming carbon neutral by 2028. The projects have been initially researched to ensure the technology is available and are financially viable to ensure they are creditable proposals. The second aim of the report is to provide ideas that have not been thought of to help reach our goal.

CURRENT SITUATION

Currently, Witney Town Council's buildings have no form of renewable energy except for Madley Park Hall, that has a solar PV water heating system. A solar feasibility study has been done on 5 buildings of which only 3 were judged as feasible sites for solar installations. The total estimated cost of these installations is £55,902.

- Langdale Hall, 12,256 KWh/Year, 23.0%
- Madley Park hall 12,410 KWh/Year, 22.8%
- Corn Exchange Witney 11,365KWh/Year 28.3%

Solar power is the fastest form of renewable energy being installed in a bid to cut carbon emissions. However, it is behind both Hydro and Wind Power for its efficiency. Both hydro and wind are often overlooked in areas they could be installed and both can provide more energy than that of solar. This report will cover both forms of energy and possible application for Witney Town council.

Renewable energy is only useful for electric supplied buildings and the use of gas should slowly be phased out and reduce where possible. Gas systems are installed in 4 of the council buildings Corn Exchange, Burwell Hall, Madley Park and Langdale Hall. 3 council buildings are entirely run on electricity the Town Hall, Leys Depot and Windrush Cemetery.

During the last gas service at Burwell Hall officers were informed parts for the boiler system cannot be sourced anymore. This would mean the system has to be replaced once the current system breaks down or efficiency drops below acceptable levels. Installing gas heating will be banned in new builds homes by 2025 but not businesses. For future environmental targets (phasing out fossil fuel

usage) The best form of future protection for the building would be to replace this system with electric alternatives. The heating in the building could be replaced with infra-red panel heaters and an electric water heater tank could be installed for the showers and taps.

MICRO HYDRO ELECTRICITY

Hydroelectricity has been reserved only for that of high-cost large scale installations, involving the massive damming of rivers. However, companies that have been providing hydroelectric to off-grid communities are branching out to more small scale installations. There is the chance and it would require more research that we could install a small system on the stream leading from Cowell brook into the River Windrush. As there are no WTC buildings in the area, the system would work on a feed-in tariff to offset our carbon footprint.

WIND POWER

The Leys Depot and Windrush cemetery is completely reliant on electricity. Both sites are not feasible sites for solar installations but are sites that in the near future could be running on 100% on renewable energy. The sites do not use excessive amounts of energy and should each be completely covered by a small 10m high wind turbine.

The sites would need a survey to see if they are feasible for wind turbine installations. Windrush in particular is open to the wind but also away from surrounding residents so the impact of the installation is notably minimal.

ENVIRONMENTAL IMPACT

Having declared a Climate Change Emergency at its Council meeting on 26 June 2019 – with this in mind Councillors should have due regard to the environmental impact of any decisions they make with regard to its facilities and services it operates.

RISK

In decision making Councillors should give consideration to any risks to the Council and any action, it can take to limit or negate its liability.

FINANCIAL IMPLICATIONS

There is no financial implication arising directly from this report as of this time. However, there would be a possible financial implication to conduct initial feasibility studies, if the council members decide to commit officer hours to further research and develop the projects.

The council have set a budget of £10,000 for 2020/2021 financial year. From initial research, this budget is significantly inadequate even for low KW renewable energy solutions

proposed. Members would be encouraged to come up with a plan between 2020 and 2028 so that annual budgets can be set accordingly going forward.

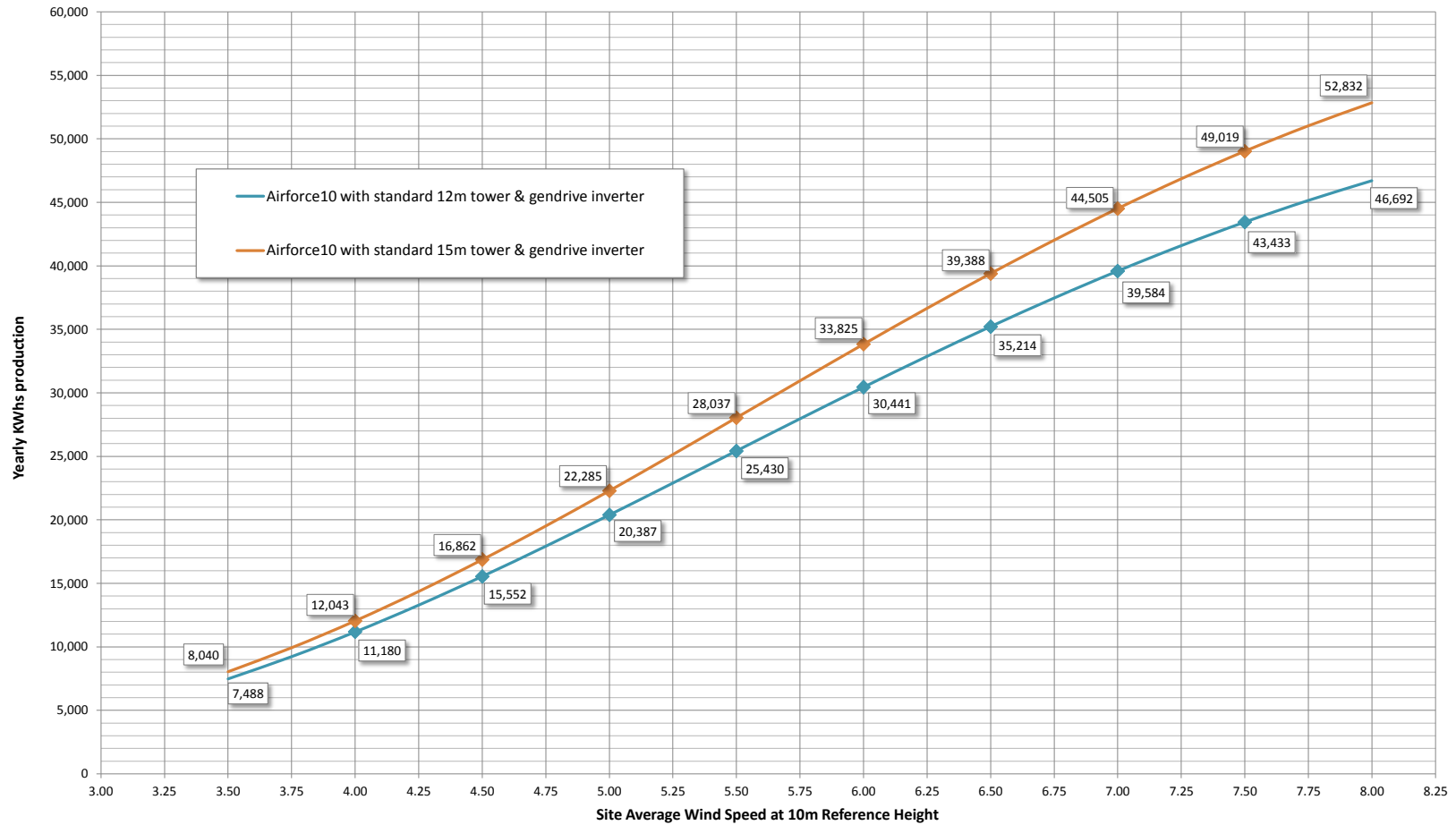
RECOMMENDATIONS

Members are invited to note the report and consider the following:

1. Agree once the Burwell Hall gas system needs replacing it will be replaced only with an electric system.
2. Whether to commit officer hours to research the micro-hydroelectric project hours.
3. Whether to commit officer hours to research the wind power project.
4. Be mindful of the current budget and future annual budgets to ensure it is sufficient to meet the target of being carbon-neutral by 2028.

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Airforce 10 - Predicted Energy Production.



Note! This information is intended as guide only and is not a guarantee of turbine performance.

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SMART FREE STREAM

This turbine is installed on the bed of the river or canal. Especially suitable for installation in canals or behind traditional hydro power plants.

- very compact
- reliable base load supply for locations with lower incidence of debris
- almost no maintenance required



Base load power supply



Easy installation



Minimal space required



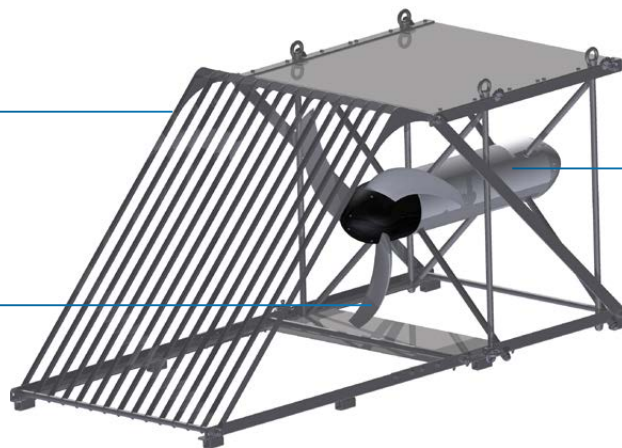
Low infrastructure costs (no dams)



No environmental impact



Minimal audible disturbance



Debris protection

stainless steel cables are carefully designed such that debris neither accumulates nor damages the blades

Rotor

slightly curved blades improve performance against debris

5 kW underwater generator

permanent-magnet generator provides three-phase AC power

Output	250 – 5000 W
Dimensions	Length: 2640 mm Width: 1120 mm Height: 1120 mm
Rotational speed	90 – 230 rpm
Weight	300 kg
Number of rotor blades	3
Rotor \varnothing	1000 mm

Specifications:

- The permanent-magnet underwater generator provides AC power
- Expandable system with multiple turbines
- Available as an off-grid solution, grid-connected and hybrid version
- Scope of delivery and specifications can be adapted to special projects
- Max. power output 3.1 m/s
- The turbine placed on the bottom of the river/canal

Anchorage dependent on:

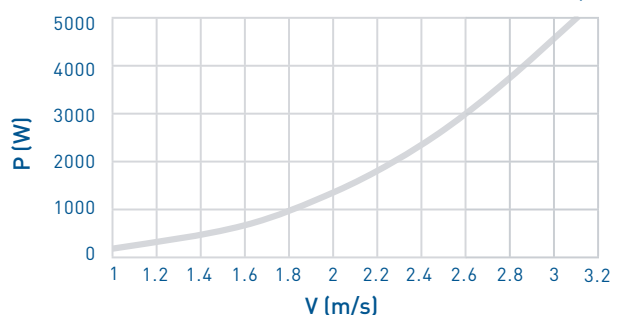
- Hydrological characteristics (e.g. riverbed type: rock, sand, etc.)
- Ship traffic/kayak/tourism
- Amount/type of flotsam/debris

Requirements:

- Min. river depth: 1.1 m
- Min. river width: 1.2 m
- Injection point: max. 500 meters distance from turbine

Output curve of the generator

Max. power output at 3.1 m/s



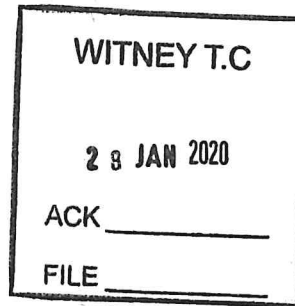
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Councillor David Harvey
Cabinet Member for Climate Change
West Oxfordshire District Council

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**WEST OXFORDSHIRE
DISTRICT COUNCIL**



Friday 24th January 2020.

Mrs Sharon Groth
Town Clerk
Witney Town Council, Town Hall
Market Square
Witney, Oxon
OX28 6AG
Your ref: H11

West Oxfordshire District Council, Housing Stock Carbon Footprint

Dear Mrs Groth,

Thank you for your letter dated 6th December 2019 and for your comments. I am glad to hear that Witney Town Council have developed a sub-committee to progress their local commitment to becoming carbon neutral by 2028 and look forward to hearing further news on how you are progressing. As a shared objective for many local councils, town and parish councils, I look forward to working with you in our response to the climate and ecological emergency.

In reply to your letter, I would like to reassure you that the issue of housing standards and retrofit is encapsulated within our plans for Climate Action in West Oxfordshire. We have identified a number of work streams to deliver our commitment, and are shaping a structure for this to enable informed decisions to be made on future resource and funding allocation.

Firstly, the District Council will be developing plans to ensure we deliver on our own commitment to becoming a carbon neutral Council by 2030. We are already working across Oxfordshire with partner Councils at both Member level and Senior Officer level to ensure collaboration and joint working on this at every opportunity.

