Milton-under-Wychwood Neighbourhood Plan

Appendix 7
Community Projects

Table of Contents

Glossary of abbreviations 1
1. Introduction 3
2. Improvements to water quality in local water bodies 3
3. Catchment protection from sewage pump failure during power cuts 6
4. Biodiversity Monitoring and Action Group 7

Glossary of abbreviations

AONB	Area of Outstanding Natural Beauty
BoCC	Birds of Conservation Concern
CCB	Cotswolds Conservation Board
CNL	Cotswolds National Landscape
CSO	Combined Sewage Overflow
Defra	Department for Environment, Food & Rural Affairs
EA	Environment Agency
ECP	Evenlode Catchment Partnership
EDM	Event Duration Monitoring
ELMS	Environmental Land Management Scheme (Defra)
FFT	Full Flow to Treatment
HRA	Habitats Regulations Assessment
LCT	Landscape Character Type
LGS	Local Green Space
LNRS	Local Nature Recovery scheme (Defra)
LRS	Landscape Recovery scheme (Defra)
MuW	Milton-under-Wychwood
MuWNP	Milton-under-Wychwood Neighbourhood Plan
NatEng	Natural England
NFMW	Natural Flood Management Woodland

NPSG	Neighbourhood Plan Steering Group
NPCQR	Neighbourhood Plan Community Questionnaire Report
NPCQ	Neighbourhood Plan Community Questionnaire
NRN	Nature Recovery Network (Defra)
OPS	Other Private Space
OWLS	Oxfordshire Wildlife and Landscape Study (2004)
PC	Parish Council
PROW	Public Rights of Way
RSPB	Royal Society for the Protection of Birds
SFI	Sustainable Farming Incentive (Defra)
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SuW	Shipton-under-Wychwood
SWOT	Strengths, Weaknesses, Opportunities and Threats
TVERC	Thames Valley Environmental Records Centre
UM	Upper Milton
WFD	Water Framework Directive
WFT	Wychwood Forest Trust (formerly The Wychwood Project)
WINEP	Water Industry National Environment Programme
WO	Wild Oxfordshire (charity)
WOLP	West Oxfordshire Local Plan
WOD	West Oxfordshire District
WODC	West Oxfordshire District Council
WOPFR	West Oxfordshire Parish Flood Report



Water quality is important to aquatic birdlife like this Wigeon

1. Introduction

Consultation with the community highlighted a number of issues of interest and concerns that cannot be the subject of formal policies in a Neighbourhood Plan because they do not directly relate to spatial planning.

The three projects summarised below are intended to inform future project priorities to be managed by the Parish Council, public agencies or local third parties with a public purpose with or on behalf of the community and will be delivered as funding allows. Funding for these projects could be sought from Section 106 agreements of planning conditions, the Community Infrastructure Levy, subscriptions, donations, and grant providers including public sector bodies.

2. Improvements to water quality in local water bodies

PROJECT COMM1 - IMPROVEMENTS TO WATER QUALITY IN LOCAL WATER BODIES
Support initiatives of public agencies and third parties to make wild swimming safe and protect aquatic ecology by meeting water quality targets established in the Water Framework Directive (WFD) for natural water bodies within the parish by: A. Prevention of raw sewage release into the natural water bodies B. Interception and safe removal of excess nutrients that would enter the river system from treated wastewater of sewage treatment works (STWs) C. Raising the chemical quality of the parish's water bodies, focussing on a target of dissolved phosphate not exceeding 0.05 mg/l.

In the Environment Agency (EA) WFD assessment of ecological and chemical status carried out in 2019, all 18 major water bodies in the Evenlode catchment failed on chemical status. On ecological status, six were recorded as poor and 12 as moderate. None achieved good status. As registered at 'Water Day' consultations among stakeholders hosted by West Oxfordshire District Council (WODC) in 2018 and 2019, a major reason for not achieving good status is phosphate pollution.

The major sources of phosphate in the catchment are STWs. Phosphate enters the water bodies during continuous operation via the treated sewage effluent. EA regulation as yet imposes no limit on phosphates discharged by the STWs throughout the main Evenlode catchment. However, enviable phosphate limits (1 mg/l) are in place in three STWs of the nearby River Glyme sub-catchment which is a target for water quality improvement to WFD Good status principally due to the Blenheim Palace water system being designated a Site of Special Scientific Interest (SSSI). Three of the STWs serving the Glyme tributary are equipped with chemical precipitation apparatus that removes phosphate; they are called phosphate strippers. There are no phosphate strippers at STWs serving the main Evenlode and its minor tributaries.

