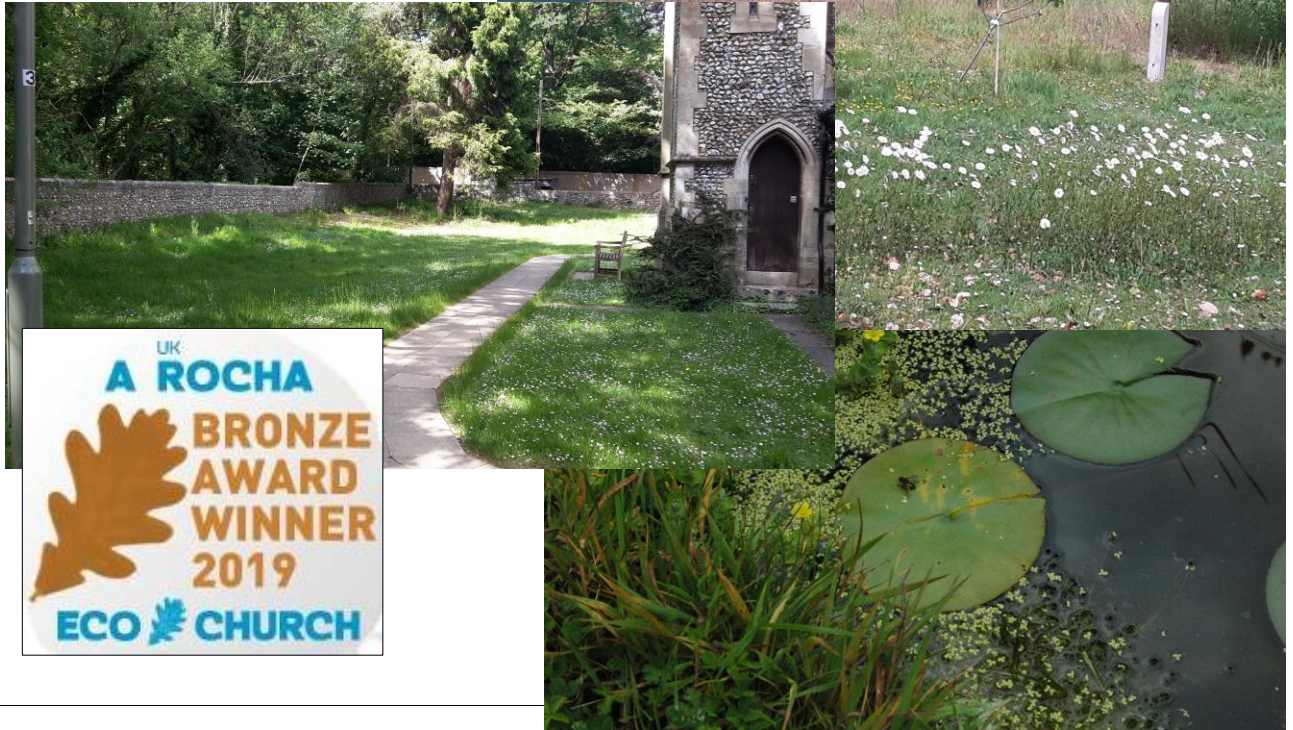


CHRIST CHURCH EPSOM COMMON

ENVIRONMENTAL HANDBOOK



CHRIST CHURCH ENVIRONMENTAL GROUP,
JUNE 2021

PREFACE

Environmental issues are now at the heart of the mission activity of the worldwide church.

In the Church of England since 2018, there has been an explosion of interest amongst churches and their members, seeking ways to protect and heal God's creation. This has largely been enabled by the Eco Church movement, and more recently, by Eco Diocese.

In February 2020, National Synod committed the national church to being carbon neutral by 2030.

Christ Church became an Eco Church in Autumn 2018. In June 2019, we received the Bronze Award and hope to attain the Silver Award by the Autumn of 2021.

Eco Church serves as a useful yardstick for how well we are living as part of creation and recognises that issues of social and economic justice are intertwined with ecological problems. Nevertheless, it is *only* a yardstick; if chasing the awards was our real objective, it would be possible to score a lot of points with token actions. As everybody knows, though, whenever the Gospel calls us to action, a token response is never the right response.

When the PCC voted for us to become an Eco Church, it resolved that creation care would come to underpin everything we do. This requires that we need to embed good practice in everyday life, operationally, congregationally and as individuals.

This Handbook provides a framework for our collective life as a church community, but also contains plenty of information that can be applied at home and in other settings. We have attempted to make it easier to use in electronic form than if printed out. Please think twice before printing it.

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INTRODUCTION

WHY SHOULD WE WORRY ABOUT THE ENVIRONMENT?

Thinking about the environmental crisis as an issue of discipleship and mission is new to most Christians. Some will say “Surely it’s not a specifically Christian concern?” After all, the environment is everybody’s problem. For the followers of Jesus, though, it’s different; it’s because the world was made through Him. We may talk about ‘our environment’ but, of course, it is God’s.

The fact that the environment belongs to God makes it a *particularly* Christian concern. It introduces a whole new layer of thinking when we ask ourselves about discipleship and mission because it means that none of the ground we walk on, the air that we breathe or the water that we drink – much less the creatures that live within them – are ours to use as we choose without consequence. The bible talks about us having dominion, but it is dominion under authority. We are not kings and queens of the earth; we are stewards of the King.

God saw everything that he had made, and indeed, it was very good.

The first activity of God in the Bible is creation. Creation is also the last activity of God in the Bible. What He creates is a complicated web of systems, with humanity being a part. However we choose to understand the Hebrew word that comes to us as ‘dominion’, what is explicit in scripture is that, within creation, God provides for us and for all other living things.

To His human creation, he gave a task: to live in the garden, to till it and keep it. This is our first vocation, and nothing that Jesus says or does in the Gospels; nothing that is said elsewhere in the New Testament or Old, reverses it. Except sin, which leads us to abandon it.

WHO IS THIS HANDBOOK FOR?

It is for everybody who has a ‘job’ to do in the running of Christ Church. Regardless of what that job is and how often you do it, **if you undertake any task for the church, this Handbook is for you!** You probably don’t need to read it cover-to-cover: pick out the bits that are relevant to what you do.

We are on a journey towards living as closely and harmoniously as possible with God’s creation. This Handbook recognises that we are a work in progress. You will find concrete guidance for ‘now’, advice for planning, and recommendations for the future.

You may read some sections and think ‘but I’m doing that already!’ If that is the case then thank you for being proactive. The Handbook is written to ensure that we embed sustainable living and thinking into our way of life as a church; what might seem obvious to one person could be new to somebody else.

You may feel challenged by some of what you read. The important thing is to do what you can and try to increase that over time. This Handbook is a tool and guide to encourage us all to do our reasonable best and to help us make our best even better.

HOW TO USE IT

The book is divided into sections. Most correspond to the Eco Church headings but some are more general – principles rather than particular actions – and some are specific to particular parts of parish life.

Most of the time it will be a case of asking yourself which area of the parish's life you think your job fits into, and looking it up. It's that simple!

