Impoverished topsoil produced by occasionally allowing sheep to graze in the north churchyard would probably have created the perfect conditions for a species-rich wildflower meadow. Today, grass there is strimmed then carted to a vast Compost Heap, once a year.

TOWARDS BIODIVERSITY AND CONSERVATION

After the London Ecological Unit's Survey in 2003 of our north churchyard's 'Conservation Area', I was asked to monitor changes in the 75 wild-plant species. This has been done for the ten years 2006-2016 and is reported on in the pages following.

The Report of the original Survey, compiled by the indefatigable local conservationist Barbara Webb, can be seen at the back of this folder. It suggested we choose a cutting regime to fit our 'Conservation Area', from three examples. Each involved cutting and clearing grass at least twice.

Conservation before 2003 had clearly been successful. On the strength of this success, we experimented - with a single cut. Sadly some areas became 98% choked by just two species of grass. Bio-diversity declined steadily. Four plant species became extinct in the north churchyard. That cannot be called conservation.

Unlike our 'Conservation Area', all our lawns and paths were cut four times before the Patronal Festival in June. Protected ragworts and bee orchids were strimmed round, meticulously. Hedges were thinned and made scrupulously square. Enormous effort, craftsmanship and care was expended there.

In parts of the churchyard where species have been choked out, the obvious first-aid remedy is to try two cuts. In the ten square metres marked out with string, the plan is to 'finger-mow' half, by hand. Missing plant-species that emerge there can then be recognised, nurtured and studied for re-establishing. A semi-parasitic wildflower called Yellow Rattle is being sown in Kingston's meadows and in nationally acclaimed meadow-gardens to weaken these thug grasses. Seed of this has been obtained for sowing after this year's autumn cut.

To be able to call the north churchyard a 'Conservation Area', we need those missing species back. This folder describes recent, unsuccessful efforts to bring one back. It ends with "10 hopes for 2017" suggesting ways forward.

Chris Beales, September 2016

Our **Lawns** are invaluable, providing access, open vistas, meditative calm that contrasts with the busy-ness of the surrounding hedges, the trees, the world and life itself.

Often the lawns are full of wildflowers. Within the soil at St John's there must be a thousand years of wildflower seeds. We hope to enable the ancient wildflower meadow under our feet to bloom more fully, more sustainably.

Before May in 2016, lawns to the south, east and west of the church were all lovingly close-cut four or more times; as were the lawns alongside the extension patio and all the paths in the north churchyard.

Several types of **Snowdrop** show themselves in clumps in the lawn south of the church, clumps that are alongside graves and in the hedge-bottom. If you can strim round them without difficulty here, snowdrops are sustainable.

Only one **Elm Tree** survives in the south churchyard.
It grows through an exquisitely engraved tomb - from underneath.

English elms grow easily from root-suckers but not from seed.
So this tree is probably genetically identical to many other elms -
part of a single tree, alive in fragments all over Europe for millennia;
alive beneath this tomb for 200 years at very least,
outlasting generations of human beings.

Of the long deep story of every plant, of each living creature,
held in existence before us, all we see is a snapshot.

And for a short while, as stewards of this churchyard, we long to
conserve their wonder, their meaning, their identity, their future,
side by side with reverence for the living company of saints.

'Sign-hill' (Mael-dune) suggests a sign you could see from a very long way - a pre-Christian shrine, a way marker, finally, perhaps a cross. Would a landmark of that size have disappeared if made of stone?

The trunk of this great Mael sign might have been a huge elm. Anglo Saxons used elm wood. After 1000 years of weather, elm would have vanished. Elms that lined Royal Avenue within living memory have gone. What dominates the hedgerow immediately across the road from Church Path, however - and Royal Avenue beyond - is still a forest of elm saplings.

This flower is **Lady's Smock**. It is the epitome of ancient, grazed water meadow and indigenous to the churchyard. It probably existed here for centuries before the Saxon church. It is part of our heritage in Old Malden.

These flowers were photographed in May 2016, scattered all over the lawn beside the restaurant a few doors along Church Road from St John's.

These dark leaves like watercress are Lady's Smock, growing in our churchyard grass. They are a sign of water beneath our lawns in a dozen places - a sign of **the springs** that still flow under the north-east corner of the church.

The springs may have been treated as holy in pre-Christian times. When Christians were baptised here, and when a church was dedicated here to St John the Baptist, this spring water gained other meanings. These leaves and flowers link us to the very first Christians here.

Again this year, every bud
of Lady's Smock that rose
from those dark leaves
in our lawns was
levelled.

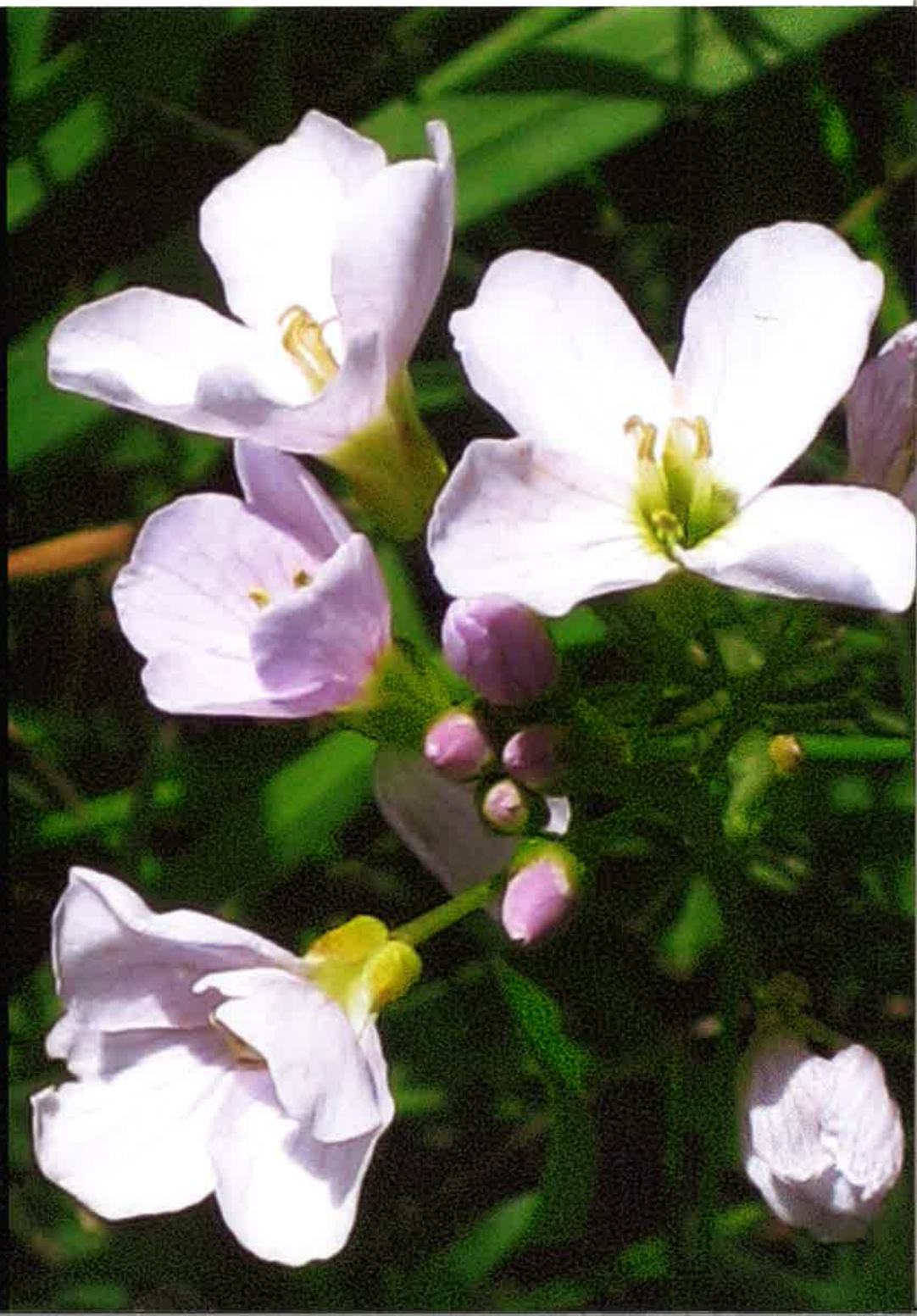
To prepare lawn for the
barbecue, these final ones
by this gravestone
were removed.