Phosphate also enters the river as a result of periodic discharges of untreated sewage, known as Combined Sewage Overflows (CSOs), from STWs. Many of these CSOs are illegal, falling outside the 'storming' conditions permitted by the EA during periods of very high rainfall and are often the result of groundwater infiltration. Several STWs upstream of MuW operate with treatment and storage capacities well below the levels set out in EA guidance documents. The year 2020 was particularly bad for such discharges with Event Duration Monitoring (EDM) demonstrating that MuW STW had the

highest level of CSO spillage in the sample of STWs presented in **Table 1** below, where its CSOs into the lower Littlestock Brook in SuW parish covered 23% of the entire year:

Sewage Treatment Works CSOs	2020: Hours
Bledington	1535.72
Broadwell	480.63
Chadlington	445.90
Chipping Norton	596.38
Milton	2060.72
Moreton	51.95

Table 1: Event Duration Monitoring (EDM) of Combined Sewage Overflows (CSOs) 2020 in the Evenlode Catchment (Source: Thames Water Utilities Ltd; analysis: M. Purvis)

MuW STW serves a population of 3,822, i.e. nearly double the size of the actual parish's population, because this includes treatment of sewage pumped from Ascott-under-Wychwood and Shipton-under-Wychwood (SuW) and from smaller villages and hamlets to the West where gravity flow reaching the main village is necessarily pumped (with generator back-up at Church Road) over gradients to the STW.

According to the EA guidance document "Water companies: environmental permits for storm overflows and emergency overflows" sewage treatment works must be designed to a certain capacity, calculated from the infiltration rate (I_{max}), industrial effluent flow, per capita effluent flow and the population. In the following table (source: M. Purvis) the required full flow to treatment (FFT) is calculated for MuW. Working back from the current FFT, it is possible to calculate the original designed capacity in terms of population. The same guidance document advises on the size of storm tanks with which STWs should be equipped. Two different ways are permitted for this to be calculated, either using the FFT of the works or the size of population served. **Table 2** compares the calculated required rates with the actual tank volumes:

Parameter	Milton
Imax (l/s)	18
Population	3822
Industrial effluent E (l/s)	0.000
Per capita flow (l/d)	135.2
Current FFT	28
Calculated required FFT	35.0
Designed population capacity	2130
Current tank volume (m^3)	183
Required tank capacity (nominal flow)	202
Required tank capacity (full flow)	252
Required tank capacity (population)	260

Table 2: Milton-under-Wychwood Sewage Treatment Works (STW) Capacity: Actual vs Environment Agency (EA) Guidance

The analysis identifies the extent to which the MuW STW is under-designed for current needs. Under its current five-year plan from 1st April 2020 to 31st March 2025 within the Water Industry National Environment Programme (WINEP), Thames Water Utilities Ltd has specifically flagged the MuW STW for investments to:

a. upgrade the treatment works to increase full treatment capacity
b. generally enhance wastewater treatment, increase storage capacity or enhance the network to improve or protect the quality of the receiving waterbody
c. understand better how operational activities may impact on the environment and how these could be improved to reduce this impact.

A small amount of phosphate enters the rivers, along with silt, as the result of diffuse agricultural pollution due to rainfall-induced leaching and/or run-off from arable fields. The EA agreed apportionment of phosphorus is around 80% from STW and 20% from agriculture.

The high phosphate concentration in the river leads to eutrophication with algal blooms in the late spring and summer, manifesting themselves in periods of very high turbidity during low summer flows. For example, on 24/07/2022 during the low flow of a heat wave the Evenlode turbidity was so dense that it was impossible to see objects 20 cm below the water surface in MuW. The algal blooms have direct and indirect impacts on the numbers and diversity of macrophytes, invertebrates and fish in the river. These impacts have been observed much more frequently in recent years, with longstanding residents reporting a visible deterioration in water quality and abundance of large water plants (macroflora) and fauna over time. Phosphorus accumulates in river sediments and can be remobilised in periods of high flow or physical disturbance. Consequently, a very substantial reversal of phosphorus input is required to reach the tipping point that would see an improvement in water quality and ecological status.

Work of local volunteers since 2016 with Wild Oxfordshire (WO; charity) and the Evenlode Catchment Partnership (ECP) under a monitoring scheme managed by the Freshwater Watch arm of Earthwatch Institute monitors key chemical characteristics and seasonal turbidity of water bodies in the parish and in SuW and is ongoing. Other historical data are available from the EA. The EA analysis of the Littlestock Brook sub-catchment upstream and downstream of MuW STW is provided in a detailed report of March 2021 at **Appendix 10**. The volunteers' data contribute to the development of a record of patterns of nutrient concentrations and their changes along the respective catchments and are compared with information generated by EA; invertebrate populations are also under study at sampling points. In 2022 telemetric *sonde* automatic sampling apparatus has been installed by ECP and Earthwatch Institute in the Littlestock Brook in its middle and lower reaches respectively to detect, measure and compare a number of chemical parameters in the flow in real time.