You will also find a section of containing web links to help you seek more guidance and information. If in doubt, contact the Environmental Group and see if they can advise or point you towards more expert advice.

IF YOU OVERSEE SOME PART OF CHURCH LIFE

For example, if you are a member of a particular group or team, then you will see that some of the Handbook is aspirational. Some of those aspirations may apply to your team. If so, please take those aspirations to your committee or team and develop a plan for working to achieve them.

We realise that this may mean changing practices over time, plus suppliers and contracts as they come up for renewal, and that this will need to be done with due diligence to balance our Christian environmental responsibilities with other demands (especially our financial ones) but the importance of this work cannot be overemphasised.

There may be no more important task for us today. Working as the body of Christ to return to living within the limits He has set upon us in His creation, is working to demonstrate what it means to be a people who really believe in the sovereignty of their Lord over every part of life.

WHAT IS ECO CHURCH?

Eco Church is a way in which we can turn back, as Christians, to our first task set in scripture. But now we find that as the world has shrunk, the garden has changed: it is as local as Epsom Common and as large as the planet that God provides to sustain us.



Eco Church is an award scheme run by the Christian charity, A Rocha UK, and supported by Christian Aid, The Church of England, The Methodist Church and Tearfund. It encourages us to pursue better environmental stewardship by setting goals that enable congregations to reduce their environmental impact – both as churches, and in private life. It covers 5 areas:

- Worship and teaching
- Management of church buildings
- Management of church land
- Community and global engagement
- Lifestyle

There are three awards: Bronze, Silver and Gold, depending on how well the church scores against each area. To attain an award, the church must score (e.g.) bronze across all 5 areas.

Each church completes a survey, the answers to which determine the score. The survey is updated over time as answers to the questions change. For Bronze and Silver awards, the decision is made simply by submitting the survey to A Rocha. For Gold, there is a site visit in which representatives of the charity audit the church against the responses given in its submission.

Note: It is important to realise that changes can cause scores to drop as well as to rise. A typical example of this might be an activity dropping from 'at least annual': as it drops to 'occasionally' we lose 5 points; if we cease doing it at all, we lose 10.

ECO DIOCESE

Guildford Diocese has been an Eco Diocese since the autumn of 2018. Eco Diocese is an extension of the Eco Church scheme and aims to embed ecological stewardship at a diocesan level as well as stimulating additional diocesan support on environmental issues for parishes.¹

At the time of writing, Guildford Diocese has received the Bronze Eco Diocese Award. Its environment pages have plenty of links to useful resources and can be found here:



<https://www.cofeguildford.org.uk/making-disciples/improving-church-buildings/the-environment>

1 A summary of the Eco Diocese process can be found on the A Rocha website: <https://ecochurch.arocha.org.uk/denominational-awards/eco-diocese/>

GENERAL PRINCIPLES

The general principle, implied in the phrase 'Eco Church' is that in all things, we aspire to work in harmony with God's creation. The implications of this are huge, sometimes difficult, and often lead us into grey areas where we will need to seek guidance, check our facts, and make our best judgements.

There may be some things that we simply cannot afford to do in a way that demonstrates God's love for his world. In those cases, a difficult decision must be made about whether to do them at all.

In every decision, even if it is ultimately to do or buy something that is less environmentally friendly than we would like, we can speak up for our brothers and sisters in creation who have no voice – especially when it comes to spending our money – simply by asking questions of the people to whom, we give our money. These choices are rarely totally black and white.

Example: at the time of writing, the Fair Phone (<https://www.fairphone.com>) is by far the most ethical and sustainable choice for a new or second hand smart phone **but** is expensive and not readily available on budget contracts or PAYG (pay-as-you-go). It will be too expensive for some people and churches and that begs questions about defining need and cost that could lead to the compromise of a second hand phone rather than new.

THE 3 'R'S

Reduce, Reuse, Recycle. These, in order of priority, are what we aim to do with the resources we use, purchase or contract-for in everything we do. They increasingly inform the way in which we go about our life as church, and the way in which we spend the money entrusted to us.



REDUCE

Reducing what we use is the most important thing we can do to help the environment. Here are questions to ask yourself about everything you do or buy:

1. Do I really need to do, or buy, this thing?
2. How can I reduce the resources associated with this purchase or activity?
 - When you can reduce them no further: is what you're planning still worth the resources? (What are the benefits compared to the *total* – to God's world not just the bank account – costs?)
3. **Before you buy anything**, is there somebody that you can borrow it from?
4. If you buy something, ask yourself: can I buy the same thing from somewhere else that supplies it without all that packaging?
 - **Online Purchases:** Can I avoid single-item shipping by combining

orders, buying in bulk or sharing the order with a friend or neighbour?

1. How far is it travelling to get to me?
 2. Can I get it made or grown locally?
5. Can it be shared once bought?

REUSE

We cannot avoid using resources, no matter how careful we are to reduce them. So the next important thing is to reuse as much as we can. Repairability and upgrade-ability should be considered as forms of re-use.

1. How can I avoid single-use equipment and supplies?
 - If I have to use them, then I need to consider their biodegradability and recyclability (see below).
2. Would reconditioned or second-hand goods be sufficient for the need, rather than buying new?
3. Many items, especially electrical ones, have designed obsolescence:
 - Can it be upgraded, and how long is its likely lifespan?
 - Can it be repaired when it goes wrong, or must the whole thing be disposed of if one part fails?
4. Once it's served its purpose, can it be re-purposed in whole or in part, rather than recycled?
 - **For IT devices:** when the manufacturer stops supporting the product, are there other ways of extending its life?
 - **Example:** by installing Linux on a Windows pc

RECYCLE

Recycling is the last option because it usually has a higher carbon cost than the other two and you can rarely recycle 100% of any item – there is always some waste that goes to landfill, incineration, or the sea. Many people do not realise that plastic can only be recycled a certain number of times anyway.

It is also, though, the *constant* option: everything has a lifespan, or its components do. Everything we use should be made from recycled or repurposed materials and be recyclable or biodegradable (the latter is generally more environmentally friendly).

So we need to keep asking ourselves two questions:

1. Is what I intend to use made from recycled materials? (That includes both the product and its packaging and shipping materials.)
2. How recyclable or biodegradable is it at the end of its life?

Follow up questions to these are:

1. Do recycling facilities exist? For example, expanded polystyrene often comes with the right symbols but there are very few recycling facilities for it in the UK. Cardboard is increasingly used instead.
2. How much of it is plastic? Even if that plastic is recyclable, can I avoid that

if I buy something else that will still do the job, or if I buy from somewhere else?

- **Craft materials** often include plastic and are non-recyclable: what are the alternatives?
- **Glitter** is usually plastic, non-recyclable and harmful in the environment. Pretty as it may be when decorating all manner of things, **it should be avoided.**

GUIDELINES FOR DECISION MAKING

Insofar as it is reasonable, the environmental impact of every prospective purchase should be assessed. The scope of this assessment will obviously be proportionate to the spending involved but the principle of should be fundamental to all purchasing and equipment use.