Secondly, West Oxfordshire District Council will be looking beyond the Council's own operations and looking District wide to ensure that energy and carbon reduction; water conservation and flood risk; air quality; biodiversity and green infrastructure, sustainable transport are all issues considered within the framework of a wider Strategy. It is within this Strategy, we will develop targeted action for the raising and implementation of standards for sustainable design within new homes. In fact, only this week I submitted a letter of support in response to Government's consultation on the Future Homes Standard from 2025 and AD L 2020 changes, urging Government to bring forward the date of the Future Homes Standard to ensure the highest of standards are implemented by Government nationally and at the earliest opportunity.

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**WEST OXFORDSHIRE
DISTRICT COUNCIL**

In addition to this, we will develop planning policies and guidance to ensure the exemplary design of new homes is a priority across our strategic sites. For example, exemplary sustainable design is an important feature of the Area Action Plan taking shape for the Cotswolds Garden Village.

With regard to the retrofitting of existing housing stock and support to improve the energy efficiency of private homes, the Council currently provide a revenue stream to the National Energy Foundation (NEF) which provides support to residents in West Oxfordshire under their 'Better Housing, Better Health' scheme and offers callers a 'warm and well assessment' and advice on measures and grants available to make home improvements. We have identified that with an estimated 22,000 fuel-poor households across Oxfordshire, initiatives such as this offer the Council further potential in the future. The NEF are established in their field and offer links to existing partnerships such as the Local Energy Advice Programme (LEAP) who carry out, on behalf of NEF, house visits where this need has been identified. The NEF currently targets the provision of advice to 80 households per year within the District. With additional funding, and a capital budget, the NEF would be in a position to help residents in fuel poverty to install energy-efficiency measures. The NEF estimates that 10% of residents they currently assist over the phone in the District would benefit from a capital funding contribution for home improvements.

The above is one example of a project and partnership relationship that currently exists and has the potential to deliver further positive action with support from the Council and in response to the climate and ecological emergency. Maximising and building on existing relationships and projects such as this will be key in us identifying resource, mobilising action and engaging with local residents and community groups to address the impacts of climate change.

Please be reassured that existing housing stock and measures to improve energy efficiency through retrofit will be fully explored in order to deliver the best outcome for West Oxfordshire's residents. We anticipate a large number of initiatives and options will emerge through the consultation and shaping of a Strategy, so steps taken to improve the energy efficiency of private houses will be considered through this process.

I look forward to remaining in touch with you on this important issue.

Yours sincerely,

Councillor David Harvey
Cabinet Member for Climate Change
West Oxfordshire District Council

cc. Councillor James Mills, Leader of West Oxfordshire District Council
cc. Councillor Steve Good, Cabinet Member for Communities & Housing



River basin planning: Challenges and Choices consultation

24th October 2019 to 24th April 2020

We are the Environment Agency. We protect and improve the environment. We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

Published by:

Environment Agency
Horizon House, Deanery Road,
Bristol BS1 5AH

www.gov.uk/environment-agency

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Water challenges and choices

Overview

We urgently need to protect and improve our waters and find a better balance that meets the needs of people and nature.

Water keeps us alive, drives our economy and sustains wildlife.

Our rivers, lakes, canals, coasts and groundwater, and the essential services they provide society, are worth billions of pounds to the UK economy.

However, wildlife and the benefits we get from our waters are threatened by the damage we are causing through development, industry, flood protection and agriculture. The climate crisis and a growing population are adding to these pressures and without concerted action will lead to irreparable harm to our planet, ourselves and future generations.

This consultation explains why water is such a vital resource. It describes the challenges that threaten the water environment. It explores how we can work together to manage our waters and looks at who should pay for the actions needed.

This consultation covers all the river basin districts (RBDs) that are entirely in England, and the Severn and Northumbria RBDs which lie partly in Wales and Scotland respectively. Further information on RBDs, including the management of significant water management issues across Wales, can be found on the Supporting Information page.

See the [guide to consultation](#) (Appendix 1) for more detail and options on ways you can respond.

Why we are consulting

We are seeking your views on the challenges our waters face and the choices and changes we all need to make to help tackle those challenges.

By responding to this consultation you will be helping to shape the management of the water environment. The information gathered through this consultation will help us update the current river basin management plans, starting with the publication of draft plans in 2020.

We will also use your responses to help us consider how some of the current approaches to the management of water in England will need to change in response to a changing climate and a growing population. We are calling this work the Water Story.

Further information

Short films are available online to support this consultation. These are available in the table below:

Small Changes, Big Picture Trailer	https://www.youtube.com/watch?v=-KdVoxs2SSM
Managing Water in Our Environment	https://www.youtube.com/watch?v=BA6ggonQLOQ
Climate Crisis	https://www.youtube.com/watch?v=tbs7Ci3nF_c
Changes to Water Levels and Flows	https://www.youtube.com/watch?v=1_ktVTM4Mrw
Chemicals in the Water Environment	https://www.youtube.com/watch?v=wP493JsiukM
Invasive Non-Native Species	https://www.youtube.com/watch?v=Q_OiGvphEBw
Physical Modifications	https://www.youtube.com/watch?v=2c03-wJj9Jl
Plastics Pollution	https://www.youtube.com/watch?v=4cDo2gMa0-o
Pollution from Abandoned Mines	https://www.youtube.com/watch?v=Xnals6bTvX4
Pollution from Agriculture and Rural Areas	https://www.youtube.com/watch?v=SFaVYsOjea4
Pollution from Towns, Cities and Transport	https://www.youtube.com/watch?v=VAreJm6RKFU
Pollution from Wastewater	https://www.youtube.com/watch?v=bBcPb0g2tZg

- A glossary of the terms used in this consultation is available on the Catchment Data Explorer online glossary: <http://environment.data.gov.uk/catchment-planning/glossary>
- A guide to this consultation is available: Guide to consultation: https://consult.environment-agency.gov.uk/++preview++/environment-and-business/challenges-and-choices/user_uploads/guide-to-challenges-and-choices.pdf
- For information and data about your local area, visit the catchment data explorer: <http://environment.data.gov.uk/catchment-planning/>
- For more information on the government's 25 Year Environment Plan here: <https://www.gov.uk/government/publications/25-year-environment-plan>
- Find out about the Love Water campaign here: <http://www.water.org.uk/love-water/>



Submitting your response

We invite you to submit your views to us via the link to the consultation below:

<https://consult.environment-agency.gov.uk/environment-and-business/challenges-and-choices>

Alternatively, you can make representations via e-mail to RBMPconsultation@environment-agency.gov.uk or in writing to:

Clive Phillips, Operations Catchment Services, Environment Agency, Kings Meadow House, Kings Meadow Road, Reading, RG1 8DQ.

You can request a separate Word document proforma with just the questions to assist your responses via RBMPconsultation@environment-agency.gov.uk

The closing date for receipt of your comments is 24th April 2020.

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The water story

Water unites all life on Earth. You, everyone you love and every bit of nature around us depends on having enough clean water to be able to survive. Billions of years ago water came out from the centre of the planet and started to shape the newly forming land. It helped create the right conditions for life to evolve and thrive. It's cycled round and around since that time, in the sky, underground, in rivers and seas day after day after day. Every drop of water you see or feel has been on an incredible journey.

But despite this incredible story, it's easy to take water for granted.



of life depends on water



the average water use per person per day

Let's take a moment to think about all the things water does for us. Of course, it quenches your thirst. It washes your body and your clothes and dishes and it's there to flush your loo. It's essential for creating the food and drink you consume, whether that's helping grow plants in a field or cooking in your kitchen. Water helps generate your light, heat and electricity too, whether at home or at work. It's needed to manufacture all the things you own, from your mobile phone to your favourite mug. Water is used in cars, buses and other transport you need to get about. And when it rains, it cleans the air we breathe. It can be a huge part of staying healthy and happy in other ways too. Perhaps you like going swimming or fishing. Maybe you're a keen gardener or enjoy walking your dog in the countryside; a landscape shaped by water. Maybe you canoe or sail or just love a day at the seaside. Few things are more beautiful than a waterfall, especially when it's surrounded by birds, bees, animals, trees and flowers. They all need water to be healthy and happy just like you do. Water is so much more than what you get out of the tap. It's our greatest natural asset.

For hundreds of years our ancestors took water for granted. They relied on water to cleanse and purify, washing away all the dirt, poisons and toxins of the Industrial Age and its booming human population. Water was everywhere, so much and so powerful, they didn't believe they could possibly damage it. They were wrong.

By the 1950s water in England was so polluted that many of our babbling brooks and singing streams fell silent. Nature couldn't survive there any longer. The fish died because they couldn't get the light, oxygen and food they needed. Waters became still as they were choked with weeds. And people engineered channels, moving water away; building over rivers, burying them or diverting them to serve our needs.



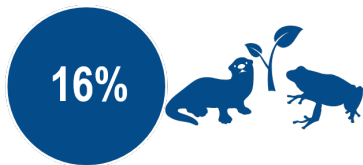
12% of land cover in the UK is freshwater habitat



£39.5 billion the monetary value of UK freshwaters

Since then, tighter environmental standards, changes in industry and massive investment in bigger sewers and better waste water treatment plants have restored the most polluted rivers. Today, the asset value of fresh water in the UK is estimated to be £39.5 billion. In England we spend about £5 billion a year to protect that asset and to protect public health and wildlife from a polluted water environment. But there's still so much to do. Only 16% of England's groundwater, rivers, lakes, estuaries and seas are close to their natural state. Our climate is changing and there's more of us than ever before. This is bringing with it some big challenges that need us to make equally big choices.

One of our biggest challenges is being able to invest the amount of time and money we think it will take to protect our water assets and get back all those benefits that we've lost. A huge gap is opening up between the outcomes we want to achieve and our ability to achieve them. At the current rate of progress it will take over 200 years to reach the government's 25 Year Environment Plan target of at least 75% of waters to be close to their natural state. We urgently need to find better, faster ways to get more investment in our water environment.



16% of England's groundwater, rivers, lakes, estuaries and seas are close to their natural state



90% of the UK's wetland habitats have been lost in the last 100 years

Today we're working together to achieve a better balance between people and nature, so that we can all have what we need for a good life, not just now, but in the future too. Striking that balance means lots of individuals uniting to manage water and writing our plan down for everyone to share in. We want your help to update the river basin management plans and find different and more ambitious ways of protecting the natural world and our precious water assets.

These plans, one for each river basin district, apply to all of us, including you. That's why it's important you tell us what you want them to say through this consultation. We'll use this evidence to tell those in power what choices you want to make to overcome our challenges. But you needn't stop there. Keep talking to your local politicians, businesses and council leaders about the changes you want to see in your environment and the legacy you want to leave. You can also make small changes at home and at work. The short films in this consultation contain simple ideas for things you can do that will really help.

Water is precious and it needs us all to show it some love. Join the growing movement of citizens taking action to protect our precious natural resources and

wonderful wildlife. If we get this right, water will continue its incredible journey into the next generation; clean and plentiful, valued and loved.

v5.4.2

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

Climate and biodiversity crisis

Climate change is happening now. England is not known for extremes of weather but as the world's climate changes we will experience more summers that are hotter and drier and wetter and warmer winters. We are also likely to have more frequent extreme weather like floods and heat waves. The recent heat waves of 2003, 2006 and 2018, and the winter floods of 2015/16 were the most extreme ever to hit England. We should all take these as a warning.

We need immediate and ambitious actions to tackle these changes. If we do nothing the consequences for ourselves, and for wildlife will be immense.



the projected increase in population of England from 55.3 million in 2016 to 62 million in 2041



of our freshwater and wetland species are threatened with extinction and two-thirds are in decline

At the same time England's population is growing. This growth leads to more homes, workplaces, transport, energy, drinking water and drainage infrastructure and creates huge environmental challenges. We need to feed more people, so the way we farm is likely to change, putting even greater pressure on our environment.

As our population grows, the climate crisis will intensify. Things that we currently take for granted such as foods containing wheat that form an essential part of our diet might become harder to grow. The way we live will have to change otherwise the impacts could be unsustainable.

The impacts on our wetland habitats and wildlife are already happening. To provide water for ourselves, farming and industry we have dredged, dammed and polluted our rivers and groundwaters. This has put pressure on the environment, something that will worsen further as climate change increases.



we all have our part to play in helping to reduce greenhouse gas emissions to net zero by 2050

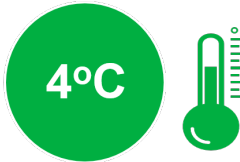


of internationally protected inter-tidal habitat and a further 500 hectares of freshwater habitat will be lost due to coastal squeeze over the next 5 to 10 years

In the UK we've already lost 90% of our wetland habitats in the last 100 years, and over 10% of our freshwater and wetland species are threatened with extinction. Wetlands make up only 3% of the UK but are home to around 10% of all our species, so they are vital for the species that remain. Other rare habitats under threat include chalk streams.