Internationally Earthwatch Institute regards a mean phosphate concentration in excess of 0.1 mg/l in any waterbody as of risk to the environment. Lower Littlestock Brook phosphate concentration at the parish boundary downstream of MuW STW is typically 0.1 mg/l rising to some 0.5 mg/l during periods of low flow.

The upper Littlestock Brook and its tributaries within the parish, all of which drain farmland, maintain a high level of purity, especially as to phosphate concentration and invertebrate counts. Typically, dissolved phosphate does not exceed a concentration of 0.05 mg/l. The consistent record of continuous low phosphate status of these water bodies demonstrates the need for interception of phosphate entering the lower Littlestock Brook and main river Evenlode from anthropogenic sources.

The continuation of failure of the River Evenlode, and lower Littlestock Brook in particular, to meet basic WFD standards is unacceptable.

3. Catchment protection from sewage pump failure during power cuts

PROJECT COMM2 - CATCHMENT PROTECTION FROM SEWAGE PUMP FAILURE DURING POWER CUTS
Promote installation of independent back-up combustion or battery power apparatus to sewage electrical pumping infrastructure at Shipton Road and Calais Field, in order to protect identified vulnerable sub-catchments and their biodiversity.

The parish has a sad history of raw sewage leakage into watercourses from gravity-fed and pumped sewage systems of the water utility Thames Water Utilities Ltd.

The Company was fined £2 million in December 2018 (upheld in August 2019 upon appeal) for a leak from a gravity-fed pipe (from Fifield and Idbury) into Littlestock Brook at The Heath in August 2015 that was responsible for a significant fish kill in the Littlestock Brook. A portion of the fine amount was negotiated to be distributed to three local environmental charities including The Wychwood Project (now Wychwood Forest Trust) and Wild Oxfordshire (WO).

On 10/12/2017, during an eight-hour mains power cut, pump failure at Shipton Road caused raw sewage to overflow from a float-triggered holding chamber down the roadway into the Simmonds Brook, a tributary from Upper Milton feeding Littlestock Brook (Environment Agency Incident Ref. No. 1572597). The pumping station is not served by a back-up power system. A similar spill threatened on 16/01/2022 due to breakage of the underground three-phase power supply (outside control of Thames Water Utilities Ltd) and a further spill took place over three days up to 21/02/2022 (EA Incident Ref. No. 2033736) due to mechanical failure. On each occasion, upon notification, the Company brought road tankers to remove the excess sewage to another treatment works while rectification of the cause of failure was taking place.

An electrically pumped sewage system is installed in the Calais Field at the 2020 development of nine homes at Wildbourne Close; this pumps sewage from a collection chamber in the Field uphill into the mains system of Jubilee Lane. It is considered to run the same risk as already demonstrated at Shipton Road.

The pump failures cited obligate the Parish Council to urge for installation of independent back-up combustion or battery power apparatus to sewage electrical pumping infrastructure wherever it is deployed in the parish.



Mayfly – an aquatic invertebrate

4. Biodiversity Monitoring and Action Group

PROJECT COMM3 – BIODIVERSITY MONITORING AND ACTION GROUP
To respect the very high value that the residents of MuW gave in the Community Survey of 2018 to the rural setting of the village and its biodiversity by continuing the work of the Springwatch project through a group of volunteers who will A. Monitor the development and diversity of wildlife in the parish B. Encourage and support action that enhances biodiversity C. Educate and involve as wide a group as possible in this work.

Context

In Milton-under-Wychwood's (MuW) Community Survey of 2018 the attribute most highly valued by residents was the rural landscape setting of the parish (83% in support, i.e. 419 of 526 respondents). Also important to residents were the minimisation of residential housing development impact on landscape (83% in support i.e. 368 of 445 responses) and protection of greenfield land (82% in support i.e. 355 of 442 responses).

Many people commented on the need to protect this precious environment and its biodiversity in conversations at each of our consultations in December 2017, October 2018, July 2019 and September 2021. Important, also, were casual conversations between people at village events, on the street, and particularly on footpaths. The Neighbourhood Plan Steering Group (NPSG) was encouraged to spread the word about using Thames Valley Environmental Records Centre (TVERC) hosted by Oxfordshire County Council to record sightings of wildlife, and a few hundred recordings were made during the period of preparation of the NP.