1. All volunteers and staff should attempt, within budgetary limits, to source the most environmentally friendly products and services available. Your decision-making can be helped by using online resources such as www.ethicalconsumer.org who review the environmental policies and practices of companies providing a huge range of products and services.
 - **Don't reinvent the wheel:** Somebody else may already have your answers. The [Diocesan Environmental Group](#) is an excellent place to ask questions.
 - **There is no such thing as 'disposable'.** Single-use and short lifespan products should be phased out in favour of reusables and repairables. When that is not possible, the recyclable or biodegradable option is preferred. Try to ensure that plastics and other components are clearly identified for recycling.
 - **Ask all suppliers and contractors** about their environmental practices. Even with small purchases, we can apply pressure for change, even if it's by simply asking which products are available in compostable or recyclable packaging.
 - When goods and services need to be used that do not meet The Three R's then a case should be made for their use and presented to the Vicar, BRC or other appropriate decision-maker according to the nature and scale of the expenditure.
2. **Due diligence in larger contracts and projects:** suppliers, contractors and services demonstrating better environmental and ethical practices should score more heavily in decision-making than their competitors that don't. **In particular:**
 - a) As the Church of England moves towards Carbon Neutrality it becomes increasingly important for procurement to be carbon neutral:
 - Does the prospective supplier make any attempt to demonstrate the life-cycle environmental impact of their goods and services?.
 - Are ethical issues such as conflict minerals, exploitative employment

practices and modern slavery addressed in their supply chain?

- Do they allow external auditing of their processes?

b) A Pre-qualification Questionnaire (PQQ) can be used to ensure that creation-care is an integral part of the procurement process. Asking the same questions of each potential supplier or contractor enables fair assessment of environmental and ethical performance before making any commitments. Questions can include those above, and more information about the sorts of questions to ask can be found here: <https://www.nibusinessinfo.co.uk/content/how-select-sustainable-supplier>

c) Communicate: Always let potential suppliers and contractors know the reasons when they fail to secure our custom wholly, or in part, because of poorer environmental credentials than their competitors.

Short term cost implications may arise from this approach. The example of the Fair Phone has already been given: purchasing one will make more of a dent in a single budget year than many other phones. Its high repairability and “up-gradeability”, however, give it a much longer lifespan, bringing savings in future years. Ethically, it is likely to be a missional purchase rather than simply a pragmatic one, benefitting God’s world and people elsewhere as well as benefitting us.

OFFICE SUPPLIES AND OTHER CONSUMABLES.

Everybody responsible for ordering office supplies should check the environmental policies of suppliers and, if possible, choose the more environmentally friendly option whenever the cost implications are not prohibitive.

Staff and volunteers should be enabled to source consumables via the parish office. This could reduce delivery journeys and carries potential cost savings from bulk buying, especially if a ‘green’ office supplier can be found.

1. **Recycled paper** should be used for routine printing; the new office printer has a setting for this and most inkjets will print very well on it.
 - a. **Double-sided (duplex)** printing should be the default setting for all printing.
2. **Electronic documents** should be used whenever possible. Better use of cloud-based editing and document sharing would reduce printing.
3. **Reconditioned ink cartridges** offer significant cost savings and provide good quality printing for everyday use. They are a good option for printers outside warranty (not because there is any evidence that they damage the printer but simply to protect any warranty in place). Most office items include plastic in their components and packaging. This should be avoided where possible, and checked for recyclability before purchase when it cannot be avoided.
4. **Metal staples** should be phased out and replaced with staple-less staplers.

For small print runs, you can use the links in “ to discover how to bind documents of up to about 15 sheets.

5. **Coffee and Tea** are already Fair Trade and should continue to be so, or of a similar ethical standard.
6. **Post-it notes** and similar should not be used as the normal way of taking notes; the office white board should be used for reminders.
7. A church recycling scheme, using either a paid-for collection or volunteers, should be in effect in the office, hall and church; this should include all recyclable waste normally taken by the Council plus anything that can be included in the Wells Terracycle Scheme managed by Ro Stretton².
8. **Hall users** should be made aware of this at the time of booking, and all staff and volunteers encouraged to demonstrate good practice.

FINANCE

The members of the PCC are trustees of Christ Church as a charity and have to balance every desire we have as a church with financial realities.

This does not mean, however, that our hands are tied; mitigating the effects of climate change should be seen as missional investment. It helps to provide for the long term survival and prosperity of Christ Church, our members and our mission.

Many of the ways in which this can be done are covered elsewhere in the General Principles section but, without losing sight of the statutory duties of the PCC, we need to shift towards the difficult-to-assess ‘added value’ of making financial decisions that are sustainable in the broadest way across multiple budget cycles – that is, from the perspective of the life of God’s earth and peoples, and not simply in terms of the financial considerations of Christ Church parish.

This spiritual element to financial decision making has always tended to create tension between the pragmatic and statutory considerations of being a charity, and the missional and spiritual ones of being a church; with regard to the environment there may be times when these tensions are more obvious and will need to be met with grace.

Example: Carbon offsetting is an area in which hard decisions about expenditure may need to be made in order for Christ Church to be carbon neutral; any money spent on carbon offset is money not available for other things. There is no legal responsibility to do it but it does represent some of the true (hidden) costs of our activities and, knowing that there is an additional financial cost arising from our activities may help us to be less wasteful.

² <https://en-gb.facebook.com/pg/greenwayterracycle/>

DIVESTMENT

We have already moved some of our investments into ethical holdings.

1. We should seek to increase the proportion of ethical investment when it is prudent to do so. This should be annually reviewed by the Finance Team, with a recommendation made to the PCC.
2. Banking and investment relationships should also be reviewed regularly to ensure that we support institutions that (as near as possible) reflect our mission objectives and discipleship.

NET-ZERO CARBON

As disciples and stewards our aim must be, ultimately, to avoid contributing to climate breakdown. This logically means being a 'net-zero' producer of atmospheric carbon – or even a net reducer.

We are working to achieve the Church of England's target to be carbon neutral by 2030 at the latest.

1. As gas-fired appliances reach the end of their efficient working lives, and with the cost of gas likely to escalate, consideration should be given to other forms of heating.
2. We will move to a sustainable electricity tariff as soon as possible.
 1. If possible, a supplier that generates their own power is preferable to one that uses Renewable Energy Guarantee of Origin certificates because these have been shown to be of dubious effect in reducing emissions.
 2. **'Green' gas** is expensive and, over its whole life-cycle, carbon-contributing. **Carbon Offset** provides an alternative approach.
 1. The use of 'green' gas should be reviewed as prices change.
3. **Solar panels:** technology has improved dramatically in recent years and the subsidy framework changes periodically.
 1. The decision not to fit solar panels on the hall and church should be reviewed whenever the subsidy framework changes.
 2. A cost/benefit analysis of fitting them to the Curatage should be undertaken; not only will it help us to be carbon-neutral but would probably generate income when the house is empty, if not at other times.
4. **Reduce car travel:** When possible, walk, cycle or car-share to worship, meetings and home visits.
 1. It is likely that a means of recording mileage and means of travel, will be made available to help us calculate the parish's savings over time. If and when that happens, please be sure to keep a record.

CARBON OFFSET

Carbon offsetting is a means of mitigating the harm caused by carbon that we cannot avoid emitting. It should be considered integral to our life and witness as God's stewards.