An example of how the destruction of wetland is affecting wildlife is the loss of the curlew. This bird used to be a feature of farmland, wetlands and coasts, but it has declined dramatically to 'near threatened' global status. The future of the curlew has

been called 'the most pressing bird conservation priority in the UK'. Loss of habitat by draining wet grasslands and other wetlands is likely to be one of the main cause of its decline. The conservation of the curlew will benefit from changes in land management, including restoring ditches, wet features within fields and adding more varied vegetation.



work together to plan for a range of future climate scenarios, including a 4°C rise by end of century



the government is committed to restoring or creating more wetland and water features as part of a Nature Recovery Network, with 500,000ha of new or restored wildlife rich habitat at its heart

Our watery habitat is vital for helping us adapt to an uncertain future. We need to help it become more able to withstand and adapt to climate change and extreme weather conditions. We can do this by restoring rivers, wetlands and coasts to a more natural state, creating more wetland habitat, protecting and supporting wildlife recovery and changing the way we use some land. To do this, we need a step change in how we plan and coordinate investment and action.

We also have to prevent the worst impacts of climate change by reducing greenhouse gas emissions as fast as possible, and planning for a range of possible futures, including a 4°C rise by the end of the century.

We are the last generation who can act to stop or reduce these changes. We must act now to prevent the worst impacts of climate change by reducing greenhouse gas emissions as quickly as possible, and planning for a range of possible futures, including a 4°C rise by the end of the century.

We are the last generation who can act to stop or reduce these changes. We must act now.

For further information, see the [Climate Crisis challenge document](#) and the [Biodiversity challenge document](#).

v5.4.2

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?

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?

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?

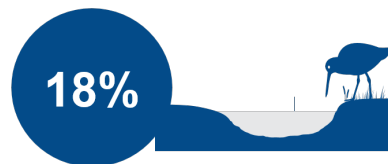
Challenge 1: Changes to water levels and flows

There are areas where we are taking too much water from our rivers and aquifers.

Without water we cannot survive. But how water gets to our taps and the effect that has on the environment is something most of us don't think about.



9% of surface water bodies have abstraction and flow pressures preventing them from achieving good status or good ecological potential



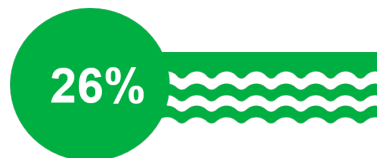
18% of chalk river water bodies are impacted by abstraction

Water taken from rivers and aquifers benefits all parts of our economy, from farmers to energy producers. Water is pumped from rivers and groundwater, cleaned at a water treatment works, and then pumped into our homes or businesses. We use this water and then flush it into the sewage system. From there it is pumped to the treatment works to be cleaned and discharged to rivers or the sea.

As the climate changes and our population grows, our demand for water will also grow. We now take more from our rivers and groundwaters than we or rainfall put back. Across England we over abstract from around 20% of rivers and 26% of groundwater bodies. This damages rivers, springs, aquifers, lakes and wetlands, because it reduces where wildlife can live. It becomes more difficult for fish to reach the places they lay their eggs (their spawning grounds) and to where they travel to feed and mate.



222,400 million cubic metres of extra water per year will be needed to meet expected population growth by the 2050s



26% of groundwater bodies are at poor status and 0.9 million cubic metres of water per day are needed to recover to good status

Lower water levels also reduce the numbers and health of other wildlife that rely on having high enough water levels to move around. As a result, many of our rivers cannot sustain a healthy environment for fish, insects and plants. This is made worse as water levels drop because the polluting chemicals washed into rivers from soils and roads do more damage because they are less diluted.



51 million cubic metres of water have been returned to the environment through amending abstraction licences



1053 million cubic metres of water have been recovered from abstraction licences to remove risk of deterioration

If we do nothing about the problem of taking too much water from our rivers and aquifers, we will continue to threaten our most precious resource. We can improve or reverse the damage that has already been done. We can reduce the amount of water we use. We can make sure the licences we agree with farmers, water companies, industry and land owners to abstract water do not damage the environment. We can remove structures from rivers which are no longer needed and which affect the natural flow of water. By doing this, we can ensure that we and our precious wildlife will thrive.

For further information on this challenge see the [Changes to water levels and flows challenge document](#).

For further information on the pressures associated with this challenge, see [Natura 2000 pressure document](#).

v5.4.2

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

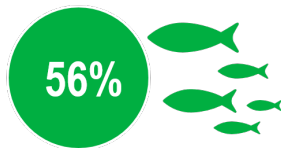
If you have read the further information about this challenge, you may also like to answer the questions below:

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?

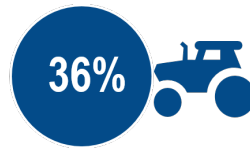
7. What kind of a water flow environment do we want? Should we maintain statutory minimum water flow and level standards universally across England as we do now, or go further in some places based on environmental risk?

Challenge 2: Chemicals in the water environment

All living and non-living things on Earth are made of chemicals. Naturally occurring chemicals form the building blocks of life. Manufactured chemicals are found in everyday things such as drugs, paints, textiles, plastics, toys, carpets, pesticides and fertilisers. They are an essential part of modern life and have brought us huge benefits. But chemicals find their way into the water, air and soil and can also be damaging to ourselves and our environment because of the way we produce and use them. Some build up in animals and may represent risks to top predators, including us, if not properly controlled.



of sampled sites exceeded two or more biota Environmental Quality Standards in freshwater fish between 2014 and 2018



of the pesticides monitored for, that are in current usage, have been detected in Catchment Sensitive Farming rivers above a threshold value of 0.1 ug/l on at least one occasion since 2014

Although the majority of chemicals regulated under the Water Framework Directive are usually below levels of concern, we need to continue to reduce levels of metals released from abandoned mines and some pesticides in drinking water protected areas, and there are some new issues. For example, we now know that some persistent organic pollutants are occurring at elevated levels in fish. These pollutants are already recognised as international priorities and are highly regulated. In many cases, emissions have declined significantly and the levels we observe today are strongly influenced by the legacy of past chemical use. Achieving further reductions will be neither easy nor straightforward.



503 separate chemical measures in the 2020 to 2025 water company plans, with an anticipated cost of £200m



4 of 5 pesticides used on oilseed rape have decreased in frequency of detection and concentration in water as a result of voluntary initiatives

The worldwide market for chemicals is predicted to double by 2030. Managing chemicals so their production and use is sustainable and provide the benefits we expect without adverse impacts will be increasingly challenging as more new chemicals are used in our homes, in industry and on land.

Climate change is also having an effect. As the climate changes, heavier rainfall will wash more chemicals into our rivers and streams from sewers, roads and the land. In drier spells, less dilution will be available in rivers meaning concentrations of some chemicals will increase.



decline in levels of certain brominated flame retardants discharged from wastewater treatment works between 2013 and 2016



number of Safeguard Zones in place protecting our drinking water resources from chemicals

Looking forward, local solutions to local problems will continue to be vital. We take nationally co-ordinated actions to reduce levels of the most widespread chemicals. We work internationally to support sustainable chemicals management and reduce the risks of importing pollution. We identify emerging issues and determine how best to address these. The 25 Year Environment Plan sets out an ambition to develop a new UK chemical strategy. This presents an opportunity to consider societal challenges for the future use of chemicals. This might include how to promote sustainable design of products, efficient use of resources and encouraging recycling and safe use and disposal so we can continue to reap their benefits whilst ensuring a healthy environment for future generations.

For further information on this challenge see the [Chemicals in the Water Environment challenge document](#).

For further information on the pressures associated with this challenge see the [Cypermethrin](#), [Perfluorooctane sulfonate \(PFOS\) and related substances](#), [Polybrominated diphenyl ethers \(PBDEs\)](#), [Polycyclic aromatic hydrocarbons \(PAHs\)](#), [Mercury](#) and [Drinking Water Protected Areas](#) pressure documents.

v5.4.2

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

If you have read the further information about this challenge, you may also like to answer the question below:

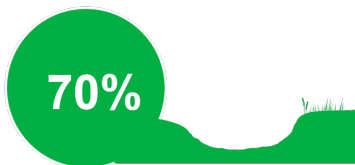
9. Do you support the Environment Agency's proposed strategic approach to managing chemicals as referenced in the Chemicals in the Water Environment challenge document? If not, what changes would you make?

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?

Challenge 3: Invasive non-native species

The damage that invasive non-native species (INNS) cause can have major and permanent results. They can erode and undermine river banks, introduce new diseases, and can make native wildlife extinct.

An invasive non-native species is an animal or plant introduced, either deliberately or accidentally, into a place where it does not belong. They can 'hitch hike' a ride on goods or other animals or even travel in the ballast of ships. Not all non-native species are damaging; for instance non-native food crops can have huge benefits. A species only becomes 'invasive' if it has negative effects on the environment, such as outcompeting native species. Global trade, tourism and transport increase the problem world-wide, and the problem is increasing every year.



70% of surface waters in England are at risk of deterioration because of invasive non-native species



£1.3 billion is the amount INNS cost every year – includes control and eradication, structural damage to infrastructure or loss of production due to presence of INNS

Japanese knotweed was introduced by horticulturists over a century ago. Growing in thick dense clusters it increases riverbank erosion and may reduce the capacity of river channels, possibly leading to increased flooding. The Chinese mitten crab came to the UK in the ballast of ships and were first recorded in the 1930s. They weaken riverbanks by burrowing into them.

It is estimated that the UK has over 2000 established non-native species. The cost to society that they pose can be enormous: in 2010 the costs in England were estimated at £1.3 billion.



£1.5 million is the amount local action groups received in grants from 2011-2015 to help tackle non-native species



50% has enhancing biosecurity to reduce the spread and impacts of INNS as a key component of it

But the effects are not just economic. Invasive non-native species can also damage animal and human health and the way we live. They put even more pressure on animal and plant habitats that are already damaged, fragmented and weakened by pollution and habitat destruction.

We need to do more to understand where invasive non-native species are stopping the water environment from improving in the way we expect and want. We also need to do more to prevent their arrival and spread, since they are almost impossible to

get rid of once they are established. We can only do this by working in partnership with others, both in catchments and nationally.



non-native species are held on the Non-native Invasive Species Portal, the portal contains information on these species and links to their distribution



we have commissioned research to better understand the links between INNS, their ecological impacts and how those impacts are picked up in our assessments of ecological status

For further information on this challenge, see the [Invasive Non-Native Species Challenge](#) document.

For further information on the pressures associated with this challenge see the [Phosphorus and Freshwater Eutrophication](#), [Nitrates](#), [Natura 2000](#) and [Fine Sediment](#) pressure documents.

v5.4.2

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

If you have read the further information about this challenge, you may also like to answer the questions below:

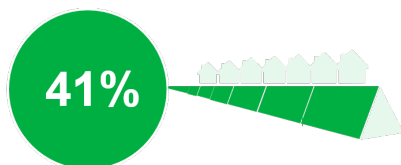
12. How would you promote Check, Clean, Dry to all recreational users of water, including those who are not in clubs or attend events?

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

Challenge 4: Physical modifications

Rivers, estuaries, lakes and the coastline make our country unique. But for thousands of years we have modified them physically to support farming, industry, transport, including shipping, and by building places to live.

Some of those physical changes are still essential. They help to protect us from flooding and support the supply of drinking water and the production of the food we eat. Other changes have helped create the iconic landscapes and architecture we value, such as the Norfolk Broads, the Avoncliff Aqueduct near Bath, and the Royal Albert Docks in Liverpool.



of water bodies are not meeting their ecological targets due to impacts from physical modifications



We have altered and modified our waters and landscapes for over 6000 years – we continue to do so today.

But as we divert rivers, cover them and straighten them, we have also damaged the environment. The legacy of structures and other changes means 41% of rivers and waterways do not provide healthy habitats for wildlife.

Despite our efforts and investment over the last ten years, this damage continues and is increasing. Building much needed homes and developing industry leads to more damaging changes to habitats. We are still building flood defences and creating barriers which make it difficult for fish and other wildlife to move along rivers to breed and feed. Climate change will increase these effects as rainfall patterns change and rivers become more difficult to manage.



of government funding was spent between 2009 and 2015 on measures to remove and improve some of the physical modifications



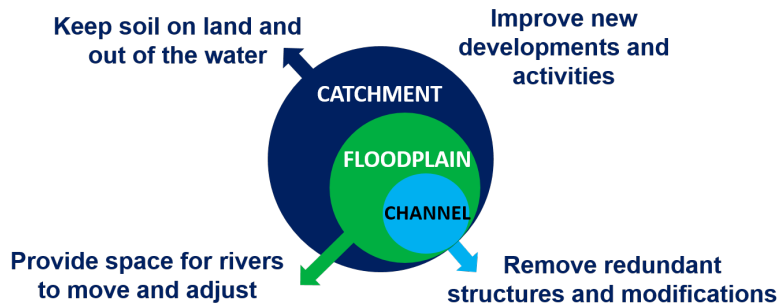
of our water environment has been enhanced since January 2016. However, despite significant efforts the overall impact from physical modifications appears unchanged

We do not have to continue to degrade coastlines, lakes and rivers. We can reverse much of the damage we have done and help bring them back to full health. One way is to remove structures such as weirs and dams that are no longer needed. We can return rivers to their natural form and still support important activities and businesses. By doing this we can also help manage and reduce the effects of climate change, reduce flooding and ensure a clean and plentiful water supply.