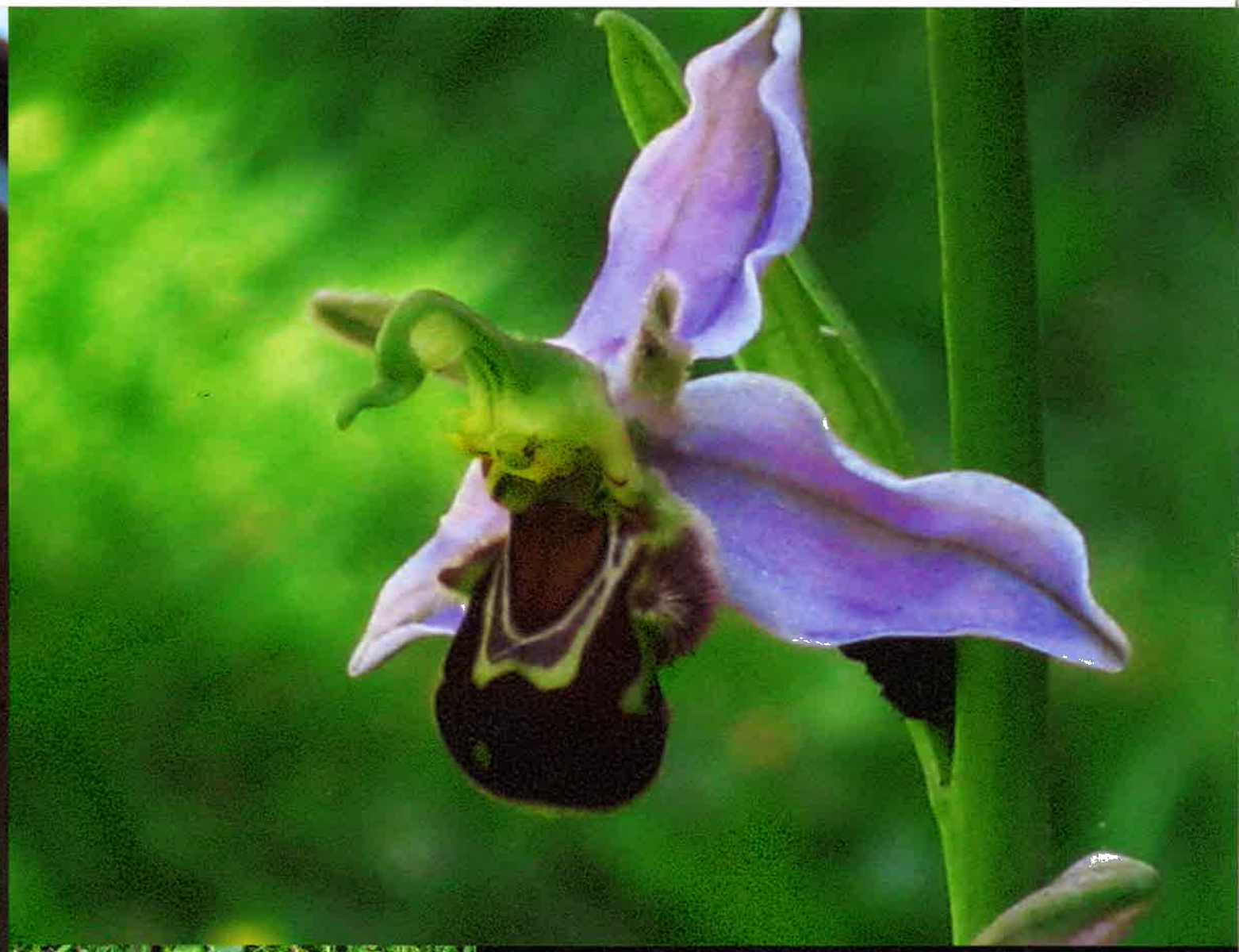
Nowhere to protect them had
been found, no place
to celebrate them.

Out of a thousand
square metres in the north
churchyard, ten had
already been set aside as
**'CONSERVATION
SPACE'.**

Unexpectedly
on April 30th 2016 for the
first time this Lady's Smock
flowered there.

For its wonder, its beauty
and the story it tells,
it was protected.





Growing out of a grave opposite the west door in February 2005, the leaves of a wild orchid were found. Buds came up but were cut with the lawn. The next year, protected with mesh, our first **Bee-Orchid** flowers opened.

In 2013, eight more appeared. In 2021 there could be 72. A small cluster, protected together, could be sustainable.

A **Survey*** recorded 75 species of wild plant in our north churchyard.

It suggested that "to record changes in number and distribution", we should "monitor" Meadowsweet, Meadow Vetchling and Ox-eye Daisy. This has been done from 2006-2016 and is recorded here

MONITORING MEADOWSWEET

Four square metres of this have been successfully conserved in a dip in the north churchyard, where the spring water may have flowed before it was diverted into the main drain.

Meadowsweet was flowering both sides of the path after the rainy start of 2016.

Its flowers are a pollen and nectar source for many insects, its leaves, a favourite food-plant of this **Emperor Moth**

In 2006 a female Emperor Moth, disoriented by light from the new bollard near the extension gate, laid these eggs on the stone gate post - 30 metres away from its intended Meadowsweet.

Her full-grown caterpillars, reared in captivity, were released on their food-plants in the un-lit Six-acre Meadow.

Should Churches be buying outdoor lamps with **light frequencies less harmful** to night-flying creatures?

* **This Survey** by the **London Ecology Unit** in 2003 followed their 1992 publication "Nature Conservation in Kingston on Thames"