Payments are made to projects that seek to reduce or reverse carbon emissions elsewhere. Typically, this involves tree planting or supporting projects to help poorer nations reduce their dependency on polluting fuels.

Tree planting is, however, a slow solution; faster returns are found in funding the re-instatement of peatlands because these begin to absorb CO2 immediately. Given the speed with which climate change is accelerating, offsetting that has faster benefits and should be prioritised if possible.

1. **If you are able to**, undertake a personal carbon audit and, if you can afford to, take part in some kind of off-set scheme.
2. **Christ Church** will be undertaking a carbon audit with www.360carbon.org
 1. The Environmental Group will propose to the PCC an appropriate offset scheme or schemes
 2. We will also explore how, when you undertake activities for the church, and there is a carbon cost, we can either:
 1. Enable you to claim the offset cost of that as you might any other expense or:
 2. Provide a means of recording the carbon cost in a similar way to expenses so that the Parish can offset it through the scheme adopted by the PCC
3. We aim to have a scheme ready for adoption by the end of 2021.

WORSHIP AND TEACHING

Although we already score Eco Church 'Gold' under this category, more can undoubtedly be done. It is important that ecological issues should not be shoe-horned into our preaching and teaching but preachers and youth/children's workers should be sensitive to the Holy Spirit's prompting about when they can be appropriately teased out.

Particular opportunities arise at:

- Creationtide.
- Eastertide, with a focus on Christ's reconciling work for all creation.

Three areas need ongoing consideration:

1. **Purchasing materials** and resources for work with young people and children including catering for The Source.
2. **Sustainability of vestry consumables** and the environmental impact of replacing worn out liturgical items, including replacement and upgrade of IT. These are often

nuanced decisions, and three examples point to their complexity:

1. **Fair Trade communion wine** is equitable to the farmers but shipping it carries a higher carbon footprint than European fortified wines produced in vineyards where workers are protected by law. They are often cheaper too. Consideration should be given to the cost and carbon savings of purchasing from supermarkets rather than ecclesiastical suppliers.
2. **Tea lights** are far cheaper when purchased in bulk from supermarkets rather than ecclesiastical suppliers but are 100% petrochemical; candles from ecclesiastical suppliers cost more but often contain beeswax which is arguably carbon-neutral and certainly renewable. Burning any candle, of course, quickly releases carbon.
3. **The life-cycle environmental** footprint of IT used for worship, over and against the use of paper hymnbooks, bibles and service sheets is not clear because of the high carbon footprint of all kinds of IT equipment. You may be surprised that, at the present time, it is not clear that IT is the more environmentally friendly option. Christ Church is committed to a high reliance on technology for services so it is particularly important to pay attention to the 3 R's when we consider upgrades, replacements and additions.

ECCLESIASTICAL SUPPLIERS

Ecclesiastical suppliers are generally poor at demonstrating sustainability and Fair Trade issues:

1. **The 3 R's and General Purchasing Principles** should be adhered to all purchases related to worship. Not only does this help us in our mission and witness, it helps to create a commercial case to suppliers for the need to change.
2. **Most craft suppliers** pay little attention to environmental issues. Reliable sources of ethical goods for children's activities should be sought and approached first when seeking new resources.

Given the principle that nothing should be disposed of that can be reused or repurposed, a 'scrapstore' of donations for re-purposing and re-using would be an excellent idea. Members of the congregation with appropriate skills could also be asked to help bring worn out liturgical textiles back into use as new items for the church, or for other churches or even for sale for fundraising.

LAND

Christ Church has control of land on the church site, including the Scout Hut, the Curatage on the Greenway and, to a lesser extent, the Vicarage.

The ways in which we care for our land give profound messages about our understanding of discipleship and stewardship of God's earth. Gone are the days when formal neatness was seen as a good sign; people increasingly expect to see a healthy environment sustaining as many different types of plant and animal as possible.

As an Eco Church, and being on the edge of Epsom Common, our aspiration must be for our land to become a visible sign of our commitment to creation care; a place that is welcoming and beneficial for the whole community as well as for God's other creatures and our own congregation.

CHURCH YARD

Having never been a burial ground, the churchyard blesses us with choices about how we manage and use this important space. 2020 saw new developments:

- A new mowing regime was trialled.
- Families started using it as a destination for picnics and play during the lockdown.
- Regular outdoor services brought a fresh dimension to our worship and witness
- A chapel was established alongside the public footpath that runs through our grounds.

FERTILISER, PESTICIDES AND HERBICIDES

1. The routine use of chemicals for controlling weeds and insects is to be avoided **except**:
 - As a 'spot on' treatment for specific invasive species when other treatments will not work.
 - Where the safety of church members, visitors, or the integrity of the building itself is at risk and no other treatment is reasonably available.
2. **Chemical fertilisers** – as opposed to compost or manure – can upset soil chemistry. In particular, they can disadvantage slow growing species and can be actively harmful to those species in poor, low nutrient soils such as we seem to have at the church.
 - If used at all, they should be carefully chosen for their suitability for the soil type and/or used for specific plants rather than generally applied.
3. **Peat must never be used.** Compost, commercially produced or from our own plant cuttings pile, should be used instead.
 - Looking ahead, the cuttings pile could be turned into a compost heap for the whole community.

MOWING REGIME

In 2020, with the help of the Merry Mowers, we experimented with mowing regimes designed to enhance biodiversity by encouraging pollinating insects. This is in conjunction with the *Every Flower Counts* national survey of lawn flowers by the charity PlantLife. This survey will, we hope, help us to judge the success of our experiment.³

Most of the church yard is now mowed monthly but some areas are allowed to grow all Summer, being cut in late August or September. Each year we will review the regime and adjust if necessary.

Scientific evidence suggests that mowing on a monthly basis increases the number of flower heads and thus the availability of nectar for bees and other pollinators. The same evidence suggests that this promotes a wider diversity of plant species, which may help to ensure that nectar is available over a longer growing season and for a wider variety of insects. Longer grass also provides cover for small animals and, when well planned, corridors along which they can move. It therefore helps creatures such as hedgehogs and amphibians, which are in decline, to increase their range with less exposure to predators.

In general, if you are mowing the grass, please:

- 1. Use the Agreed Site Plan** to check which areas to mow monthly and which to leave fallow for the summer. A blank plan can be found in Appendix 2, for completion.
 1. The plan should be agreed during Spring each year, between the Property Team, Merry Mowers and Environmental Group.

N.B. For greatest benefit, the same areas should be long each year.

- 2. The lawn** in the fenced-off area outside the church hall will usually be mowed as needed.

PLANTING AND PRUNING

The church yard is surrounded by Epsom Common, a Site of Special Scientific Interest. A great deal of work is undertaken by Epsom Common Association volunteers and the Council, to maintain the common as a haven for native British species. Historically, we have not planted the churchyard with this in mind.

- 1. Future planting** should be of native species that will thrive in the local soil,

³ The Wild Plant Conservation Charity, 'Every Flower Counts', PlantLife, 2020, <https://www.plantlife.org.uk/everyflowercounts/>.

support local wildlife and not out-compete local flora. Areas overshadowed by trees will need plants tolerant to such conditions.