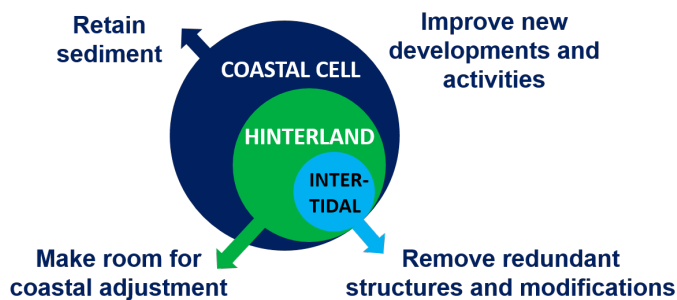
Of course, we need to balance these changes with other priorities as well as the growing pressures of population and climate change. But the environmental and social benefits are huge. With vision, skill and funding, we can transform our water environment into healthy and productive waters, full of life and vibrancy.

Priority actions in our catchments and coasts will reduce pressures from physical modifications and help manage climate change

Inland waters



Coastal and estuarine



For further information on this challenge see the [Physical Modifications challenge](#) document.

For further information on the pressures associated with this challenge see the [Natura 2000](#) and [Fine Sediment](#) pressure documents.

v5.4.2

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

If you have read the further information about this challenge, you may also like to answer the question below:

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?

Challenge 5: Plastics pollution

David Attenborough's Blue Planet II and other campaigns revealed the horror that our lack of thought about plastics is causing. Dolphins played with plastic bags and beaches were littered with plastic debris. Many people are more aware than ever that plastic has an impact on our seas and wildlife. It's not just the plastic pollution we can see on beaches. Because of the way plastics are produced, used and disposed of, these plastics can also pollute our lakes, rivers and streams, soil and air.



metric tonnes of plastic enters the world's oceans every year



of plastic on Britain's beaches comes from the public

Micro-plastics are a growing concern but one which needs more research. Micro-plastics come from tyres and synthetic textiles. Each time you use a washing machine thousands of particles of micro-plastics are released. These tiny particles are entering our environment in large quantities and we don't yet understand the potential consequences of this on our health, food chain and wildlife.



is the amount of plastic packaging the members of the UK Plastics pact (that represent 85% of plastic packaging sold through supermarkets) are aiming to be re-usable, recyclable or compostable by 2025



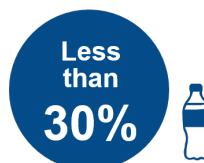
was the year when the UK government banned the sale and production of personal care products containing micro-beads

50%

You as members of the public want to deal with the problem of plastics. Plastics are being used much more as living standards rise and the world population grows. We need to change how we use plastic and how it is produced. We need to think more fully about using less plastic and re-using and recycling the plastic we do need. The government's 25 Year Environment Plan takes a strategic approach in reducing plastic waste and preventing micro-plastics reaching the seas. If we are going to fully understand how to reduce the plastics we use, we also have to understand the impact of our use. We also need initiatives that will help to reduce how much we produce and use.



is the year when new regulation on the use of plastic drinking straws, stirrers and cotton buds will come into force



Government recommends a tax on plastic packaging containing less than 30% recycled plastic

For further information on this challenge of see the [Plastics Pollution](#) challenge document.

v5.4.2

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

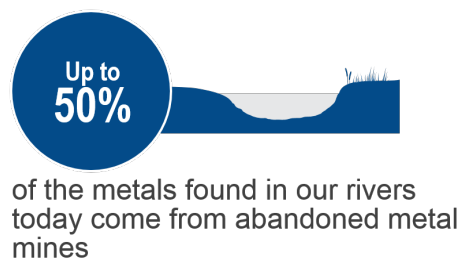
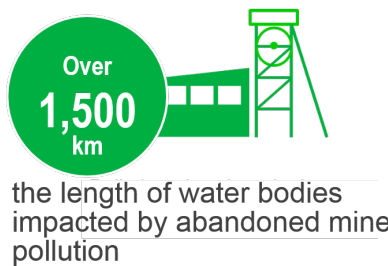
If you have read the further information about this challenge, you may also like to answer the question below:

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

Challenge 6: Pollution from abandoned mines

We have been mining for coal, metal and other minerals since the Bronze Age. Mining also helped start the industrial revolution, reaching its peak in the 19th and early 20th centuries. As a result there are thousands of former mines across our landscape today.

Almost all the metal mines closed over 100 years ago but they still pollute our rivers and harm fish, river insects and habitats. Discharges from abandoned mines continue to pollute over 1,500km (3%) of rivers in England. They can also have an adverse impact on economic activity.



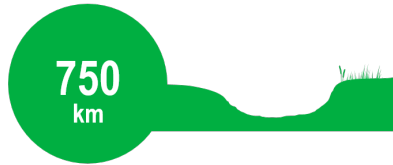
Pollution from coal mines is easy to see, because the iron-rich water that flows into rivers turns them orange as the iron forms “ochre” (iron hydroxide). This smothers river beds and harms the local habitat. In some areas, groundwater used for drinking water supply is threatened due to the coalfield pollution.

Pollution from former metal mines may not be visible and we can only tell that there are metals in rivers by testing its water quality. Up to half of the metals such as cadmium, zinc, lead and copper found in our rivers come from these mines, as much as from all other industrial sources combined.



In 2000, mine operators became liable for the long-term impact of their activities on the environment, even after their mines closed. However, nobody is legally responsible for the ongoing pollution from mines which closed before the year 2000. This is why the government is involved in managing this type of pollution.

Former mines and waste heaps can provide benefits to society when they are made into parks and recreation areas. Many former mines have heritage and environmental value. For example, parts of the Cornwall and West Devon mining landscape are now a World Heritage Site and the North Pennines Area of Outstanding Natural Beauty is a UNESCO Global GeoPark. In some cases, the high metal levels in some mining wastes and river sediments have allowed rare plants and lichens to flourish. Many of these are protected as Sites of Special Scientific Interest and are now an important part of Britain’s habitats.



of rivers polluted by mines are targeted to improve by 2027



of planned environmental and economic benefits to be delivered by 2027

We would like to clean up more of the rivers polluted by former mines, but the costs of building and operating treatment schemes are rising. Government funding has to be shared with other important work areas. We need to explore new ways to create cleaner rivers for people and wildlife without losing this important legacy.

For further information on this challenge, see the [Pollution from Abandoned Mines](#) challenge document.

For further information on the pressures associated with this challenge see the Chemicals page in this consultation and the [Invasive Non-Native Species](#), [Drinking Water Protected Areas](#) and [Fine Sediment](#) pressure documents.

v5.4.2

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

Challenge 7: Pollution from agriculture and rural areas

Rivers, streams and groundwater are an essential part of rural life and the rural economy. But can we make farming and land management truly sustainable? Can we leave our soils, air and the water healthier than they are now and still grow enough nutritious food for us all?



of water bodies impacted by pollution from rural areas



of top soil are lost every year due to erosion in England and Wales. In 2010, soil degradation in England and Wales was estimated to cost £1.2bn year

Currently, the way we manage land and use fertilisers and pesticides is a major reason why 40% of our rivers and groundwaters are polluted. If we are serious about supporting wildlife and enhancing our soils and water, we need to understand what is stopping us from making improvements.

Farming and rural land use is ever changing. The farming industry faces big challenges as it adapts to future political reality and to climate change. We need to think carefully about how fertilisers and pesticides are used in the future if we are going to improve the health of soil and water. We also need to look at how the management of livestock affects the land and water.



percentage of serious pollution incidents in England attributed to the agriculture sector

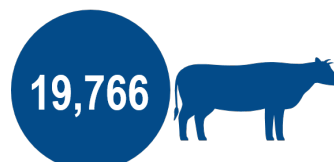


contribution from agriculture to the total phosphorus load to freshwaters

We must all protect water and soils, and comply with environmental legislation. To do this, the way some land is used might have to change. Some changes might be radical. So it's important that farmers have enough funding to help them produce the food we need and protect the environment from harmful activities. New policies will have to be created to support these changes.



decrease in pollution incidents in Catchment Sensitive Farming target areas since 2006



farms have engaged with Catchment Sensitive Farming since 2006

Making farming more sustainable will be difficult. But it is time to think about our own needs for food and make farming the heart of protecting the environment. How

should we continue to support farming in its role of managing a healthy environment?

For further information on this challenge, see the [Pollution from Agriculture and Rural Areas](#) challenge document.

For further information on the pressures associated with this challenge see the Chemicals page in this consultation and the [Pollution from Water Industry Wastewater](#), [Nitrates](#), [Faecal Contamination](#), [Phosphorus and Freshwater Eutrophication](#), [Natura 2000](#), [Drinking Water Protected Areas](#) and [Fine Sediment](#) pressure documents.

v5.4.2

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

If you have read the further information about this challenge, you may also like to answer the question below:

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?

Challenge 8: Pollution from towns, cities and transport

More than half the people in the world now live in cities. In England that number is far greater, with 83% of us now living in urban areas.

The environment faces some of its greatest challenges from urbanisation and transport. Pollution from towns and cities is damaging 18% of our rivers. That's most of the waters in England's urban areas.

Pollution comes from our waste, drainage, roads, transport, industries and housing. Historic pollution from factories and heavy industry has also left a legacy contaminating land, soils and water.



of water bodies impacted by pollution from towns cities and transport

The climate crisis is intensifying the problems densely populated areas create. The impact of pollution from urban areas is particularly acute during heavy rainfall events following periods of prolonged dry weather. In dry weather pollutants build up on hard surfaces such as roads, and in drains. Heavy rainfall flushes all these pollutants into rivers and streams in one go which can damage wildlife. This type of weather pattern is likely to be more common due to climate change.

We need to ensure urban areas use sustainable drainage systems to reduce pollution and the risk of flooding. But which drain should we use? Houses are connected to two drainage systems: the foul (wastewater) drain for sinks, toilets and washing machines. The other is the surface water system which takes rainwater from roofs and pavements. Many people do not know that they should not connect sinks, washing machines and toilets to the surface water drains that lead directly to our rivers.



miles driven by all motor vehicle traffic in Great Britain for year ending March 2019, an increase of 6.5% from 10 years ago and 15% from 20 years ago

Most of us have seen the grim pictures of 'fatbergs'. Fatbergs clog sewers and result in flooding and pollution. Fatbergs result from putting oil, fats and wet wipes down toilets and sinks. These should be cooled and poured into a sealed container. Some councils have fat collection services, otherwise dispose of them in non-recyclable rubbish.

With good stewardship, governance, and planning, we can improve our towns and cities and the environment. We can unleash those benefits by building sustainable

and well planned housing and infrastructure, and offering better and more efficient transport.

For further information on this challenge, see the [Pollution from Towns, Cities and Transport](#) challenge document.

For further information on the pressures associated with this challenge see the Chemicals page in this consultation and the [Pollution from Water Industry Wastewater](#), [Nitrates](#), [Faecal Contamination](#), [Phosphorus and Freshwater Eutrophication](#), [Drinking Water Protected Areas](#) and [Fine Sediment](#) pressure documents.

v5.4.2

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

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?

Challenge 9: Pollution from water industry wastewater

The water industry plays a vital role in making sure that waste water from homes and businesses is safely treated and returned to the environment. This helps to protect our health and the health of our waters.

Waste water pollution has in the past damaged rivers, streams and coastal waters very badly. But the situation has improved a lot in the last 30 years. This is because water companies, funded by their customers, have invested in better collection and treatment systems, and improved how they work with local people. Regulation is also better now. As a result, waste water treatment works put 60% less phosphates and 70% less ammonia into the water environment than they did in 1995. The water industry also causes fewer pollution incidents than it used to.



serious pollution incidents per year due to water companies



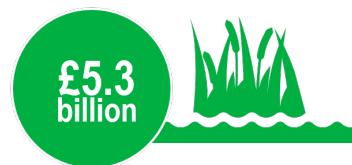
combined sewer overflows, out of a total of 15,000, have been improved since 1990

Despite these improvements, water industry activities are still one of the main reasons why our waters are not in a good enough state. Work is underway to address these problems but more is needed. Water companies need to further improve their treatment systems and reduce incidents of untreated waste water being discharged to rivers and coastal waters.