MONITORING

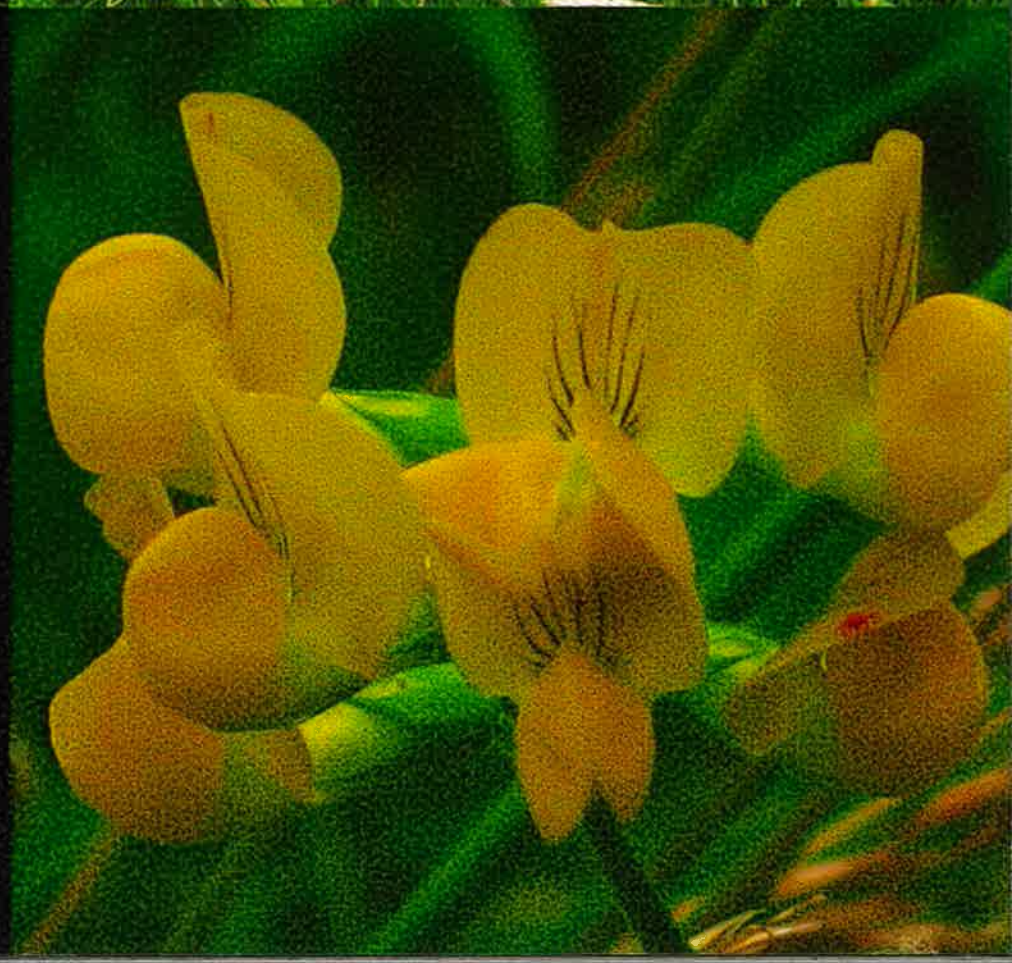
MEADOW VETCHLING

This has thrived, all over the surveyed area, clambering over the tall grasses, stealing the light from other plants. In many places it is winning the battle, but in others the dense mat of grass has already won, blocking the light of the sun, cutting off its food supply and its fuel.

It is one of the food-plants of our two species of day-flying Burnet Moths.

This moth is probably a **Narrow-Bordered Five-spot Burnet**.

Meadow Vetchling needs tall grass to climb. This may be best achieved on graves maintained as an island site surrounded by path, conserving valuable grave-edge sites to make rich habitats for shorter plants.



No trace was found of this purple **Tufted Vetch** until 2014, although it was recorded in one quadrat sampled in the 2003 Survey. Possibly its pods didn't ripen and burst till <u>after</u> they had been carted with cut grass to the Great Heap.

Tufted Vetch seeds sown on a different site might have survived. **Graves each provide a unique eco-system**. Like raised and sunken beds by gardeners, these suit different plant communities.

Probably why **Common Vetch** (below) thrives in the churchyard is that its black pods explode before being cut and removed.

Compared with cut flowers that quickly die, thriving wild flower communities conserved among graves could be a beautiful way to honour the living memory of saints we love and others - forgotten.

What else is special about our ten square metres of **Conservation Space**?

When **Common Blue** butterflies first re-appeared in the churchyard in 2014, it was in this space they chose to sun themselves, to roost at night and to lay their eggs.

It was on this **Bird's-foot Trefoil** conserved very successfully here till 2016, they chose to feed several generations of caterpillars.

A trefoil leaf with a butterfly egg attached. - This green trinity is hosting another new universe.

Bird's-foot seed pods show how for millennia the Sower catapulted the seeds.

Insects choose the **Conservation Space** because its temperature is a few degrees higher than most of the churchyard. - It is less shaded by surrounding trees. Under short grass the earth bakes and holds its heat. Warmth is all-important for cold-blooded butterflies.

Butterflies and Moths are a visible, well-documented **litmus test of bio-diversity**. A wide range of these flying miracles indicates a flourishing, rich eco-system. The early stages of many of these Blues, for example, are also intimately linked with the life of ants and with ants' nests.

No Common Blue has appeared by September 2016 from our colony. Is this climate change, is it insecticides, is it this year's heavy rain, or was it the date the Trefoil was cut - perhaps with caterpillars still on it?

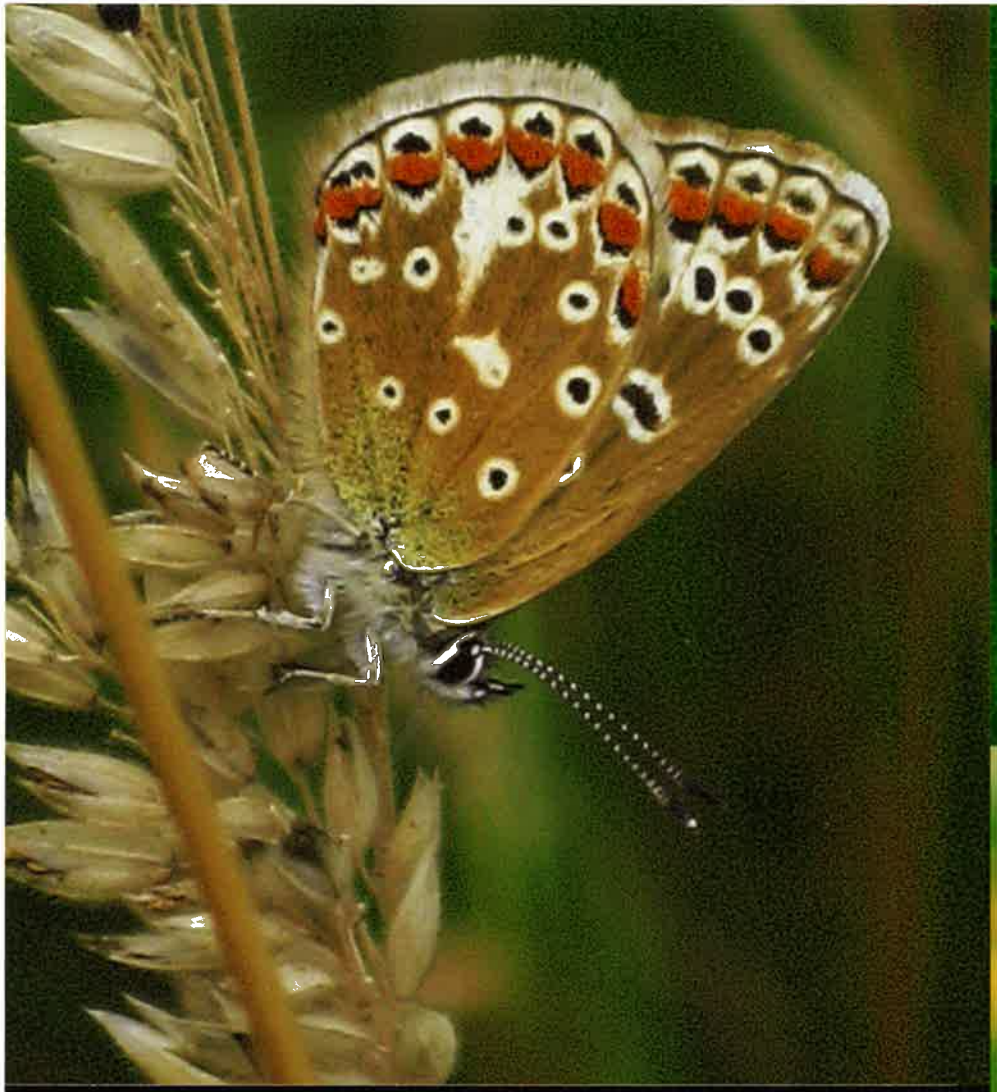
2016 started wet and cold. No Blues had been seen in the Conservation Space at all. On June 7th this severely battle-scarred, iridescent green member of the Blue family arrived. - She unhesitatingly located the same conservation hot-spot.

She's a Green Hairstreak, the last visitor you expect in Worcester Park. In ten years, their numbers have declined 34%, nationally.

She fluttered from one leaf to another, testing each for nutritional value, checking temperature. You could tell she was choosing the best place to start a family.

She then very graciously posed to be **recorded, laying an egg** between the youngest Bird's-foot Trefoil leaves.