2. **Invasive species** *must* be dealt with in the correct manner, in order to prevent their spread onto the common where they can cause ecological damage. Penalties could be incurred for allowing their spread from the church yard. Government Guidance about identifying and treating invasive species can be found here: <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>
 - **Japanese Knotweed** has been present and controlled in the churchyard for some years, and has been noticed by the Borough Council. *It must not be added to the cuttings pile alongside the hall.* Guidance for this species can be found here: <https://www.gov.uk/guidance/prevent-japanese-knotweed-from-spreading>

In this instance, the use of chemical weedkillers in a ‘spot on’ treatment, may be appropriate.

- A legal obligation may exist to notify the local authority of the presence of such species and to have them professionally removed.
3. **Hedges** provide habitats and food for bats and nesting birds. Legal obligations arise from the presence of either.
 - To prevent accidental destruction or abandonment of nests, the RSPB recommends that hedges should not be trimmed between March and August⁴ (but note that the nesting season is extending both earlier and later under the pressure of climate breakdown).
 4. **Ivy** on walls and trees can provide roosts for bats. The presence of bats can give rise to legal obligations. Nursery roosts can be especially important for certain species. Expert advice from the Bat Conservation Trust should be sought before pruning or removing ivy.⁵

OUTDOOR CHAPEL

The outdoor chapel was established in response to the closure of the church buildings during the pandemic’s first wave. It has been used for Morning Prayer as well as by visitors for personal prayer, and we have had consistent feedback from visitors about the benefit of the comfort they have found from it being there.

At the moment, it is very basic but its potential development represents an

4 Royal Society for the Protection of Birds, ‘Hedge Law’, RSPB: Giving Nature a Home, nd, <https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/garden-hedges/hedge-law/>.

5 The Bat Conservation Trust (known as BCT), 2020, <https://www.bats.org.uk/>.

opportunity for identifying and implementing best practice in creation care for churches at the same time as we reach out to local people. The Bishop of Guildford has offered to consecrate it when remaining restrictions are lifted.

CLERGY HOUSING

Guidance in this Handbook covering housing for stipendiary clergy in the parish falls under 'Land' and 'Buildings'. The Vicarage and Curatage offer opportunities and challenges for deepening our discipleship as stewards of God's creation.

GARDENS

The same principles should apply to managing the gardens, as to the churchyard.

Management of the Curatage garden has helped Christ Church to achieve the Bronze Eco Church Award but this was largely achieved through the efforts of Jo Fox-Branch, who found that the garden had been unmaintained, except for mowing, for several years by the time she arrived in 2018. Since then, we have tried to manage it with wildlife in mind. This includes:

- Mowing regime as per the churchyard and participation in *Every Flower Counts*.
- Clearing mature briars and other aggressive plants; planting flowering shrubs and bulbs to provide a long flowering season for pollinators.
- 'Wild' section where 'weeds' are allowed to seed and increasing diversity can be seen each year. Seeding wild flowers. This has had limited success so far, probably due to using seeds selections that were not specifically for heavy soil.
- Salvaging a fruit tree that had fallen.
- Extensive clearing of scrub from shrubberies to allow more flowering plants
- Creating a wildlife pond and herb bed with native plants (see Appendix 1).
- Reinstating composters.
- Installing a water butt.

Clergy have some responsibility for the upkeep of their accommodation: the Heating, Lighting and Cleaning (HLC) allowance in the clergy stipend includes limited gardening expenses but to fully manage the gardens in these properties as part of Christ Church's Ecological Stewardship in *Living Well* will likely require heavier investment of time and expenses than a single person can afford, and a willingness from the parish to support that.

VACANCIES

Maintaining progress during vacancies should be planned for, with more than the usual minimum maintenance being carried out. This would help to prevent the risk of undoing progress made and of having incoming clergy needing to reinstate (e.g.)

the wildlife pond and flower beds if it they have been neglected.

1. Consideration should be given to how parish profiles for incumbency and curacies reflect the identity of Christ Church as an Eco Church, and specifically outline any expectations regarding the gardens and maintenance arrangements.

2. The Parish should maintain 'Green' energy contracts for both properties.

Recognising that training and ordination are often times of adjustment to significantly reduced incomes, the parish should support new curates in selecting the greenest tariffs that they can afford.

3. **Feed-in solar panels** at the Greenway would assist our progress as an Eco Church, potentially provide additional income that increases during vacancy and ease a new clergy household's adaptation to their new way of life by significantly reducing bills without providing a taxable perk.

4. **Prospective Tenants** should be asked to respect the work undertaken thus far and, during their tenancy, to do a minimum level of garden maintenance. The parish should consider what help it can give them in this regard as part of *Living Well*.

5. **All Occupants Will Need to:**

- Maintain water levels in the pond.
- **Agree not to:**
 - a) Introduce fish: the pond is too shallow for them in winter, and they will eat most of the other life therein.
 - b) Replace existing plants with non-native species and to seek advice if unsure⁶.

SCOUT HUT

At the time of writing, the future of the Scout Hut is under discussion. The Council has suggested that clearing saplings growing around it would allow more light to reach the ground, encouraging a wider range of plants and thus supporting a wider range of other creatures.

CAR PARK

This belongs to the Council and we do not manage it.

a. 6 See Appendix 1 for more information about the pond.

BUILDINGS

Some of this section covers day-to-day use of our buildings and should be read by everybody who volunteers or works in some capacity at Christ Church. Some of the guidance is more strategic and particularly relevant to the Premises Team, Finance Team and BRC.

For general guidance about contractual policy, please see ". With regard to planning changes to buildings, including maintenance, repairs and capital works, due diligence should now include layers of environmental impact assessment. The results of that assessment should help to inform choice of contractors, suppliers and goods.

Key question: Whenever any work is being planned, regardless of size, ask yourself: "What is the opportunity, here, to make Christ Church more environmentally sustainable and/or promote better sustainability from our suppliers and contractors?"

PROJECTS AND WORKS

Environmental sustainability should be part of all building-project planning, including works to existing fabric and upgrades, such as to lighting and heating systems. There are various ways of assessing this, and the regulatory framework is likely to change over time, so standards are not specified here but should be identified and agreed at an early stage in any planning process.