Water companies must also make sure that their services and assets can cope with the impacts of climate change. More extreme weather, more people moving into towns and cities and growing populations will make it harder to protect and improve the environment.



of rivers and estuaries predicted to be protected and improved through water company plans from 2020-2025



is the amount of water company investment and projected investment towards WFD objectives from 2009 to 2025

We can all play a part in helping reduce the effects of waste water by using less water in our homes and by thinking more carefully about what we pour down the sink and flush down the toilet.

For further information on this challenge, see the [Pollution from Water Industry Wastewater](#) challenge document.

For further information on the pressures associated with this challenge see the Chemicals page in this consultation and the [Nitrates](#), [Faecal Contamination](#), [Phosphorus and Freshwater Eutrophication](#), [Natura 2000](#), [Drinking Water Protected Areas](#) and [Fine Sediment](#) pressure documents.

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

If you have read the further information about this challenge, you may also like to answer the question below:

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

Catchment partnership working

Working together

Traditional approaches to water management have resulted in some major improvements in the water environment. For instance the substantial improvement in the quality of urban rivers and bathing waters over the last 30 years.

However, many of the big challenges we now face (e.g. tackling climate change) are complex and cannot be solved by one organisation alone but require a step change in approach.

Defra's [Catchment Based Approach](#) requires a strategic, catchment wide approach and local partners working collaboratively.

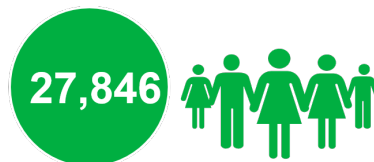


The first Loddon Rivers Week - volunteers and partners building a fish and wildlife bypass channel

A catchment wide approach is essential because activity in the upstream parts of a catchment can have impacts downstream. Water, and the land that drains to it, needs to be managed as a whole catchment system from 'source to sea'. However, local partnership working does not necessarily have to be based on these catchment boundaries, as long as the planning and management of water and those activities that can affect it adopt the 'source to sea' approach.



100+ catchment partnerships bring local knowledge and expertise and are active in each of the 100+ catchments across England



27,846 primary stakeholders engaged in 2017/18

You can find out more about the Catchment Based Approach and your local catchment partnership at <https://catchmentbasedapproach.org/get-involved/>

We want to work with partners across multiple scales (national, regional, county, area, landscape, catchment and parish) in a cohesive, joined up approach. This more inclusive approach, considering all parts of the catchment system including

environmental, social and economic issues, is one of the transformational changes needed to deliver the government's 25 Year Environment Plan aspirations.

Feedback from our Working Together consultation indicates some of our partnership working is not always inclusive enough to deliver this collaborative, wider systems approach.

Partnerships need to be inclusive, building and extending the great work already begun by many catchment partnerships. We want to work with partnerships to help widen the range of stakeholders involved and improve the link to other place based partnerships (e.g. local nature partnerships, nature improvement areas, local enterprise partnerships, coastal partnerships and the proposed nature recovery networks highlighted in the government's 25 Year Environment Plan). This will secure support from wider parts of society that benefit from a healthy water environment (e.g. local businesses and local government).



partnership projects took place in 2017/18. These tackled a range of pressures and challenges.



of habitat created in 2017/18 improving the resilience of catchments

Water management needs to be both nationally strategic (operating within the legal and government's policy framework) and locally owned (through local place partnerships). The river basin management plans are a crucial part of the strategy. This consultation, and the consultation on the draft update to those plans, provide the opportunity to secure greater participation and local ownership. We call upon all partners to engage and participate in this consultation, and development and delivery of updated river basin management plans in 2021.

One of the objectives of Defra's Catchment Based Approach is that catchment partnerships should aim to be self-sufficient, as partners should obtain collaborative advantage from the partnerships and therefore be willing to contribute to partnership hosting and management. However, some partnerships have identified funding as a key constraint to progress.

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

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

Who pays?

Healthy and plentiful water is essential for us all and protecting and improving it requires investment. The benefits we receive from water are priceless but the government estimates England's waters to be worth £39.5 billion.

We spend £5 billion a year protecting public health and the environment by tackling pollution and maintaining the benefits and services water gives us. Deciding who pays this is difficult. We don't share the benefits of the environment equally and quite often the costs of protecting the environment aren't shared fairly either. As a result it is often the government who pays using taxpayer money to maintain our natural environment. Other major contributors are water companies and their customers, farming and industry.

The reality is, to achieve our target of bringing 75% of waters back to near natural condition we have to greatly increase the level of investment in river catchments. If we don't our environment is likely to suffer further damage and we will all bear the cost of losing the benefits that nature provides.

To find out more about this subject, read the more detailed information in [the economics of managing water](#) document.

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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?

Supporting information

River basin management plans

Over the next two years the Environment Agency is updating the river basin management plans. These plans contain objectives for every water body in England and a summary of the actions needed to achieve those objectives.

The updated plans will be published in 2021. They may be supported by new legal requirements or new actions.

The Challenges and Choices consultation is an important step in the process of updating the plans, seeking your views on what needs to be done to tackle the significant issues affecting the water environment. For a timeline see Appendix 2.

River basin districts

A river basin management plan is produced for each river basin district (RBD). As part of this Challenges and Choices consultation you will be asked to identify which river basin district(s) your response applies to, or if your response applies to the whole of England.

To find your river basin district use this [map](#) or visit the [Catchment Data Explorer](#).

The Environment Agency is responsible for the review and update of the river basin management plans for the six river basin districts that fall entirely within England: Anglian, Humber, North West, South East, South West, and Thames.

The Environment Agency also leads on the review and update of the plans for the Severn and Northumbria RBDs which lie partly in Wales and Scotland respectively.

River basin management plans for the other two cross-border river basin districts, the Solway Tweed and the Dee, are led by the Scottish Environment Protection Agency and Natural Resources Wales respectively. However, for information on how significant water management issues are managed in the English parts of those two river basin districts please refer to this Environment Agency consultation.

Severn river basin district

You can respond with respect to how the significant water management issues are managed for the Severn RBD through this consultation.

However an additional document for the Severn RBD on the management of significant water management issues across Wales is available [here](#). This document is available in Welsh [here](#) and to answer the questions for the Severn RBD in Welsh then please use the following form [here](#).

A table summarising the significant water management issues across the whole Severn RBD is available [here](#).

Solway Tweed river basin district

The [Scottish Environment Protection Agency](#) (SEPA) leads on the review and update of the river basin management plan for the Solway Tweed River Basin District.

SEPA are planning to launch their equivalent Challenge and Choices consultation later this year and you will be able to respond to that consultation with respect to the English part of the RBD. Once available you will be able to find SEPA's Challenges and Choices consultation for the Solway Tweed RBD [here](#).

You can find detailed information about English water bodies in the Solway Tweed RBD via the [Catchment Data Explorer](#).

Dee river basin district

[Natural Resources Wales](#) (NRW) leads on the review and update of the river basin management plan for the Dee River Basin District.

The Challenges and Choices consultation for the Dee RBD is overseen by NRW and runs from June 2019 to December 2019. You can respond to that consultation with respect to the English part of the RBD.

You can find NRW's Challenges and Choices consultation for the Dee RBD [here](#).

You can find detailed information about English water bodies in the Dee RBD via the [Catchment Data Explorer](#).

Evidence

Sharing information

The Environment Agency has developed the [Catchment Data Explorer](#) to help you explore and understand the water environment in England. It supports and builds upon the data available in the river basin management plans. You can find catchments and water bodies of interest using a map or searching by name. You can also view summary information about catchments, and follow links to other useful sites.

The Catchment Data Explorer contains an overview page for each river basin district and a summary of the significant issues affecting the water environment in each RBD.

You do not need to refer to the detailed information in the Catchment Data Explorer in order to respond to this challenges and choices consultation.

Detailed information about water bodies in the Welsh parts of the Dee and Severn RBDs can be found on [Water Watch Wales](#).

Strategic Environmental Assessments

Statutory Strategic Environmental Assessments (SEAs) have been undertaken on the 2009 river basin management plans (RBMPs), and the 2016 updates to the RBMPs. The Environment Agency, as the responsible authority, must make a

screening determination under the SEA regulations for the 2021 update to the RBMPs. The Environment Agency's current view is that the 2021 update could be considered a minor modification, however, there is some uncertainty at this early stage whether the plan or modifications are likely to have significant environmental effects. The Environment Agency will be consulting separately on SEAs in the near future.

Flood risk management plans

Flood risk management plans (FRMPs) set out how organisations, stakeholders and communities will work together to manage flood risk.

The plans explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs and describe how [risk management authorities](#) will work with communities to manage that flood risk.

A flood risk management plan exists for each river basin district in England and updated FRMPs will be published in December 2021.

River basin management plans and flood risk management plans provide a joint and integrated approach to catchment planning for water. Working together to achieve the objectives and measures in the plans will help achieve benefits to human health and wellbeing, economic prosperity and the natural environment.

You can find out more about flood risk management plans [here](#).

Natura 2000 protected areas

Natura 2000 protected areas are designated for their international conservation importance. They represent the UK's most important wildlife sites and as such are given special consideration within river basin planning.

You can find out more about more about how the challenges described in this consultation impact these sites and how Natura 2000 protected areas are included in river basin management plans in the [Natura 2000](#) further information document.

Complete and submit consultation

Please tell us some information about you before you submit your response. This will allow us to ensure your response gets to the right people and let us contact you when our response document is published.

How we will use your information

The Environment Agency will look to make all responses publicly available during and after the consultation, unless you have specifically requested that we keep your response confidential.

We will not publish names of individuals who respond.

We will also publish a summary of responses on our website in which we will publish the name of the organisation for those responses made on behalf of organisations.

In accordance with the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, we may be required to publish your response to this consultation, but will not include any personal information. If you have requested your response to be kept confidential, we may still be required to provide a summary of it.

For more information see our [Personal Information Charter](#).

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28. When we come to analyse the results of this consultation, it would help us to know if you are responding as an individual or on behalf of an organisation or group. Please select from the following options:

Responding as an individual

Responding on behalf of an organisation (Please specify which organisation or group and include what type it is, e.g. business, environmental group, etc.)

Other

Name of organisation or group, if you don't want to leave the organisation name, please tell us what type it is.

29. What is your email address?

If you provide us with your email address you will receive an acknowledgement email after you've submitted your response.

We can also use it to let you know when we have published the **Summary of consultation responses** document.

30. What is your name?

If you are happy for us to contact you about your response please leave your name below. We will not publish your name and will only contact you for clarifications about your response or to follow up on any suggestions you have made.

31. Please select which river basin district your response to this consultation applies to (you can select more than one or submit a national response by selecting 'England').

(Required)

- England (all river basin districts)
- Anglian
- Humber
- North West
- Northumbria
- Severn
- South East
- South West
- Thames

To find out more about river basin districts visit the [river basin planning page](#). You can identify what river basin district you are in by using the [interactive map](#) (opens in new window).

32. Are you happy for us to publish your response? We will not publish any personal information or parts of your response that will reveal your identity.

(Required) Yes No

33. Finally, it would really help us if you let us know where you found out about this consultation.

Submit consultation

We invite you to submit your views to us via the link to the consultation below:

<https://consult.environment-agency.gov.uk/environment-and-business/challenges-and-choices>

Alternatively, representations can be made via e-mail to RBMPconsultation@environment-agency.gov.uk or in writing to:

Clive Phillips, Operations Catchment Services, Environment Agency, Kings Meadow House, Kings Meadow Road, Reading, RG1 8DQ.

You can request a separate Word document proforma with just the questions to assist your responses via RBMPconsultation@environment-agency.gov.uk

The closing date for receipt of your comments is 24th April 2020.

Appendices

Appendix 1

1. Navigating the consultation

This consultation is best viewed and responded to online. Responding online allows us to handle your response more quickly and efficiently.

It is separated into 'challenge' pages that describe the significant issues covered in this consultation.

Each 'challenge' page has a short film, a brief summary of the challenge and links to further detailed information on the challenge and the pressures responsible for causing it.

You can navigate through this consultation via the contents page. Each time you click 'continue' you are returned to the contents page. The questions in this consultation appear at the bottom of each page.

You do not have to visit all the pages or respond to every question in the consultation. If you have a specific area of interest you can navigate straight to that page and just respond to those questions.

If you have a general response to this consultation, or one that does not fall under the challenges, you can respond to the question on The Water Story page.