A core of interested and committed people has developed since 2018 including three members of the Steering Group, a former member, an expert local wildlife photographer, a landscape architect, local members of the Royal Society for the Protection of Birds (RSPB), The Hare Preservation Trust, Butterfly Conservation, The British Hedgehog Preservation Society and The Badger Trust, and other members of the public. Communication by email between these people also grew and the idea of a local version of the BBC's Springwatch programme emerged. Springwatch is a popular TV programme that is broadcast each Spring which, through remote cameras and other means, tracks the Springtime activity of U.K. wildlife and shows it to a large audience.

Early in 2022, the core group arranged with MuW Parish Council (PC) in association with the NPSG to launch MuW's Springwatch. Publicity was via announcements on the village website, posters (see below), the Wychwood Post Facebook page, and through requests to the secretaries of local organisations to forward the notice to their members.

The overall aim was to put some "flesh on the bones" of the desire of the community to protect and enhance our wildlife, to give credit to those people who were taking action, and to exemplify the PC's commitment in this regard. The Springwatch core group invited residents to make contact with either a named Parish Councillor or a local volunteer about what wildlife they had seen and what initiatives they as individuals were taking to enhance biodiversity.

A wide range of residents made contact including individuals with gardens, allotment holders, farmers and large landowners. The initiative also caught the imagination of people of all age groups from those who had lived in MuW for many decades to children in the Wychwood Primary School.

Responses brought in sightings of many insects, mammals, reptiles and wildflowers and, especially, birds. Taking birds as an example, residents sighted not only a very wide range of common birds (a total of over 50) and a few birds rarely seen in this area such as a Glossy Ibis, Little Egret, Oyster Catcher and Reed Bunting, but also eight birds on the RSPB Red List of Birds of Conservation Concern (BoCC) and considerably more than that number on the RSPB's Amber List. Regarding insects, as examples, four species of dragonflies and nineteen of butterflies were observed; sightings of mammals ranged, *inter alia*, from three species of deer, to weasels, shrews, bats, hares and others.

Respondents also wrote about a very wide variety of ideas for enhancing biodiversity and helping combat climate change. These included relatively small initiatives such as making bird boxes and bug houses, sowing wildflowers in school planters, leaving a rotting wood pile as a habitat, increasing composting and rainwater collection, using natural forms of pest control, planting insect friendly garden plants, and creating insect friendly, wildflower patches in gardens. Examples of larger initiatives were experiments with green manure on allotments, planting large wildflower meadows, leaving wider field margins planted with wildflower species, strengthening hedgerows, tree planting, and pond digging for increasing aquatic biodiversity. Tree planting varied from just one specimen in a small garden to 500 trees of varied species planted in proposed Local Green Space No 1 (LGS1), and as many as 3,000 on one farm. More than six new ponds are being dug on private land in addition to those in LGS 1 and Calais Field.



The Biodiversity Monitoring and Action Group will extend the work of MuW's 'Springwatch' to help protect wildlife like this Little Owl.



'Springwatch' project poster

Implementation

It is envisaged that the project will be set up as an independent monitoring and action group supported by the PC with the aim of continuing the good work of Springwatch.

This project will also take account of various initiatives from Wild Oxfordshire in, for example, Oxfordshire's Nature Recovery Network (NRN). Projects concerning the conservation of Swifts and Great Crested Newts are of immediate interest and importance, as is also the "Hedgerow Heroes" initiative. This latter project aims to increase the hedgerows in the county by 40 % by the year 2050 with individual parishes contributing 0.5 kms per year. Initial soundings with three local farmers who already champion conservation of wildlife indicate positive support for this project and show that the parish would have no difficulty in identifying plenty of hedgerows suitable for improvement, consolidation or infilling of gaps.

A framework for the group will be provided by answers to the following questions;

1. How can we best turn Springwatch into an ongoing activity?
2. What initiatives can be undertaken to enhance biodiversity in the parish?
3. How can we best monitor wildlife species in the Parish and consolidate our findings with those of TVERC?
4. How can we involve schools and other local organisations?
5. How best can we involve local farmers and landowners?
6. How can we best involve neighbouring parishes?
7. How can we participate in initiatives from Wild Oxfordshire and other organisations like the RSPB?
8. How do we involve all strands of our community including those often excluded?
9. How could we relate to the BBC's Springwatch?
10. Where can we get relevant professional advice?

In concluding, we concur with the following statement from Wild Oxfordshire's Introduction to their Nature Recovery Networks:

"The natural world is the foundation of our wellbeing and prosperity, and provides an irreplaceable stock of natural capital but nature has declined significantly in recent times and continues to decline. For nature to recover, we have to look beyond currently protected sites and take action to extend and link our existing sites – both to support wildlife and to recover the range of economic and social benefits that nature provides. The aim should be to make existing patches of habitat bigger and better, increase the number of valuable habitat patches, improve connectivity, and restore natural processes."