Biodiversity Net Gain is being introduced by the Government as a mandatory part of any planning application. Christ Church's unique location on the edge of an Site of Special Scientific Interest (SSSI), plus the presence of bats in church and churchyard during 2020 already mean that project planning should rigorously consider the immediate environment – not simply with respect to the finished project but during supply and construction phases too. The implementation of Biodiversity Net Gain will probably require us to demonstrate that any proposed development at Christ Church will objectively improve biodiversity in our immediate environment.⁷

Building Research Establishment Environmental Assessment Method (**BREEAM**) is a sustainability assessment and certification process for new builds, in-use buildings and refurbishment and refitting. Such schemes, whether BREEAM or something similar, provide ready-made environmental benchmarking for projects and should be considered in the pre-planning stages for all capital works. BREEAM has been in existence for several decades.⁸

1. **A Pre-qualification Questionnaire (PQQ)** should be used, in conjunction with the above or separately, to help you assess the environmental and ethical performance of potential suppliers and contractors. By asking the

⁷ <https://www.gov.uk/government/consultations/biodiversity-net-gain-updating-planning-requirements>

⁸ <http://www.breeam.com>

same questions of each potential supplier or contractor for a particular project, you can attempt to make a fair assessment of their environmental and ethical performance before entering into any commitment. In addition to questions addressing issues identified in , information about the sorts of questions to ask can be found here: <https://www.nibusinessinfo.co.uk/content/how-select-sustainable-supplier>

2. **Planning Group Members**, especially for new buildings or changes to the fabric of the church or hall, are recommended to read the relevant sections of the local authority's *Biodiversity and Planning Guidance*⁹, and *Biodiversity Action Plan 2020-30*.¹⁰
3. **Environmental impact assessments**, which may be informal, for smaller works, or part of a wider standard such as BREEAM, for larger projects, should be integral to all planning and, for larger projects, be incorporated into any project risk assessment.

ENERGY EFFICIENCY AND SUSTAINABILITY

On a day-to-day basis, the following good practice should be followed by all staff and volunteers:

LIGHTING

1. **General principle:** only necessary lighting (for comfortable working, health and safety, and security) should be switched on.
2. **Church:** if natural light is dim, the master panel in the chancel should be switched on as you enter but please then use the **panel by the pulpit** (or manually set the lighting, if you know how) to reduce lighting levels to suit your needs.
 - The Vestry** should remain lit for health and safety reasons when natural lighting is dim.
3. **Hall:** lights must be switched off in rooms that are (a) unoccupied and (b) not likely to be passed-through (e.g. kitchens and toilets).
 - **The main stairs** should normally be lit for safety reasons.
 - **The Upper Hall** should be lit using the dimmable lights if it is only being used for access to the office and staff desks.

9 <https://www.epsom-ewell.gov.uk/sites/default/files/documents/residents/planning/BiodiversityandPlanninginEpsom7February2012.pdf>

10 <https://www.epsom-ewell.gov.uk/sites/default/files/documents/residents/planning/Epsom%20and%20Ewell%20Biodiversity%20Action%20Plan%202020-30%20.pdf>

HEATING AND COOLING

The parish has a legal responsibility as an employer, to ensure that the workplace is kept at a comfortable temperature for its employees; employees and volunteers have a role to play in this.

Clergy housing doubles as a workplace and, to the extent to which the Parish is responsible for such housing, it should ensure that the insulation and heating provided is adequate.

As global warming accelerates, cooling in summer will become more of an issue, especially in poorly insulated spaces. Good insulation and modern double glazing will help to reduce reliance on fans and air conditioning.

- **The upper hall and office** heating should be timed so that a comfortable working temperature has been reached by 9.00am on workdays. As well as improving staff well-being, this will reduce reliance on less efficient portable heaters.
 - **Paid office staff** should have access to the heating controls for hall and church.
 - Any plans to refurbishing the hall should include an assessment of opportunities to improve insulation, including the installation of modern double glazing.
- **Windows and interior doors** should be kept closed in winter and not propped open (Coronavirus risk assessments may alter that).
- 4. **The church building** is a heat sink. Except insomuch as a regular temperature is required for maintaining the tuning of the organ, or for similar considerations, the church should be unheated on days when it will be empty.
 - Management of the church and hall diary now takes place via the office so office staff should ensure that the heating is programmed to come on in due time for events.

The following actions are most relevant to the Premises Team, Finance Team and BRC. Some are longer term and others could be achieved quicker.

1. With regard to the Curatage, consideration should be given to including energy costs in the rent to ensure that the property remains on a green tariff as occupants change.
2. As boilers and stoves age and, if finances allow it, gas appliances should be replaced with more efficient and environmentally-friendly alternatives.
3. **Draught-proofing** and/or insulation should be periodically checked by the Premises Team on all doors, windows and hot water pipes where it can be appropriately fitted, as well as roof spaces in the Hall and Curatage.

A quinquennial inspection of the Curatage should be carried out along similar lines to parsonage inspections and remedial works to prevent heat loss / over heating in summer carried out as necessary.

4. **Sensor-activated lighting** should be installed in the hall, vestries and church yard when the opportunity presents itself.
5. **Interior works** such as new cupboards should use natural materials whenever possible. This may cost more initially but gains from durability. Plastics and composite materials, including Medium Density Fibreboard (MDF) should be avoided as much as possible, and no longer used if they cannot be recycled.
6. When floor coverings are replaced, consideration should be given to more environmentally friendly and durable materials.
 1. **Hard flooring** with insulated underlay is often recommended for high traffic areas of clergy housing such as hall, kitchen and reception rooms.
 - Such flooring carries less allergy risk than carpet and will be both more durable and easier to maintain as winters become wetter.

COMMUNITY ENGAGEMENT

IN-HOUSE EVENTS

In everything we do, we need to protect God's earth. This means that we may need to consider the future of some events that we have previously hosted or consider how to change them. Every event should attempt to have no negative impact on the environment. Most of the guidance in the 'General Principles' section has some bearing on event planning and running.

EXTERNAL EVENTS HOSTED AT CHRIST CHURCH

Hall hirers and church users should be encouraged to help us protect the environment by adopting our protocols. In addition, they should be provided with:

1. The means to recycle their waste and food waste.
 - If the volume of food waste grows, consideration should be given to the use of food digesters in the church yard.
2. 'Green' cleaning materials.
 - **Oxyl-Pro**, available from Aquaeus Logic in Sutton via David Sevier, is an environmentally friendly hand and surface sanitiser that is food safe, non-tainting and non-polluting in the water supply. This, or a similar environmentally friendly sanitiser, should be available in food preparation areas for hall hirers and members of the parish.
 - Other environmentally friendly products should be available for general cleaning.
 - **Bin bags** should be made from recycled material.

WORKING WITH THE WIDER COMMUNITY

The church in its wider sense has a poor reputation in the environmental movement. There is not room here to discuss the reasons for this but every opportunity should be sought to build and strengthen our links with groups and organisations that share our concerns. We already have links with, or have supported A Roche, PlantLife, Toilet Twinning and, via individuals within the congregation, a range of conservation organisations. The Environmental Group will continue to highlight ways in which Christ Church can work with local community groups. This might be achieved by:

1. Regularly advertising Epsom Common Eco Volunteer Tasks.
2. Organising an annual Environmental Fair or similar in Easter or Creationtide
3. Working collaboratively with St Martin's and Epsom Methodist Churches, which have both become Eco Churches.

LIFESTYLE

SOCIAL EVENTS

We aim to make sure that our social life and outreach reflect care for creation just as they reflect care for each other as human beings.

1. If a way cannot be found to make an event environmentally friendly, then (painful as it may be) careful consideration should be given to its future, and whether something new can happen instead.
 - If such an event goes ahead, its planning should include how any harm will be mitigated, through carbon offset or other measures.
2. **Fireworks** are *always* harmful to our fellow creatures. Spent rockets retain toxic chemicals that can harm local wildlife; the explosions can traumatise pets and larger mammals and exacerbate trauma in people; the shock waves from loud fireworks can kill birds and small animals; they can also make them flee in panic with attendant risk of injury and separation at night.
 - Mitigating the harm done by fireworks is extremely difficult. Careful consideration of their use by an Eco Church should be undertaken;

If they are deemed *necessary* for the mission of the church at a particular event then silent ones should be used and an attempt made to retrieve spent rockets rather than leave them in the environment.