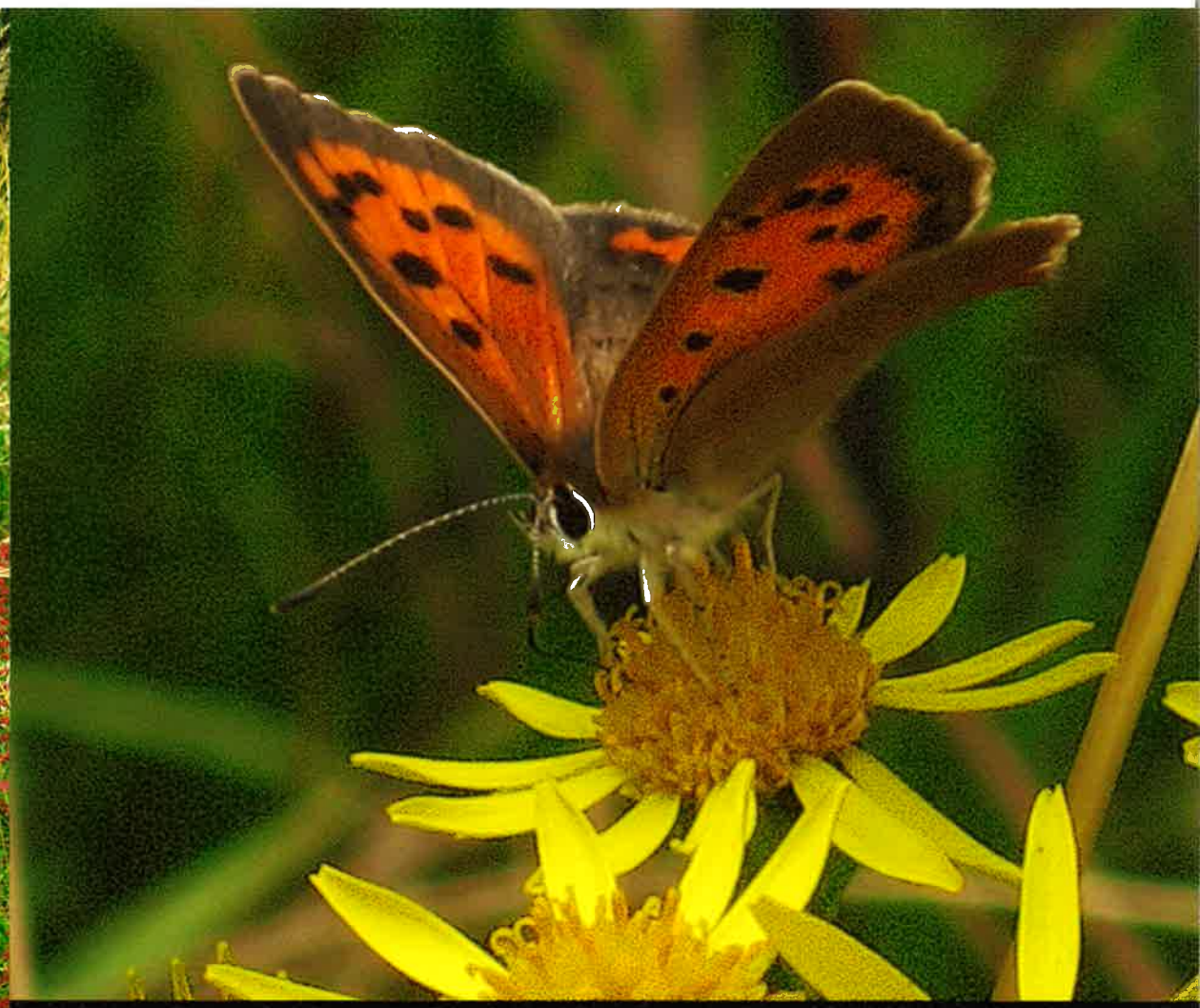
Her egg contains all the digital information of her flight controls; how and where to grow wings; how to make a thousand scales on each wing, each scale engraved with a measured lattice of squares, spaced to reflect iridescent green light. On the Blues, particular lattice patterns create iridescent blue. Other lattices colour the copper, purple and metallic butterflies. How can we let the earth lose such treasure; leave generations unaware it exists?



The underside pattern of these **Brown Argus** butterflies shows they also are cousins to the Blues.

These two tiny, aggressive creatures patrolled the Conservation Space for a fortnight in June 2015. They basked in prominent places on favourite grass stems. They launched themselves at every flying object that passed. Marks on the wings of the male, on the right, probably show that a bird snapped its beak at him - and he got away.

This *Geranium sanguineum*, is conserved on two graves in the churchyard. Wild geraniums like Dove's-foot Cranesbill usually chosen as food-plant by Arguses have largely been choked out by strong grasses. So this Geranium, popular in rock gardens - named '**Bloody Cranesbill**' for its crimson petals and blood-red leaves on dry soil - may be their only alternative.



This **Small Copper** butterfly is on the **Ragwort** flowers again.
As a caterpillar he probably started on red **Dock leaves** (left) or on Sorrel near to the Conservation Space. His bar-code of freckles gives him away. Iridescent orange Coppers are another branch of that Blue fraternity.

Ragwort is our most conscientiously conserved nectar source in the churchyard. Large doses of ragwort in hay are said to be toxic to livestock. But the charity, Plantlife, reports it is home and a food-source for 107 sorts of insect.

Maybe if clumps of Ragwort grew with Docks, vetches could climb both . . .

This immaculate **Painted Lady** jetted into our churchyard hotspot on June 4th 2014, not interested at all in our **Spear Thistles** splendidly conserved for years here for her spiny web-spinning caterpillars to enjoy. Her priorities were a drink - and a husband.

Just migrated in from North Africa with the rest of her set? Or is she so immaculate that such a cross-continental marathon is out of the question?

Is she the signal that global warming now allows her sort to survive a winter in Surrey?

That same July, this damaged, veteran **Marbled White** butterfly tottered into the Conservation Space for respite care and warm shelter. These refined members of the Brown family rarely travel far from chalkland. This one dropped in for a rest, a short sip and a warm-up.
Not a long-stay guest. Typical male then?

Or did our grass taste and smell so unpleasantly of clay rather than chalk, that she knows the diet won't suit her offspring?

Behind her gentle eye, is there a soul, or a vast, knowing, digital memory? or both?

Lady's Bedstraw is conserved round two particular graves near the recent extension. It often indicates chalk in the soil. Was lime perhaps left there after work on the Victorian extension?

A raft of distinctive species is found on chalk. So, for years, a hopeful eye was kept on the bedstraw. In May 2015, a Hawkmoth appeared, hovering at dusk, taking scented nectar from the yellow flowers - another migrant from the south.

She must have laid at least one egg, because in June this **Humming-bird Hawkmoth caterpillar** was found devouring bedstraw. It was saved from the mower - in captivity.

When the caterpillar shed its last skin, the **chrysalis** of our Hawkmoth, was surprisingly streamlined and transparent. In a week or two, it was ready to hatch.

Dark wings could be seen through its wing-cases.

In recovery mode, an hour after birth and before being released over the bedstraw, the moth was very still. Pictures were possible. Day-flying Hawkmoths usually flash by too fast for an amateur's camera. They hover for seconds in front of one flower, then dodge to another.

In its time-capsule, that tubular green munching machine had also developed a long black tongue visible between its wings. With that it probes into flowers, taking nectar from each, fast as a finger plucking guitar strings.

A few hours after 'birth', that drab moth can navigate at 60mph. It can do aerobatics to get nectar, it hovers, flies sideways, even reverses.

Was all this a built-in capability within Creation - in the Big Bang - from the Beginning, with the earth, the clouds and the beauty of the sunset?

Thankyou Wikipedia (AS) for the photo below.