Once you have answered all of the questions relevant to you, click on 'Complete and submit consultation' which takes you through the steps to finalise your response.

You can download a pdf of the consultation on the Overview page. However the films and links are not available offline.

Alternatively, submissions can be made via e-mail to:

RBMPconsultation@environment-agency.gov.uk

You can also request a separate Word document proforma with just the questions to assist your responses via RBMPconsultation@environment-agency.gov.uk

Or in writing to:

Clive Phillips, Operations Catchment Services, Environment Agency, Kings Meadow House, Kings Meadow Road, Reading, RG1 8DQ.

To help you with any unfamiliar terms or phrases in the consultation, there is a link on each page to a [glossary of the terms](#). The link is located in the further information box above the questions.

If you require further help, contact us on:

National Customer Contact Centre: 03708 506 506

RBMPConsultation@environment-agency.gov.uk

2. The challenges

The challenges are the main issues that limit the uses and potential benefits of managing the water environment in a sustainable way. They have been identified based on the results of public consultation and assessments of the pressures caused by people now, in the past, and predicted in the future.

The guide below will help you understand which challenges are most relevant for you:

- Water for use at home: changes to water levels and flow, water industry wastewater, chemicals in the water environment, climate and environment crisis
- Water for use in my business: changes to water levels and flow, water industry wastewater, chemicals in the water environment, climate and environment crisis, pollution from agriculture and rural areas
- Water for nature – invasive non-native species, physical modification, plastics pollution, climate and environment crisis
- Water for play and healthy lives – changes to water levels and flow, pollution from towns, cities and transport, water industry wastewater, chemicals in the water environment, pollution from abandoned mines, climate and environment crisis, pollution from agriculture and rural areas
- Water for our future – climate and environment crisis, changes to water levels and flow

Each challenge page in the consultation links to more detailed information as well as documents detailing the pressures related to that challenge. These links are available just above the questions boxes on the challenge pages (see table 1).

Many of these challenges arise from activities that also provide a wide range of benefits. It may therefore not be possible or desirable to fully resolve the issues.

Different challenges are relevant to particular sectors depending on whether the sector's activities contribute to the issue, the benefits the sector gets from the water environment are limited due to the issue or whether the sector can help with the solutions to the issue. This increases the benefits they and others can get from the water environment. The list below outlines which of the challenges are most relevant to some of the main sectors.

Agriculture and rural land management

- Challenges: chemicals in the water environment, physical modification
- Pressures: FIO (Faecal contamination), fine sediment, nitrate, phosphorus

Government (including Defra, Environment Agency, Natural England)

- Challenges: changes to water levels and flows, chemicals in the water environment, Invasive Non-native Species, physical modification
- Pressures: FIO (Faecal contamination), fine sediment, nitrate, phosphorus

Construction

- Challenges: chemicals in the water environment, Invasive Non-native Species
- Pressures: faecal contamination, fine sediment

Energy production

- Challenges: changes to water levels and flows, chemicals in the water environment
- Pressures: drinking water protected areas

Food and drink

- Challenges: changes to water levels and flows, chemicals in the water environment
- Pressures: phosphorous

Forestry

- Challenges: changes to water levels and flows
- Pressures: fine sediment, nitrate, phosphorus

Local authorities/Public Sector

- Challenges: changes to water levels and flows, Invasive non-native Species, physical modification
- Pressures: faecal contamination, fine sediment

Manufacturing and retail

- Challenges: changes to water levels and flows, chemicals in the water environment

Mining

- Challenges: chemicals in the water environment
- Pressures: fine sediment

Ports

- Challenges: chemicals in the water environment physical modification
- Pressures: fine sediment

Water industry

- Challenges: changes to water levels and flows, chemicals in the water environment, Invasive Non-native Species, physical modification
- Pressures: faecal contamination, nitrate, phosphorus

3. Other areas of interest

Flood risk management plans

Flood risk management plans (FRMPs) set out how organisations, stakeholders and communities will work together to manage flood risk. A flood risk management plan exists for each river basin district in England and updated FRMPs will be published in December 2021.

River basin management plans and flood risk management plans provide a joint and integrated approach to catchment planning for water. Working together to achieve the objectives and measures in the plans will help achieve benefits to human health and wellbeing, economic prosperity and the natural environment.

You can find out more on the [flood risk management plans](#) pages.

Catchment Data Explorer

The Environment Agency has developed the [Catchment Data Explorer](#) to help you explore and understand the water environment in England. You can find catchments and water bodies of interest using a map or searching by name. You can also view summary information about catchments, and follow links to other useful sites.

The Catchment Data Explorer contains an overview page for each river basin district (RBD) and a summary of the significant issues affecting the water environment in each RBD.

You do not need to refer to the detailed information in the Catchment Data Explorer in order to respond to this challenges and choices consultation.

Detailed information about water bodies in the Welsh parts of the Severn RBD can be found on [Water Watch Wales](#).

4. Challenges and Choices in England, Scotland and Wales

The Environment Agency also leads on the review and update of the plans for the Severn and Northumbria river basin districts (RBDs) which lie partly in Wales and Scotland respectively.

The river basin management plans for the Dee and Solway Tweed cross-border river basin districts, are led by Natural Resources Wales (NRW) and the [Scottish Environment Protection Agency](#) (SEPA) respectively. However, for information on how significant water management issues are managed in the English part of the Dee and Solway Tweed river basin districts please refer to this Environment Agency consultation.

Further detail of the Severn, Solway Tweed and Dee RBDs are below.

Severn RBD

You can respond with respect to how the significant water management issues are managed for the Severn RBD through this consultation.

However, an additional document for the Severn RBD on the management of significant water management issues across Wales is available [here]. This document is available in Welsh [here](#) and to answer the questions for the Severn

RBD in Welsh then please use the following form [here](#). Detailed information about water bodies in the Welsh parts of the Severn RBD can be found on [Water Watch Wales](#).

Solway Tweed RBD

The Scottish Environment Protection Agency (SEPA) leads on the review and update of the river basin management plan for the Solway Tweed River Basin District.

SEPA are planning to launch their equivalent Challenge and Choices consultation later this year and you will be able to respond to that consultation with respect to the English part of the RBD. Once available you will be able to find SEPA's Challenges and Choices consultation for the Solway Tweed RBD [here](#).

You can find detailed information about English water bodies in the Solway Tweed RBD via the [Catchment Data Explorer](#).

Dee RBD

The Challenges and Choices consultation for the Dee RBD runs from June 2019 to December 2019. You can respond to that consultation with respect to the English part of the RBD through the NRW consultation until the 22nd December 2019.

You can find the Natural Resources Wales Challenges and Choices consultation for the Dee RBD [here](#).

You can find detailed information about English water bodies in the Dee RBD via the [Catchment Data Explorer](#).

Table 1: Table showing how the challenges relate to pressures

		Challenges in the consultation							
		Changes to water level and flows	Invasive non-native species	Physical modification	Pollution from abandoned mines	Pollution from agriculture and rural areas	Pollution from towns, cities and transport	Pollution from water industry wastewater	Chemicals in the water environment
Pressures	Chemicals (there are 5 different chemicals pressure documents) *				X	X	X	X	X
	Fine sediment		X	X	X	X	X	X	
	Nitrates		X			X	X	X	
	Phosphorus and freshwater eutrophication		X			X	X	X	
	FIO (Faecal contamination)					X	X	X	
	Drinking water protected areas				X	X	X	X	X
	Natura 2000	X	X	X		X		X	

*The specific chemical pressure narratives are: Cypermethrin, Perfluorooctane sulfonate (PFOS) and related substances, Polybrominated diphenyl ethers (PBDEs), Polycyclic aromatic hydrocarbons (PAHs) and Mercury.

Appendix 2

Stage	Date	Purpose
Challenges and Choices consultation	October 2019 6 months	<p>Have the significant issues and the challenges in tackling them been fairly summarised? What can be done about them?</p> <ul style="list-style-type: none"> Summarises the significant water management issues and share the latest evidence seeks views on prioritising action agreeing what additional approaches are needed
Engagement	October 2019 to September 2020 11 months	The Environment Agency will consider the responses to the Challenges and Choices consultation. Where there are areas which need to be resolved or clarified we will facilitate further engagement with relevant stakeholders
Draft update to the river basin management plans consultation	October 2020 6 months	<p>Does the draft plan set the right level of ambition for the water environment and a strong commitment to deliver?</p> <ul style="list-style-type: none"> proposes changes to water body objectives estimates the likely state of the environment by 2027 outlines who will be involved to achieve these outcomes, how much it will cost and the benefits
Engagement	October 2020 to August 2021 10 months	The Environment Agency will consider the responses to the consultation and where necessary further develop the content of the plans with delivery partners to ensure the updated plans are the best possible and fully supported
Updated river basin management plans published	September 2021 to December 2021	<p>This is the plan to address the issues</p> <p>Publish proposed plans in September and submitting to government for approval. The approved plans will be published in December. These plans will be used as a framework to direct planning and action and to track progress in each river basin district</p>

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CLIMATE AND BIODIVERSITY SUB COMMITTEE

Date: Wednesday 18th March 2020
Title: Lake and Country Park Management Plan
Contact Officer: Operations and Estates Officer – John Hickman

BACKGROUND

The purpose of this report is to inform Councillors of the current position regarding the Lake and Country Park management plan. Previously the council employed a Park Ranger who was specifically employed to maintain the Lake and Country Park including volunteer groups, schools etc. This position was made redundant in 2004.

CURRENT POSITION

At the last meeting the following recommendation was agreed:

Minute 434 (3) that management of the Lake and Country Park should be managed in terms of biodiversity and not developed for further leisure pursuits – but retaining fishing rights.

Minute 435 that the vision for the Lake and Country Park places biodiversity at the heart of the management process and that the Town Council works alongside its partners to provide expert advice to achieve an improvement in this.

The council now needs to establish a clear management plan for the Officers and its Contractors/Volunteers to work to. The Lake and Country Park are currently managed in a minimal way with minimal grass/hedge cutting and maintenance work to the footpaths, fences and gates.

Continental Landscapes provided a Lake and Country Park Initial Management plan in January 2017 for council's consideration. In readiness for a direction on maintaining this asset in 2018/19 Council set a £10,000 budget for maintenance work within any management plan drawn up, these monies are held in the council's reserves.

Currently there are groups wanting to plant trees but without a clear vision and management plan for these areas it is difficult to look for suitable areas for these projects.

There is no longer animal grazing on the hay meadow and the meadow is no longer cut annually for hay. This area is not cut at all except for the public footpath and 1m either side of the hogging path the side of the river.

The Wet Meadow area also receives no maintenance other than the cutting of the grass to the Public footpath across the field.

In the last year council has installed two new disabled Fishing platforms and agreed to a commercial company fishing the lake for Crayfish.

There is minimal grass cutting at the Lake and country park 1m either side of footpaths and a few areas kept short for amenity use.

Hedges are only maintained in order to keep footpaths and fishing swims clear.

Footpaths where provided are maintained with crushed limestone by the works team when funds are available, and the works team have time permitting.

The Operations and Estates Officer has several second-hand benches available that the works team are going to fit in replacement and addition to those already present. There are also 2 x second hand aluminium picnic benches that will be installed on the far side of the lake for amenity use.

The works team will also be replacing all the litter bins within the lake and country park of which there are only 5 for the current site with council's new style recycling bins.

There are also only 5 dog bins for the entire site.

The banks of both the river, lake and Emma's Dyke are all suffering from bank erosion and it is quite severe in some areas encroaching right up to the footpaths some of which have already required to be moved away from the river edge. Bank erosion on the lake at the bottom end also affects the fishing swims washing away the area the fishermen use at the banks edge.

Flooding at the lake in severe wet weather also causes issues with the footpaths washing out the fine materials within the limestone gravel that binds the larger stones in the gravel together allowing the paths to break up and the stones to dissipate.

Notice boards at the lake and country park are also in the main either missing/damaged/dilapidated.

Fences and gates have not been fully maintained and are only basically maintained and are in poor condition.

There is also the recent issue of sewage waste being released into Colwell Brook and Emma's Dyke that still needs to be dealt with. The Operations and Estates Officer estimates

this will require 250m of fencing post/rail and wire, two small warning notices and approximately 1,000m of hedging to prevent accidental access into the dyke going forward.

LAKE AND COUNTRY PARK VISION

In order for Officers to develop a suitable management plan, these areas each need clear instruction from council as to what the councils is intended vision for each area is.

Lake

- Lake reservation area.
- Lake amenity use area.
- Wildflower areas.
- Teaching Area, nature observation area bird hides etc.

Wet Meadow

- Wet Meadow reservation area.
- Wet Meadow tree planting area.
- Wet Meadow Grazing.
- Wet Meadow Wildflower areas.