3. **Bonfires**, in a very short space of time, release all that CO₂ that has been stored for tens or hundreds of years that, had the wood been allowed to rot, would have been released much more slowly and in part offset by new plants. Woodsmoke is harmful when inhaled and especially for people with asthma and other respiratory diseases. Woodpiles act as bug hotels, and are often shelters for amphibians, hedgehogs and other small animals.
 - A small, raised, metal fire pit should be considered instead because it will create a similar atmosphere with less harm.
 - If a fire is considered *necessary* for an event, an attempt should be made to estimate the CO₂ released and include it in carbon offset measures.
 - Logs should be checked for inhabitants.
 - Fires that were built some time before lighting should be checked for hedgehogs and other small creatures prior to ignition.
4. **All plates, cutlery, food wrappings** etc. should be re-usable, compostable or recyclable whenever possible.
 - Please do not purchase single-use cutlery or crockery for in-house events but instead, plan for washing up!
 - Compostable items might, on occasion be used, especially while the

Covid 19 crisis endures, but proper planning must be given as to how they will be disposed of: they are often unsuitable for home composting.

CATERING

Although we do not have a catering kitchen, we provide food and drink on various occasions. We have become so used to the availability of food from all over the globe that we rarely consider the implications of its presence on our plates. Pre-prepared food and drink offers different challenges and opportunities to homemade items but the principle applies that, whenever possible, the refreshment we offer should be locally produced and seasonably available rather than shipped across the world.

PRE-PREPARED FOOD AND DRINK

To reduce the environmental impact of such items they should ideally be:

1. Produced locally, with local and preferably organic ingredients.
2. In order of preference, products should be purchased that were produced
 - In Epsom
 - Regionally
 - In the UK
 - In the EU
 - Elsewhere
3. Without palm oil, or with sustainable palm oil. In many cases this is *extremely* difficult, so a choice may need to be made whether to offer particular foods such as pre-packaged cakes from supermarkets.
4. In packaging that is clearly labelled as recyclable, or obviously biodegradable (e.g. paper and cardboard), or is included in the list of items accepted at the Wells Terracycle project.
 - Please contact Ro Stretton for the latest list, or check the Wells Terracycle Facebook page:
<https://www.facebook.com/greenwayterracycle/>

HOME-MADE FOOD AND DRINK

As with the above, care should be taken whenever possible to avoid ingredients, the production or shipping of which is particularly harmful to God's earth.

- The same principles should be applied to ingredients as to ready-made products.

CONCLUSION

If you have read this Handbook from cover to cover, well done! It is envisaged that it will be a reference for people undertaking particular duties and activities within the life and mission of the church – something to keep dipping in to, rather than to learn by rote. We hope that, if you are a congregation member, you will find things here that you can apply to your life, too, at work or at home.

We hope, also, that despite what may seem like a lot of information to absorb, the Handbook gives you hope and encouragement that we can take an active role in reversing the environmental crisis. It does mean thinking ‘environment’ almost before we do anything but that does mean that we will be taking seriously that vocation that God gave us in the Garden all that time ago. Whether you regard that as an historical fact or a truth-bearing myth, the spiritual reality remains; that calling was never rescinded by God but abandoned by humanity. It is time to reclaim it.

USEFUL RESOURCES

GENERAL

A Rocha: The Christian environmental charity that administers Eco Church does much more than that. <https://arocha.org.uk/>

The Church of England Environmental Programme: Useful resources here include a series of webinars on becoming carbon neutral.
<https://www.churchofengland.org/about/views/environment-and-climate-change>

Diocese of Guildford’s Environment pages:
<https://www.cofeguildford.org.uk/making-disciples/improving-church-buildings/the-environment>

Guildford Diocese Environmental Group on Facebook:
<https://www.facebook.com/groups/313072776160089>

Eco-Church: Sign up to be able to see our latest progress, as well as to access an excellent resource library for specific projects. Lots of accessible advice and guidance here; a good starting point for researching any new action we might take. <https://ecochurch.arocha.org.uk/>

Ethical Consumer: To help make ethical purchasing decisions for the parish and your household, use an ethical comparison site such as
<https://www.ethicalconsumer.org/>

Staple-less Binding: Here are two methods of binding documents of up to 15 sheets:

1. <http://www.bloomize.com/how-to-bind-papers-without-staples-or-clips/>
2. <http://www.bloomize.com/how-to-bind-papers-without-staples-or-clips-4/>

WORSHIP

At present it is very difficult to assess the environmental impact of most liturgical items and sacristy supplies. J Wippell & Co have published a fairtrade policy:

<https://www.wippell.co.uk/Fair-Trade-policy.aspx>

BUILDINGS

BREEAM: “BREEAM is the world’s leading sustainability assessment method for master planning projects, infrastructure and buildings. It recognises and reflects the value in higher performing assets across the built environment life-cycle, from new construction to in-use and refurbishment.” <http://www.breeam.com>

Biodiversity Net Gain: This page will be updated as the statutory framework changes. <https://www.gov.uk/government/consultations/biodiversity-net-gain-updating-planning-requirements>

Epsom and Ewell: Biodiversity planning guidance and action plan, both as .pdf: <https://www.epsom-ewell.gov.uk/sites/default/files/documents/residents/planning/BiodiversityandPlanninginEpsom7February2012.pdf> <https://www.epsom-ewell.gov.uk/sites/default/files/documents/residents/planning/Epsom%20and%20Ewell%20Biodiversity%20Action%20Plan%202020-30%20.pdf>

LAND

PlantLife Library: A searchable online library of advice, guidance and reports regarding conservation, land management, dealing with invasive species, legal issues, re-wilding and more. <https://www.plantlife.org.uk/uk/our-work/publications>

Wildfowl and Wetlands Trust: Has a useful guide to native pond plants, as well as a list of aquatic invasive species to avoid: <https://www.wwt.org.uk/discover-wetlands/gardening-for-wetlands/a-guide-to-native-pond-plants/#> .

Treatment and Disposal of Non-Native Invasive Species:

<https://www.gov.uk/government/publications/treatment-and-disposal-of-invasive-non-native-plants-rps-178>

Woodland Trust: Source of information, advice and free planting packs for hedgerows etc.: <https://www.woodlandtrust.org.uk/>

COMMUNITY

Epsom Common Eco Volunteers: Opportunities to forge links by encouraging members of the congregation to assist with the work of the Common Association. https://www.epsomcommon.org.uk/The_EcoVols.php The current **diary** can be found here: https://epsomcommon.org.uk/uploads/diary_dates.pdf

LIFESTYLE

Carbon Footprint Calculator for Churches: www.360carbon.org

Greenway Terra Cycle: Check the page for the latest list. Many things that cannot be recycled with the Council can come here, significantly improving our recycling rate and raising money for the church and other good causes.