False Oat Grass - its long wiry stems sowing wild oats over another 3 metre diameter circle every year.

Cock's Foot grass points fat-bunches of flowers in all directions - where the wind will blow its seeds.

Our churchyard is a
UNIQUE
BIO-DIVERSE HABITAT
As stewards of it,
conserving our wildflower
meadow is our heritage
and our calling. It is seen by
everyone who passes. Its beauty
and the abundance of the
life it contains could
inspire them and
generations
of visitors,

expressing the glory
of the Creator.

Sadly,
it is primarily these
STRONG GRASSES,
that we now conserve,
1000 square metres of them.
Grasses are driving out other
wildflowers and the creatures
that feed on them.

Lime-green Wood Brome chokes forest vegetation so totally, Oregon State now exterminates it.

Cream flowered **Yorkshire Fog** totally suffocates with a velvet-soft blanket of silver-green thatch.

This forest of tall **False Oat Grass** and **Yorkshire Fog** in the north churchyard is seriously destructive. These handsome thugs are pushing out other plant species progressively.

A 98% proportion of strong grasses in this photo is the exact opposite of bio-diversity and good conservation. Any well-balanced meadow has many nectar-bearing flowers and many types of grass.

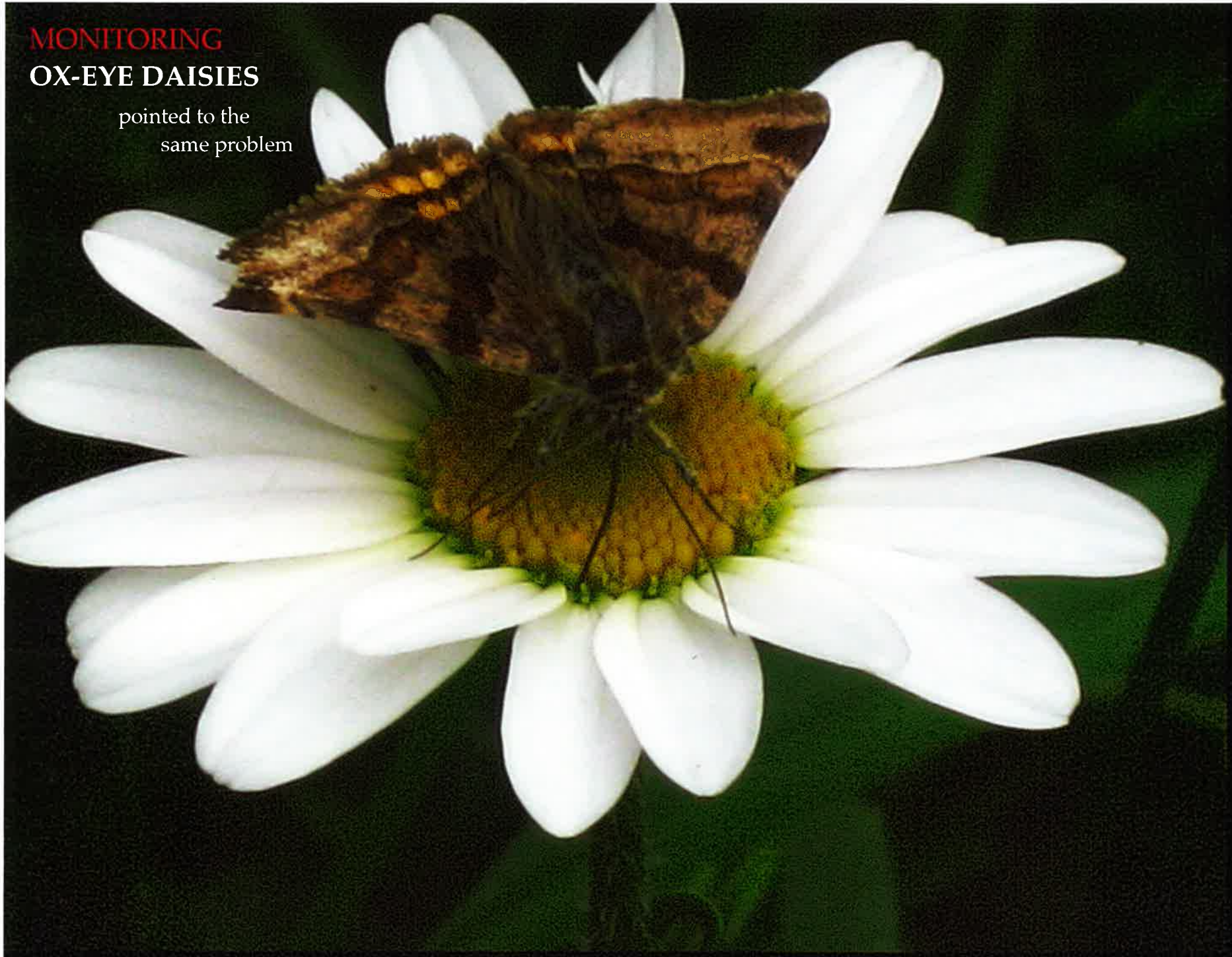
Since 2006, at least three of the less aggressive species of grass, Sweet Vernal Grass, Crested Dog's Tail and Timothy Grass can no longer be found.

False Oat Grass + **Yorkshire Fog grass** 98% - all other plants 2%. Biodiversity reduced every year.

MONITORING

OX-EYE DAISIES

pointed to the
same problem



Only this
one Ox-eye Daisy
was left in the north
churchyard to
photograph
in June
2016.

Those
sown in the
Conservation Space
to re-introduce the
daisies were cut -
when the paths were
cut - three times
before May 17th.

Some growing
in the longer grass
were smothered by
the dense blanket of
wet thatch after
the prolonged
spring rain.

This surviving Daisy provided a drink for a day-flying **Burnet Companion Moth**.

Before the 2006 Report, Ox-eye Daisies had been the **crown of our wildflower meadow**. Soon after, in the north churchyard, they had **become extinct.**

Asked whether these had been wiped out by our choice of cutting regime, **Kingston Council's Manager of Green Spaces, Carbon Reduction and Sustainability, Marie-Claire Edwards,** emailed as follows:-

'Shame about the ox-eyes. Not only are they so beneficial for pollinating insects particularly bees, butterflies and hoverflies but are also very attractive from early to late summer. You are correct in your assumption that the **one cut would have been very detrimental** *to the daisy as it cannot compete with grasses.'*

Trying to re-introduce Ox-eye Daisies in 2014, one was planted in the Conservation Space.
In 2015, the 30 flowers in this photo had been produced by the seeds from the first one.

Wild Ox-eye Daisies conserved in a patch of lawn near the west door - 12 June 2014.

For decades
Ox-eye Daisies have
welcomed church visitors with
this display **at the west door.**

This beautiful example of
sustainable conservation,
needs to be matched in our
Conservation Space.

The London Ecology unit
'warmly endorsed' what St John's
was 'already doing' in 2003.
It is time to **rediscover what**
was being done so very
successfully then, and
enable Ox-eyes to flower,
as they used to, in the
north churchyard.

When the Ox-eyes recover,
many other wildflowers
should re-appear too.