Hay Meadow

- Hay Meadow Grazing.
- Hay Meadow grass cutting.
- Hay Meadow tree planting area.
- Hay Meadow amenity area.
- Hay Meadow tree planting area.
- Hay Meadow Wildflower area.

Rail Embankment and Small Area Next to Bypass.

- Rail embankment access bridges to Cogges and Station Lane, open for access or closed to access.
- Small area between rail embankment and bypass tree planting.
- Small area between rail embankment and bypass grazing.
- Small area between rail embankment and bypass grass cutting.
- Small area between rail embankment and bypass wildflower area.

Council should not agree any tree planting in any areas of the lake and country park until a vision and management plan is agreed, areas suitable for tree planting will form part of the management plan.

ENVIRONMENTAL IMPACT

Having declared a Climate Change Emergency at its Council meeting on 26 June 2019 – with this in mind Councillors should have due regard to the environmental impact of any decisions they make with regard to its facilities and services it operates.

RISK

In decision making Councillors should give consideration to any risks to the Council and any action it can take to limit or negate its liability.

FINANCIAL IMPLICATIONS

Until a clear management plan is established the financial implications are unknown. A sum of £10,000 is held in council reserves for maintenance works required from the management plan.

RECOMMENDATIONS

Members are invited to note the report and consider elaborating the vision for the Lake & Country Park under the headings above, to establish a clear management plan for the future.

CONTINENTAL LANDSCAPES LTD

Management options proposal for Witney Town Council, 2017

**A selection of different management
techniques which could be used at
Witney Lake and Country Park**

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1. Summary

Witney Lake and Country Park is a popular and attractive open space used by a broad range of visitors. As with many publicly-owned and accessed parks, it faces pressures and challenges through issues such as anti-social behavior, conflicts of interest between different user groups, budget restrictions and environmental concerns. There is no overall management plan for the site, and so there is no defined direction which should be taken, especially as one of the meadows which had previously been grazed is no longer host to any livestock. This report suggests alternatives to advise Witney Town Council (WTC) what options are available, and where Continental Landscapes can assist with these proposals.

2. Location and land use

Witney Lake and Country Park is located to the east and south-east of the town, within easy walking distance of the town centre and is divided in part by the A40.



Fig. 1: Witney Lake and Country Park

There are a range of different habitat types across the site, including (but not limited to):

- Woodland (including wet woodland)

- Hedgerows (in various states of management)
- Meadow
- Wet meadow
- Streams and ditches
- Freshwater lake

There are paths running across the site, both rough paths and desire lines, and more formal paths surfaced with crushed stone. There is a Public Right of Way which runs across the site.

The park is a popular dog walking spot, used both by residents of Witney and professional dog walkers. It is one of the few places in Witney where dogs can be exercised off-lead, which makes it a great asset to this user group.

As well as walking, the lake is used for angling at the northern end, with the southern end designated as a nature reserve. It is a popular area for picnicking and often busy in summer with people paddling and bathing/swimming.

3. Site management

3.1 Previous management

The lake began life as a gravel extraction point for the construction of the A40 back in the 1980s. Since then a variety of work has been carried out to make it more habitable for wildlife including designating the south end as a 'no fishing' zone and nature reserve, and the installation of rafts on the lake to create nesting platforms for waterfowl. Unfortunately these have all been vandalised. Paths have been installed around the lake to improve access whilst reducing the impact on the surrounding meadows, woodland fringes and the banks of the lake and ditches. Hedges have been planted in places.

The meadows were grazed by cattle, with the Public Right of Way being mown to keep access open. In the wet meadow, scrapes were installed to make it more desirable for wildlife which favour these conditions, such as amphibians, various invertebrate species and birds, such as the grey heron.

There has been no obvious management of the wooded areas, other than works required for health and safety or boundary issues.

Ditches and streams have been kept well maintained and free flowing, and paths have been routed to prevent or delay their destruction from natural erosion to the banks caused by meanders in the streams.

There was once a ranger based in the park, a service which was reduced to summer walk rounds

3.2 Current management

At present, due to dispute with the grazier, there are no cattle grazing the meadow, with only the Public Right of Way being cut out as usual. Both the meadow and wet meadow are otherwise unmanaged. There are issues with the boundary fencing not being stockproof, and there were conflicts between the grazier and dog walkers through dogs being loose around the cattle.

All other management is largely unchanged. There is now no longer anyone who monitors the park other than the maintenance team when carrying out works.

There has been a consultation with park users conducted by Witney Town Council and the Lower Windrush Valley Project (LWVP), with whom WTC have been in conversation. This is to assess how the park is used and what users would like to see happening there. There has been a proposal from Adventure Plus to use the lake for recreational activities such as canoeing. There is some speculation as to the impact this will have on the wildlife of the area. WTC are also working with the LWVP to look at improvements for the park and are considering joint applications for funding.

4. Management options

There are a range of management options available which could greatly enhance the biodiversity potential of the site, as well as improving public perception of the site and assisting with maintenance issues such as bank erosion. Certain management practices are eligible for funding from the government. In the tables below are a range of options which WTC could pursue for the major habitat features which appear in the park. Options could be instigated on a standalone basis, or a combination selected to achieve the desired result.

4.1 Meadow management options

Meadow management options summary

Option 1 – no active management

- **Benefits:** *Cost* - Very little financial or manual cost beyond statutory boundary works and cutting out the public footpath.
- **Potential issues:** *Visual appearance* – site will quickly look unmanaged and uncared for. This could lead to an increase in antisocial behaviour such as littering, fly-tipping and increased dog fouling. *Reduction in biodiversity* – rank grasses and vigorous perennials such as nettles, brambles and thistles will quickly dominate, leading to a reduction in wildflower species. *Natural succession* – longer term, the site will naturally develop into scrub/woodland. Although woodlands are of benefit to wildlife, this could create areas where people are less happy to visit if there are potential hiding spots for people engaging in antisocial behaviour.

Option 2 – reinstate grazing

- **Benefits:** *Cost* - Removal of grass arisings without needing cutting or removal, other than public footpath cutting. *Increase in biodiversity (see also improved boundaries)* – suppression/removal of vigorous perennials such as nettles/brambles/thistles (depending on livestock type chosen). Poaching (trampling) of the ground by hooves create open patches in the grass sward for wildflowers to germinate in. *Improved boundaries* – boundaries will need to be stock-proof so hedges could be managed for this purpose, which will add to biodiversity. *Public interest* – coupled with interpretation materials, grazing can be used as a tool to inform and educate the public about biodiversity and farming practices, as well as being a point of interest to the local population.
- **Potential issues:** *Liability* – it must be established who would have responsibility for maintaining the boundaries and keeping the livestock contained, as the current boundary

fencing is not stock-proof. *Cost* – There may be a cost implication if it is determined that WTC are responsible for maintaining the boundary to ensure it is stock-proof. *Conflicts with other users* – As a public footpath runs through the site there may be conflict between the grazier and other users such as dog walkers. Although dog owners are required by law to keep their dogs under control around livestock, there is always the risk that this will be ignored, with dogs worrying livestock, and livestock in turn becoming a potential danger, especially cattle.

Option 3 – cut and leave grass

- **Benefits:** *Visual impact* – the site will look managed, increasing positive public perception of the area. *Suppression of natural succession and rank grasses* – species such as bramble, thistles, rank grasses and nettles will be in part suppressed, depending on how often the grass is cut. Regular cutting will keep them down, whereas a once-yearly cut will allow them to grow and show a presence, but slow down their spread. Tree growth within meadow areas will be stopped by a yearly cut. *Prevention of anti-social behaviour* – a managed site is easier to monitor for anti-social activities such as littering and dog fouling, as it is easier to detect and monitor. This in turn makes tackling problems easier, and as they arise.

- **Potential issues:** *Cost* – Compared to doing nothing or grazing, there is an increased cost implication to pay for someone to cut the grass, either regularly, or on a once- or twice-yearly cycle. *Reduction in biodiversity* – As the grass arisings will be left on-site, the process of them breaking down will release more nutrients into the soil. Although cutting will reduce the presence of species such as brambles and thistles, the raised nutrient status will enable them to dominate over other wildflower species, which will be outcompeted, and thus disappear from site.

Option 4 – cut and collect grass

- **Benefits:** *Increased biodiversity potential* – Removing the arisings removes the nutrient flush that leaving them on site provides. Further cutting and collection gradually reduces the nutrient status of the soil, allowing wildflower species to compete against species such as thistles and nettles, which prefer nutrient-rich soils. *Visual impact* – the site will look well managed, increasing positive public perception of the area. Removal of arisings looks much tidier. *Prevention of anti-social behaviour* – a managed site is easier to monitor for anti-social activities such as littering and dog fouling, as it is easier to detect and monitor. This in turn makes tackling problems easier, and as they arise.

- **Potential issues:** *Cost* – There will be a cost implication to pay for someone to cut the grass and dispose of the arisings. *Disposal of the arisings* – a significant amount of arisings will be produced every year, which will need taking off-site. As the grass is likely to be contaminated by dog faeces and ragwort, it is unlikely that local farmers will want to take it for hay. Composting or burning on-site may be an option, but permits may be required. *Management time* – time should be spent deciding when the meadow should be cut; if a spring meadow is desired, or the site is too wet later in the year to cut, then it should be cut in June, with a secondary cut being done later in the year if possible. Summer meadows can be cut in August or early September (weather-dependent)

Option 5 – active meadow improvement and management

- **Benefits:** *Increased biodiversity* – implementing active management to improve the biodiversity, such as scarifying areas of land and sowing wildflower seed, combined with a cut-and-collect mowing regime, will dramatically improve the biodiversity status of the site. This will attract more invertebrates, birds and mammals. This work will also help towards meeting district/regional Biodiversity Action Plan obligations. *Funding*

opportunities – managing a site for conservation can attract funding from government schemes, such as [Countryside Stewardship](#) grants from Natural England, where you can receive payment for managing land in a certain way. [GS7: Restoration towards species-rich grassland](#) may be of particular interest, which pays £145 per hectare. *Statutory and non-statutory designations* – where sites are of value to wildlife, they can be considered for various designations, some of which carry legal protection, which in turn can prevent a site from being considered for development. Active management will help towards having the site designated as a [Local Nature Reserve \(LNR\) through Natural England](#). *Management plan creation* – management plans ensure that consistent management is planned and followed over a specific period (normally 5-10 years). A good management plan should mean that anyone can pick it up and understand what management is taking place, and at what stage it is at. This ensures a consistent approach, even if a key member of staff driving the plan leaves. Management plans also assure the local residents that a structure is in place, and can resolve any reservations they may have about works carried out on-site.

- **Potential issues:** *Cost* – There will be relatively high cost to active management, such as cutting and removal of the grass, scarifying of the ground and sowing of seed etc. Creation of a management plan is also likely to cost, unless WTC or the district/borough council already have an ecologist on staff. Part of the cost could be offset by grant schemes, however. *Increased management time* – to ensure that the management of the site is successful, and satisfies and funding scheme obligations, staff time will need to be allocated to ensure that works are being carried out appropriately.

4.2 Woodland management options

Woodland management options summary

Option 1 – no active management

- **Benefits:** *Cost* - Very little financial or manual cost beyond statutory boundary works and health and safety work.
- **Potential issues:** *Visual appearance and antisocial behaviour* – site will look unmanaged and uncared for. This could lead to an increase in antisocial behaviour such as littering, fly-tipping and increased dog fouling. *Reduction in biodiversity* – with no management, the woodland areas have mainly developed uncontrolled. There is little diversity in canopy and under-canopy structure, which is less beneficial to wildlife.

Option 2 – management of small pockets of woodland

- **Benefits:** *Increased biodiversity* – carrying out management practices such as coppicing or pollarding will increase biodiversity by opening up areas of woodland. This will allow light onto the woodland floor, encouraging growth of wildflowers and plants, which in turn increases nectar sources for pollinating insects. Certain small mammals and birds also prefer to nest/shelter in coppice stools. *Funding opportunities* – various woodland grant schemes exist to help fund works beneficial for woodland habitats and wildlife, such as [Countryside Stewardship funding for woodlands](#). These include grants to create a management plan. *Educational opportunities* – woodland management sites can be used as venues for school/guides/scouts visits to support the curriculum or improve general natural history knowledge. If willow is included in the management it could provide a source of

timber/whips for bank erosion works on the streams, ditches and lake.

- **Potential issues:** *Cost* – increased cost of paying someone to fell and manage the woodland. This may be offset by grant funding. *Management time* – staff time will be needed to apply for grants, write and adhere to management plans.