<https://www.facebook.com/greenwayterrace/>

APPENDICES

APPENDIX 1: THE WILDLIFE POND AT THE CURATAGE.

The wildlife pond was dug in 2018. At full capacity, the deepest part is approximately 50cm deep; this will reduce over time. The heavy PVC liner has a 25 year lifespan and is protected by underlay, sand and a degree of clay slip.



Illustration 1: The Pond in Spring 2019.

Regular maintenance should prevent the need for filtration, as long as no fish are present and regular summer maintenance takes place to check water levels and remove or treat excess alga.

A solar pump was installed in summer 2019 but quickly destroyed, presumably by foxes.

Shallow areas at either end, and the use of smooth stones, provide further access and egress for amphibians as well as bathing and drinking spaces for birds and small animals. By the end of 2020, it had become common to see entire flocks of starlings, as well as mixed groups of other birds, bathing at the same time.

NB: After exceptionally heavy rain in the spring of 2020, the liner rose to the surface at one end of the pond. This occurs when the water table is higher than part of the pond bed. Additional stones were added and the problem has not re-occurred.

PLANTING REGIME

The pond is planted with native British species designed to give a long flowering season, plus native oxygenators and a dwarf lily. A herb bed is planted along one edge, the other three are turfed with the intention of providing a natural edge. By spring 2021 this has become well established along one side and will need controlling if the pond is not to become a bog garden. It provides a graduated water's edge that enables creatures to enter and leave the water with more cover from predators, as well as increasing the scope for birds and small animals to drink, bathe and feed.

Why British species? With the exception of the lily, It is important to ensure that the plants are British natives. This prevents more aggressive imports from dominating and supports wildlife by providing the best habitat for local insect populations. The lily may, ultimately, prove too large for the pond in which case, it can be replaced with water soldier or frogbit, both of which are readily available.

There are four 'zones' in the pond:

1. **Very shallow margins.** Unplanted for wildlife access or bedded with stones and planted with unpotted watercress (*Rorippa nasturtium-aquaticum*).
2. **Shallow margins:** Marsh marigold (*Caltha palustris*), water buttercup (*Ranunculus lingua grandiflora*), water mint (*Mentha aquatica*), marsh forget-me-knot (*Myosotis scorpioides*), water plantain (*Alisma plantago-aquatica*). Moss, clover, grasses and creeping buttercup have extended into the pond from the lawn while water buttercup in particular has extended into the lawn. The moss draws water up from the pond, and a small bog has naturally started to form outside the margin of the pond.
3. **Main shelf and deeper side shelves:** Oxygenator: Mare's tail (*Hippuris vulgaris*); yellow flag iris (*Iris pseudacorus*)
 - Lesser reed mace (*Typha angustifolia*) was originally planted here but has been removed and planted in pots at ground level some way from the pond, where it is thriving. **It must not be reintroduced** because it has pointed roots that can pierce a pond lining but it may survive where it is if watered regularly.
4. **Deep section:** dwarf lily (*Nymphaea leibergii*).

IMPACT

By the end of 2020 the following had been observed:

- Up to 15 adult smooth newts at a time in spring-successful breeding both summers of 2019 and 2020.
- Common frogs as visitors but not breeding.
- Various breeding populations of water beetles and other invertebrates, including snails, various worms, greater and lesser water boatmen, vegetarian water beetles, pond skaters, dragon and damsel flies.

Visiting the pond:

- Flying insects, such as wasps and hornets land to drink and visit to hunt. Dragon and Damsel fly species hunt and breed. Various species of bee and other pollinators visit the flowers.
- Birds including starlings, nuthatch, tits, blackbirds, thrushes, a heron, magpies, crows, wood pigeons, robins, dunnock and a fieldfare visit the pond and its immediate surroundings to bathe, drink, hunt insects or gather seeds.
- Foxes (and local cats) visit to drink.
- Other creatures visiting the garden may (or may not) be there because of the pond: common toad, green and spotted woodpeckers, collared doves, possibly hedgehogs.
- Increased numbers of bats at night may be due to an increase in flying insects related to the pond, or it may be because of a reduction of noise in 2020 due to the lockdown.

THE FUTURE

Being a relatively small pond, it needs regular maintenance, in order to keep a healthy environment, especially during summer heat waves. Likewise, the herb bed needs tending, as do the other beds in the garden.

MAINTENANCE

THE FOLLOWING TASKS ARE ESSENTIAL:

1. **Maintaining the water level:** During warm dry spells, weekly. At other times, check fortnightly in spring and summer and only during prolonged dry spells in autumn and winter.
 - Top up using the tap in the garage and a hose, ideally playing onto the surface to aerate the water at the same time. Allow to overflow so that soil moisture for herbs (especially the chives) is retained. Do not use the water butt because this can be stagnant and contain polluting debris from the roof.
 - At the same time, water the herb bed because these need damp conditions. The water butt can be used.
2. **Algae:** Algal blooms can deplete oxygen and kill pond life. Barley straw has been used with some success to control floating algae (green water).
 - **When the house is vacant:** A commercial (preferably organic) anti algae product will prevent filamentous algae from choking plants and entangling free swimming organisms. Otherwise, during the summer, weekly removal becomes necessary and, done without a great deal of care, inevitably entangles tadpoles and other creatures.
3. **Lesser Reed mace (bull rushes).** In spring and summer, occasional checks should be made for this plant's narrow, blade-like leaves. If present, it should be removed in its entirety (roots included) to prevent it from piercing the liner.
4. **Brambles and Roses:** In 2018 the garden was overrun with mature brambles. Most of these have been uprooted but they return from next door and from seeds. Likewise, rose suckers in the adjacent hedge have spread from next door.
 - Check the pond surrounds occasionally to prevent encroachment of thorny plants.

THE FOLLOWING TASKS WOULD BE BENEFICIAL:

Depending on whether the pond is to continue as a pond or be allowed to become a bog garden:

5. **Debris and overgrowth clearance:** Around half the water surface should remain clear, in order that sunlight can reach the bottom of the pond. Failure to remove overgrowth and debris will result in the pond becoming a bog

within a few years. This is a natural process and has its own benefits for nature. Assuming the parish wishes to retain the feature as a pond:

- Intruding grass, clover and moss should be kept under control by careful removal to open up small areas of water close to the pond edge while at the same time allowing marginal plants to colonise the soil immediately adjacent the pond. This will provide cover for amphibians and other creatures as well as improving the value of the pond for birds and insects. It will also promote a more natural look.
- **Watercress and water mint** can be very vigorous and may need cutting back to prevent them from outcompeting other species. Water mint may eventually need to be removed from the pond if it cannot be regularly pruned.
- **Spring to autumn:** Debris such as fallen leaves and iris stems may be removed monthly to prevent stagnation from decay in hot weather and when the pond is iced.
 1. Plant debris should be left on the pond edge for as long as possible to enable aquatic creatures to access the pond.
 2. Tall dead stems, such as iris flower stems, should be left protruding from the water in winter. They provide hibernation habitats for invertebrates.

APPENDIX 2: PLAN OF THE CHURCH YARD

For use in planning the mowing regime.