Those same
Ox-eye Daisies by
the west door were
photographed **in bud**
on **29th April 2014,**
They were **already 10cm high.**
They could probably have been cut,
without destroying many
buds, about a month earlier.
So to follow the advice
from Kingston for the
Conservation Areas:-

an extra cut-and-clear
is proposed before March 31st
(before Ox-eye buds appear):

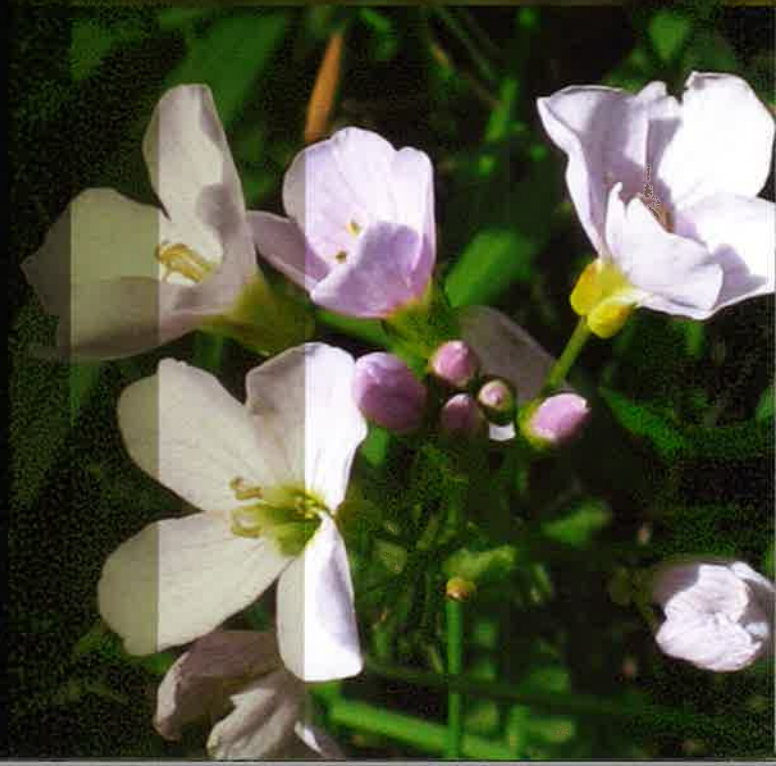
also that wildflower meadow should
not be cut again until the August cut
(after seeds have been dispersed).

In most years, 31st March
is before Good Friday. The whole
church is being made **ready for Easter**.
Clearing the churchyard for new life
could be a parable for what the
whole church is preparing
to share at Easter.

2017

OUR TEN HOPES
for conservation

- Two cuts in the north churchyard the first before March 31st
- 30 Ox-eye flowers again, in both the Conservation Space and in the north churchyard
- 10 Lady's Smocks flowering in the Conservation Space
- All 9 Orchids flowering and dispersing their ripe seeds
- All lost grass species refound, their seed resown for survival
- Tufted vetch seeds planted in extra sites, among tall plants
- Common Blue butterflies back breeding on Bird's Foot Trefoil
- Green Hairstreak, Small Copper and Brown Argus breeding here
- nectar-bearing flower species in every square metre
- Begin trials with Yellow Rattle to weaken the stronger grasses



Barbara Webb
69 Brockenhurst Avenue
Worcester Park
KT4 7RH
Tel: 020 8337 2485

9. 9. 06

Dear Kevin

Finally the information re managing part of the churchyard for nature conservation.

I have tried to keep the document as non-technical as possible and have concentrated on essential points - as I judge it.
You will see I have divided it into 3 sections. I thought this might be helpful.

Section 1 is likely to be particularly of interest to those with minimal conservation knowledge or interest and who are wondering why one would bother.

Section 2 is likely to be of interest to those involved in the practical management. I had Graham Burley in mind.

Section 3 is likely to be of interest to those concerned with identifying and recording the species. Chris Beales in mind, and I have given him a copy of the document.

2 copies of Nature Conservation in Kingston upon Thames for your use. I have also given a copy to Chris Beales.

Now is a good time to be considering all this, ready for next season.

Hope you have success in getting it off the ground. Let me know if I can be of more help.

All good wishes,

Barbara.

St John the Baptist Church Old Malden
Suggestions for Managing Part of the Churchyard for Nature Conservation

Compiled by Barbara Webb at request of Rev. Kevin Scott.
September 2006

Material in italics are quotes adapted from Church and Conservation Project publications unless otherwise attributed.

This paper is divided into three sections and an appendix.

Section A - General Principles
Section B - Achieving Sensitive Management
Section C - Knowing the Species Present
Appendix - Ecological Survey May 2003

Section A - General Principles

1. Churchyards by their nature contain a wide variety of habitats and potentially have high biodiversity (variety of wildlife).

2. The older the churchyard, as is the case with St Johns, the higher the biodiversity is likely to be, with potentially significant populations of plants, including grasses and lichens,
butterflies and other invertebrates,
birds
bats.

3. *Churchyards should be a fit setting for the church, places for quiet reflection and havens for wildlife.*

4. Comment, which I have heard many times, "Nature conservation means leaving the grass to grow which will make the churchyard look neglected, untidy and a mess".

5. Response. It is true the churchyard will not look manicured but neither need it look neglected, untidy and a mess.
A churchyard managed with sympathy for wildlife can be equally tidy and often more attractive to people as well as to plants and animals. It also entails less labour, reducing in particular the burden of mowing.

6. It is essential to help members of the congregation and visitors understand the management regime. Some suitably sited information board which can be easily updated would be helpful.

7. *If we care for these places of rest and spiritual refreshment, we will show both respect for death and reverence for life in all its forms.*

B Achieving Sensitive Management

Below are quotations from a report on the new management plan for nature conservation at Stroud municipal cemetery.

The longer-term habitat management plan is turning out to be not much more than codifying what we are already doing. **I would wholeheartedly endorse this as far as St Johns is concerned.**

The primary purpose of the site must never be forgotten. Everything we do should reflect our responsibilities as custodians of the mortal remains of local residents.

MOWING is the major consideration, and is very much a matter of **where and when**.
I have heard many heated discussions between conservationists of which option to choose depending on which species they wished to encourage!

The following points may be useful to bear in mind when arriving at a management plan.

1) **Decide where the access paths are to be and how wide.** If possible keep them regularly cut so that they look "manicured". This more than anything sends out the message "this churchyard is cared for" and people do not perceive it as "looking a mess".

2) **Mowing at different times encourages different species.**
See page 2a which has helpful diagrams.
I am not sure which of the mowing regimes shown illustrates the current practice at St Johns.
It might even be possible to adopt a different regime on the areas either side of the cross hedge.

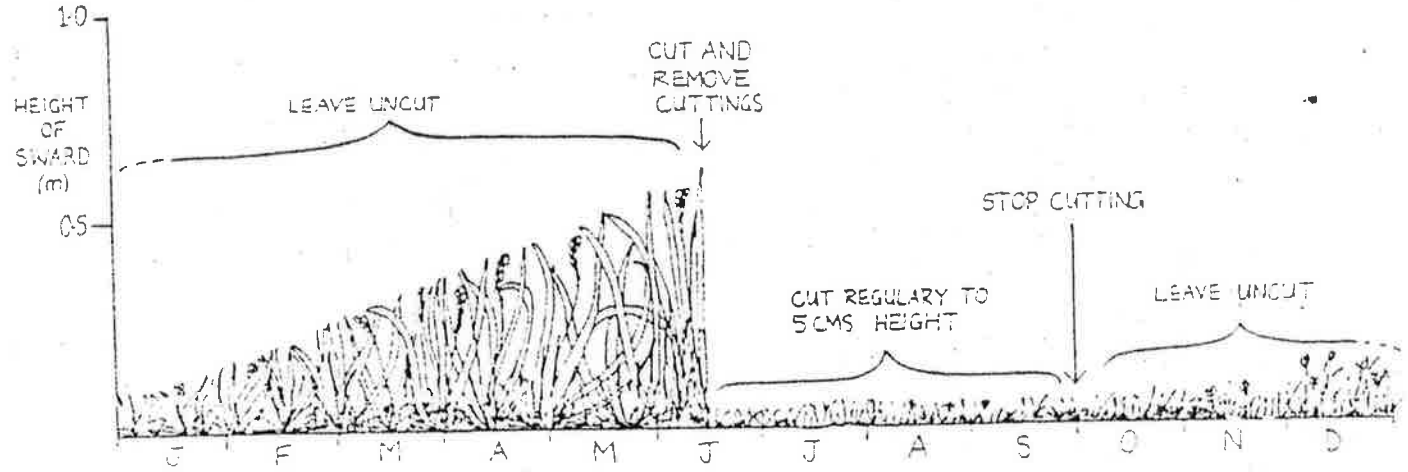
3) **Removing the cut material is essential.** It is good that this is done at St John's.
If cut material is not raked up and removed it will compost down on site and increase soil fertility. This in turn will encourage the growth of coarse grasses, all too frequent at the moment at St Johns, especially False Oat-Grass (*Arrenatherum elatius*). These strong growing grasses shade out less robust species thus reducing the biodiversity.
Therefore removing the cut material helps to increase the biodiversity.