Option 3 – full woodland management

- **Benefits:** *Increased biodiversity* – carrying out management practices such as coppicing or pollarding will increase biodiversity by opening up areas of woodland. This will allow light onto the woodland floor, encouraging growth of wildflowers and plants, which in turn increases nectar sources for pollinating insects. Certain small mammals and birds also prefer to nest/shelter in coppice stools. *Funding opportunities* – various woodland grant schemes exist to help fund works beneficial for woodland habitats and wildlife, such as [Countryside Stewardship funding for woodlands](#). These include grants to create a management plan. *Educational opportunities* – woodland management sites can be used as venues for school/guides/scouts/Forest School visits to support the curriculum or improve general natural history knowledge. Willow included in the management could provide a source of timber/whips for bank erosion works on the streams, ditches and lake. *Income generation* – small-scale income could be generated by the sale of timber/firewood produced from the site. *Community engagement* – community groups could be set up engaged with to help carry out regular woodland management tasks.

- **Potential issues:** *Cost* – increased cost of paying someone to fell and manage the woodland. This may be offset by grant funding. *Management time* – staff time will be needed to apply for grants, write and adhere to management plans, and ensure that felling licences are being complied with. Similarly, if volunteers or community groups are being engaged then they will require management.

4.3 Streams and ditches management options

Streams and ditches management options summary

Option 1 – maintain current management

- **Benefits:** *Cost* – very little financial implication. *Low management time* - little staff time required other than dealing with fly-tipping in the streams and complying with any Environment Agency obligations.
- **Potential issues:** *Bank erosion* – currently the site suffers from erosion of the banks through both natural processes and through dogs entering and exiting the water. This affects the navigation of the streams and also threatens the structural integrity of paths which run near to them.

Option 2 – bank erosion control using willow

- **Benefits:** *Cost* – The willow needed can be grown on-site from existing willow trees, greatly reducing the cost. *Erosion control* – installation of willow ‘walls’ using logs and

faggots provides a layer of protection for the bank, slowing down water flow on bends and allowing sediment to deposit. Depending upon the height of the wall, it can also discourage dogs from entering/exiting the water course, and offer protection from claws eroding the bank. If the willow is installed when it is freshly cut, it will continue to grow, and root into the bank, creating a living, dynamic barrier. *Biodiversity increase* – this method will create additional habitat on the streams/ditch bank, as well as introducing a coppicing regime elsewhere on the park.

- **Potential issues:** *Cost* – Although the willow will be free from site, there will still be the cost of employing someone to install it, as well as managing the woodland source. *Management time* – staff time will be needed to instruct contractors or WTC staff on the installation process, as well as on-going management, especially if live willow is used, as it will grow. *Obstruction of channel* - if used in narrow channels, live willow may lead to some obstruction of the channel as it will grow and spread. *Disruption to wildlife* – installation could prevent wildlife such as swans or geese, or their young, from easily being able to enter or exit the water course at certain points. Visual inspections will also need to be conducted beforehand to ensure that no water vole holes or habitats are being disturbed or blocked.

Option 3 – bank erosion control using biodegradable geotextiles and/or coir rolls

- **Benefits:** *Erosion control* – use of geotextiles and/or coir rolls when correctly installed can help reduce erosion control, both by forming a structural support for the soil, plus providing a stable foundation on which plants can grow or be grown. This will support stabilisation of the banking. Coir rolls will also allow for sediment deposits to build up, slowing the flow of the water. *Increased biodiversity* – growing plants up through the geotextiles/coir will improve the habitat of the banks, creating areas for marginal vegetation to establish. Textiles can be seeded, either by hand or hydroseeding equipment may be used. Coir rolls can also be supplied pre-planted. This method will also be easy for swans and geese to use.

- **Possible issues:** *Cost* – there will be a cost implication for purchasing, and installing, the geotextile/coir rolls. *Anti-social behaviour* – as some banks are easily accessible from some paths, they may be subject to vandalism. *Damage* - before the banking has fully established, damage may be caused by dogs' claws as they enter and exit the watercourse. *Getting materials to site* – access is limited at this site, especially for vehicles; which would make moving the textile round site problematic. This is especially of note with coir rolls, and even more so with coir rolls which have been pre-planted.

Option 4 – bank erosion control using aggregate and/or man-made engineering

- **Benefits:** *Erosion control* – a long-lasting and hard-wearing solution, using either piles of loose rocks, stone-filled cages or rolls (gabions) or engineered concrete construction, water flow would be slowed and the bank protected. Where loose rock or gabions are used, sediment would be allowed to deposit, and soil would gradually infill the gaps in the rocks, allowing vegetation to establish.
- **Possible issues:** *Cost* – this option would have a large cost implication as a lot of effort would be required to handle the materials, as well as cost of purchase and delivery. Where a man-made solution was to be installed, there would be the additional cost of skilled tradespeople and civil/structural engineers to ensure compliance with any building regulations. The Environment Agency may also need to be consulted. *Getting materials to site* – access is limited at this site, especially for vehicles; which would make moving the

stone/materials around site problematic.

4.4 Lake management options

Lake management options summary

Option 1 – no additional management

- **Benefits:** *Cost* – costs would be restricted to current maintenance.
- **Potential issues:** *Bank erosion* – on-going issues with bank erosion would not be addressed. *Wildlife disturbance* – on-going issues with wildlife disturbance would not be addressed.

Option 2 – improvement works to banks

- **Benefits:** *Erosion control* – use of one, or a combination of methods described in **4.3 Streams and ditches management options** will help control erosion issues faced caused by dogs and recreational activities from park users. *Increased biodiversity* – all options previously described in **4.3**, with the exception of man-made bank structures, provide habitat creation opportunities.
- **Potential issues:** *Cost/getting materials to site/damage/antisocial behaviour* - as described in **4.3**, each method comes with cost and logistical implications, as well as risk of damage to whatever is installed.

Option 3 – granting of recreational use by Adventure Plus

- **Benefits:** *Income generation* – if Adventure Plus are charged a fee or licence for use of the lake, then this could generate income for maintenance and other works within the park. *Enhancement to local economy* - visitors coming to use the lake may be encouraged to spend money in Witney while they are visiting. *Increase use of the park* – an increase in visitor numbers can help raise the profile of the site and encourage greater community participation.
- **Potential issues:** *Disruption to wildlife* – wildlife may be disturbed by increased activity and human presence on and around the lake, especially if they stray into the end of the lake which is designated for wildlife. Buoys may need to be installed to mark the boundary, although historically anything in the past which has been floated in the lake has been either towed back in or vandalised. *Damage to banking* – if proper launching sites/piers are not installed, further damage could be caused by an increase in numbers of people entering and exiting the lake, especially with equipment such as boats and canoes. *Problems with parking* – as there is no parking at the park, people coming in with large amounts of equipment, and the vehicles/trailers to carry them, may come into conflict with local residents, depending on where they then choose to park. *Unauthorised use of the lake* – park users may start to increase their use of the lake at times other than when Adventure Plus are running sessions. *Conflict with other park users* – there may be some protest from anglers, those wishing to visit the park for peace and quiet, and wildlife enthusiasts.

4.5 Interpretation and community engagement

Interpretation and community options summary

Option 1 – interpretation panels

- **Benefits:** *Informing the public* – a range of panels could be designed and installed to help inform and educate park users on a variety of topics such as why not to feed bread to ducks, why to keep dogs under close control (especially during nesting/rearing season), what wildlife can be seen at certain points of the park, what work is being carried out and why, etc.
- **Potential issues:** *Cost* – production and installation will have a cost and staff time implication. *Vandalism* – signs on-site may be vandalised.

Option 2 – interactive trails

- **Benefits:** *Increased education, public awareness and usage of the park* – the creation of trail maps, which could be downloaded via an app onto a mobile device, or printed off from the WTC website, would encourage greater use of the site from different groups, and educate people about the site at the same time. Features can be marked out on the map, such as ecological or historical points of interest, routes suitable for wheelchair or pushchair users, picnic areas etc. Shared funding could be a possibility if working with the Lower Windrush Valley Project.
- **Potential issues:** *Cost* – there would be a cost to either employ someone external, or dedicate internal staff time, to the creation of the trails, including walking the site to plot features. *Management time* – time should be spent periodically to ensure the trails are still up to date, and also walking the routes to ensure they are still appropriate for the users they target.

Option 3 – community involvement

- **Benefits:** *Cost* – engagement with volunteers can be a great way to get work done more quickly, especially on projects which require a less skilled workforce, at comparatively low cost. *Ownership* – encouraging the community to participate on work on-site engenders a sense of ownership, and so people are more likely to take greater care of their greenspace, and encourage others to do likewise. *Visible presence* - community group presence, especially regular volunteer work parties, can offer a visible presence on-site, which can discourage anti-social behaviour such as littering, dog fouling and vandalism.
- **Potential issues:** *Management time* – time will be required to recruit, supervise and manage community groups and volunteers, including planning works which they are to undertake. *Unreliability* – volunteer numbers can be unpredictable,

especially at certain times of year, or if weather conditions are poor. *Insurance* – unless groups become properly consolidated (such as ‘Friends of’ groups), anyone undertaking work on behalf of the council will have to be covered by council insurance; this usually requires a council member of staff to be directly supervising volunteers until such a time as they can purchase their own insurance, or have it purchased for them.

Option 4 – corporate volunteering

- **Benefits:** *Cost* – again, corporate volunteering can attract potentially large groups of workers to tackle one-off jobs such as Himalayan balsam removal, brash clearance, litter picking etc., for relatively low outlay. *Further involvement* – if corporate groups enjoy their time, they may well book repeat groups, providing a regular source of labour for projects. It may also inspire companies to sponsor features such as signage.
- **Potential issues:** *Management time* – time will be needed to liaise with companies, plan sessions and lead the activities, as well as subsequent tasks, such as disposal of rubbish after carrying out a litter pick. *Low skills set* – corporate volunteers are generally office or retail workers, and tend not to have the skills to carry out complex or heavy work. *Cost* – there needs to be enough tools and PPE provided for all group members.

5. How we can help

Continental Landscapes can offer the skills, knowledge and equipment to manage the variety of options offered in this report. We can offer the following resources to enable Witney Town Council to carry out whichever management options would be of most benefit to them:

- Contract manager Tom Dew – Tom is already overseeing the current contract between Witney Town Council and Continental Landscapes. As well as already being involved with WTC on a contract level, Tom is also the Plant and Machinery Manager for CLL. He will bring a wealth of knowledge to the management of the park, being able to choose the best-suited equipment for each habitat and activity.
- Biodiversity and Community Relationships Co-ordinator Caroline Gooch – with a strong background in practical conservation and volunteer leadership, Caroline will bring her experience to assist WTC in whichever management options they wish to pursue, and can offer support and advice to WTC in running volunteer groups, conservation considerations, and community liaison. Caroline also has experience in producing interpretative materials such as signage and educational materials.
- A range of specialist machinery – As well as the machinery already associated with the current contract, CLL can provide a wide range of other equipment to carry out tasks which may be required on-site. This includes ride-on mowers, tractors and flails, rotovating and scarifying equipment, chainsaws and hedgecutters, all

conveniently located and serviced at our Central Workshop near Bicester. With this resource we can carry out all meadow cutting and improvements, tree works, bank erosion prevention and installation of interpretation materials.

- Qualified staff – both locally and nationally we have a large number of qualified staff who can carry out the management options suggested. These include highly skilled arborists to carry out tree works, experienced machinery operators to manage grass cutting regimes, and highly trained mechanics and fitters who not only provide a fast and efficient service for our machinery, but who are also able to carry out small engineering jobs such as welding and repairs.
- Experienced estimating team – as well as the management and pricing experience which comes with Tom Dew, our estimating team can also offer their assistance in assessing and providing costings for the management options considered in this report.
- A large supply network – utilising both national and local suppliers, we have a large resource we can draw on to ensure that all WTC's requirements can be provided rapidly and efficiently.
- Third Sector Plus – Continental Landscapes Ltd. have developed a specific third sector engagement model called Third Sector Plus. Its aim is to encourage the development of Friends and voluntary groups, undertake regular consultation with users and promote community involvement in parks and open spaces. Volunteers and full-time employees are co-ordinated locally by the contract management team to ensure that the advantages of using volunteers are maximised and add value to the basic needs of the contract. We provide industry expertise, a local manager, any machinery and materials, technical knowledge and training, ensuring standards are met safely and to the required standard.

6. Conclusion

Witney Lake and Country Park is a popular, well-used resource, but suffers from a number of issues. This report has summarised the different options available to Witney Town Council for managing these issues, as well as enhancing its visual, amenity and biological potential. Continental Landscapes would be very happy to assist with any or all of the management options presented, and would welcome further discussions with Witney Town Council on how to progress.

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