4) **Allow longer growth about 2 to 3 feet either side at the bottom of the hedge.**
This provides an additional habitat and increases the wildlife value of the hedge.

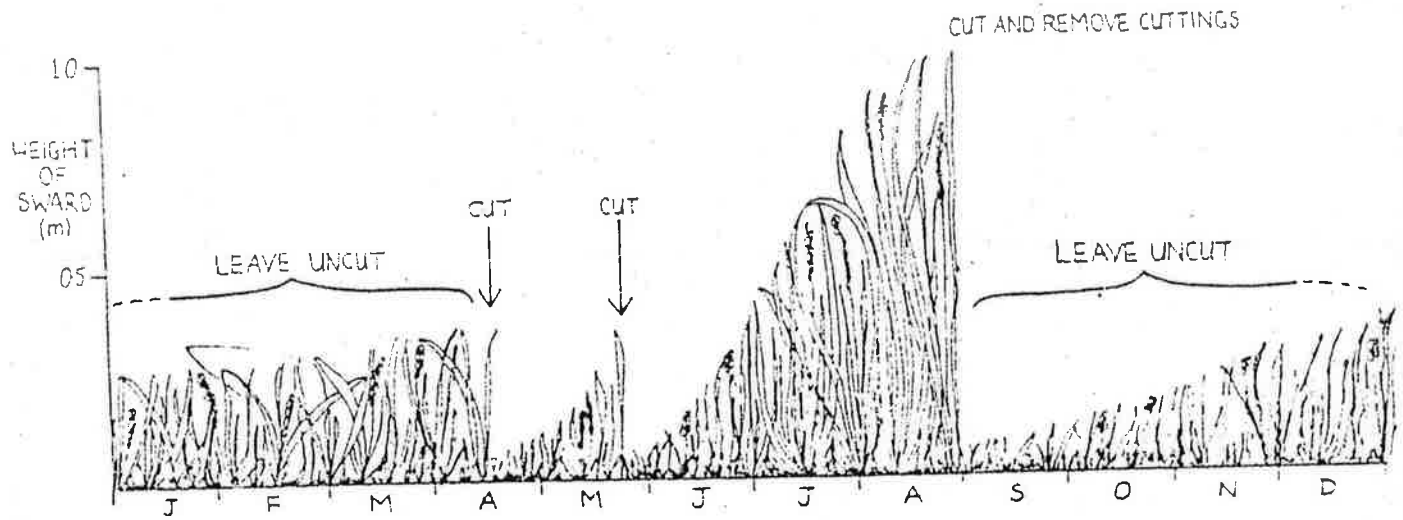
5) **Pruning trees and shrubs.** The churchyard is in a conservation area so pruning work to any sizeable trees can only be undertaken with planning permission. Pruning work to shrubs should aim to keep the churchyard open aspect but be kept to a minimum along the boundaries, to encourage good cover for birds.

6) **Identify any "sensitive spots"** i.e. places where any unusual species have been found and where special management is needed.. Agree a method of marking these places so they are recognised and can be protected.Ensure anyone carrying out management procedures is aware of the situation. With global warming unusual species are being found increasingly often.

MOWING/HAY-CUTTING SPRING FLOWERING MEADOWS Régime 1



MOWING/HAY-CUTTING SUMMER FLOWERING MEADOWS Régime 2



CUTTING COMBINATION MEADOWS Régime 3

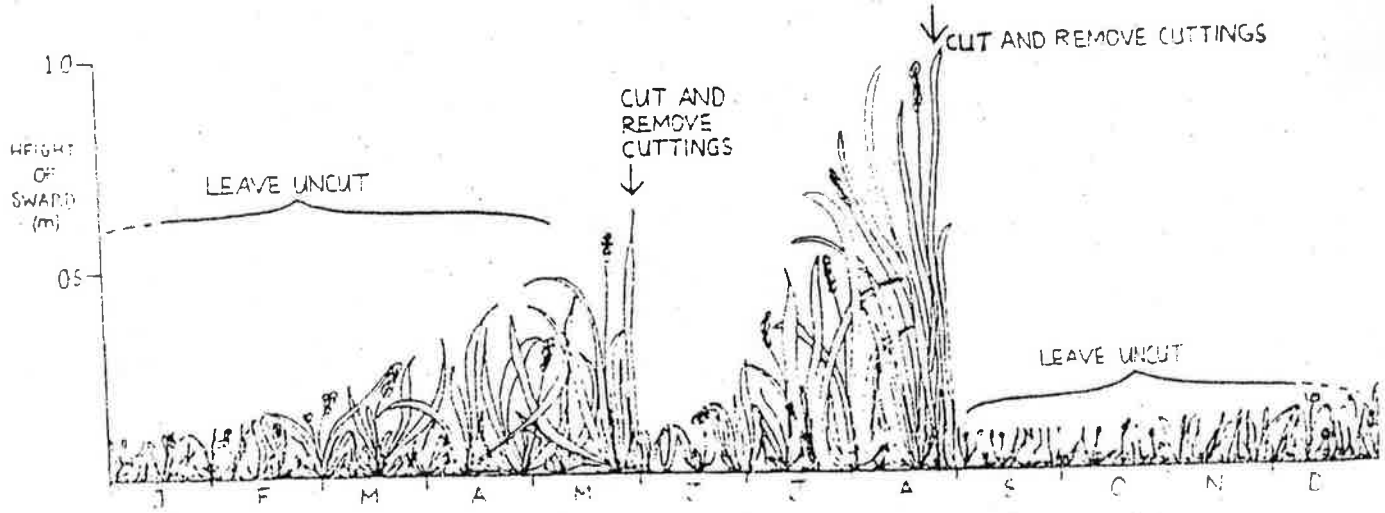


DIAGRAM SUPPLIED BY SANDWELL METROPOLITAN BOROUGH COUNCIL
LEISURE SERVICES DEPARTMENT - 1994

Section C - Knowing which Species are Present

1. **The area** of the churchyard managed with nature conservation in mind is to the north of the church. This area is divided into two parts by a cross hedge. The part of the area north of the hedge is the more recent. I do not know when it became part of the graveyard.

2. **The soil type is London clay.**
   The vegetation type is neutral meadow. This is indicated by the presence of certain marker species. These species are indicated by * in the species list in the appendix.

3. **An ecological survey** of the part of the churchyard managed for nature conservation was carried out in May 2003. (For details see appendix.) A precise random sampling technique was used involving six set transect lines.
   Along each transect line five equidistantly spaced half meter squares were studied, recording the names of the species present and their amount using a recognised scale.
   This investigation has provided information not only as to which species were present in the sampled areas, but also some idea of their frequency and spatial distribution within the churchyard. Some recorders also listed the names of additional species "near" the transect lines.
   The list of plant species, some 75 in all, should not be regarded as complete. Surveying more widely and at other times of the year will almost certainly identify other species.

4. **On-going species recording** depends very much on the expertise and enthusiasm of volunteers. Flowering plant species recorded as present and which could usefully be monitored to record changes in number and distribution are:-
   Meadowsweet (*Filipendula ulmaria*)
   Ox-Eye Daisy (*Leucanthemum vulgare*)
   Meadow Vetchling (*Lathyrus pratensis*)

There are very few records of other groups of wildlife.

Appendix

Old Malden Churchyard Ecological Survey May 26th 2003 Transect Data

Area surveyed. Main part of graveyard to north of Church.

Method. 6 transect lines were used running west to east across the graveyard. They were placed equidistant, 3 between Church and cross hedge and 3 between cross hedge and boundary. Hedge line therefore between transects 3 and 4.
0.5 m.sq. quadrats were used to sample the plant species using the Domin scale to measure cover.
5 quadrat positions along each transect line 8 m. apart running west to east.

Table of results. In the table below the figures give the Domin cover scale. For details of scale see page Appendix III
X = species recorded as present near the transect line but not in a quadrat
P = species present in the quadrat but not possible to scale cover. This occurred when there were dense mixed grasses, listed below as "grasses various".

* = species indicative of neutral meadow

Latin name	English name	Transect 1					Transect 2					Transect 3					Transect 4					Transect 5					Transect 6				
	Quadrats	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32
Acer pseudoplatanus	Sycamore				1											5					2								5		
Agrostis capillaris	Common Bent										3									8	7			1					6	1	
Agrostis stolonifera	Creeping Bent																		3				1								5
Alopecurus pratensis	Meadow Foxtail							1					1		P			4	1		2								3	3	
Anthoxanthum odoratumn	Sweet Vernal-grass																										8				
Anthriscus sylvestris	Cow Parsley																					1									
Arrenatherum elatius	False Oat-grass		5		6	6		8	7	3	3				P						2	4	4	8		5			4		1
Bellis perennis	Daisy													X											6						
Brachypodium sylvaticum	False Brome	1												X																	
Bromus sterilis	Barren Brome									1				X																	
Buxus sp.	Box															X															
Calystegia s. sepium	Hedge Bindweed			2												X															
Carex divisula	Grey Sedge													X																	
Carex spicata (?)	Spiked Sedge																							1							
Cerastium sp.	Snow on the Mountain															X															
Crataegus monogyna	Hawthorn															X															
Chamycyparis sp.																X															
Convolvulus arvensis	Bindweed																	1													
Cupressus sp.																X															
Dactylis glomerata	Cock's-foot			2				6	1						P	P					3										1
Elymus repens	Couch-grass							2					1		P				X										5		

Latin name	English name	Transect 1					Transect 2					Transect 3					Transect 4					Transect 5					Transect 6				
	Quadrats	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32
Euphorbia sp.	Spurge															X															
Festuca ovina	Sheep's Fescue			5																											
Festuca rubra	Red Fescue									1																					
Filipendula ulmaria	Meadowsweet *									X																					
Fraxinus excelsior	Ash															X															
Galium aparine	Cleavers	1																		2											
Galium verum	Lady's Bedstraw *					X																									
Geranium robertianum	Herb-Robert	2															X														
Geum urbanum	Wood Avens					1										1					4	4		1			8				1
Grasses various														6	10	9									5			10			
Hedera helix	Ivy						10							X		X	8					1					1				
Heracleum sphondylium	Hogweed			2													X				2					1	1				1
Holcus lanatus	Yorkshire-fog		2	5	1	3			4		4		10					6	8	4	3		3	5		9			5	4	6
Hordeum secalinum	Meadow Barley					1				1																					
Hyacinthoides hispanica	Garden Bluebell																					1									
Ilex aquifolium	Holly															X															
Juniperus sp.	Juniper															X															
Lapsana communis	Nipplewort													X																	
Lathyrus pratensis	Meadow Vetchling *							2		8				X														4			
Leontodon hispidus	Rough Hawkbit *															X															
Leucanthemum vulgare	Ox-eye Daisy *			2	1					X																					
Lolium perenne	Perennial Rye-grass					1				2																				5	
Lotus corniculatus	Birdsfoot-trefoil *				2																										
Moss sp.																P															
Muscari sp.	Grape Hyacinth													X																	
Plantago lanceolata	Ribwort Plantain										3			X																	
Poa annua	Annual Meadow-grass											8																		5	
Poa trivialis	Rough Meadow-grass	5						2						X							1										
Potentilla reptans	Creeping Cinquefoil*				3	4				X	3			7										2		1		6	X		
Prunella vulgaris	Self-heal *																			1											
Quercus ilex	Holm Oak															X															
Quercus robur	Pedunculate Oak													X		X								1							
Ranunculus repens	Creeping Buttercup					2								X																	
Rhytididelphus squarrosus	Drooping-leaved Feather Moss								3																						
Rosa sp.	Rose													X																	
Rubus fruticosus agg.	Bramble	1					1	2	1				1			X	2												X		
Rumex acetosa	Sorrel							1	1																						

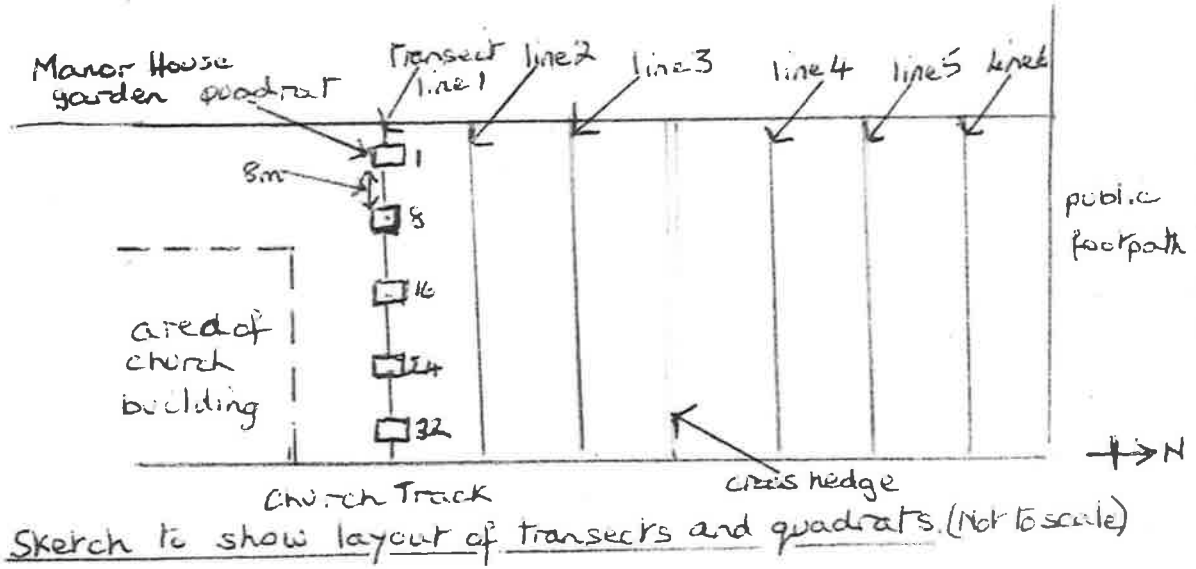
Appendix II

Latin name	English Name	Transect 1					Transect 2					Transect 3					Transect 4					Transect 5					Transect 6				
	Quadrats	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32	1	8	16	24	32
Rumex crispus	Curled Dock	1						2			1			X				2			1	2									
Sedum album	Stonecrop																														X
Senecio jacobaea	Common Ragwort				1	1			2																						
Speedwell sp.	Speedwell																														
Syringa sp.	Lilac															X															
Taraxacum species	Dandelion sp.	1				3						1																			
Trifolium dubium	Lesser Yellow Trefoil																								9						
Trifolium pratense	Red Clover *													6										1							
Trifolium repens	White Clover *																			6										8	1
Ulmus procera	English Elm															X															
Urtica dioica	Stinging Nettle		4					2						X			X		1												
Veronica chamaedrys	Germander Speedwell *									2										3	3										
Veronica sp.	Speedwell													1		2															
Vicia cracca	Tufted Vetch *																									5					
Vicia hirsuta	Hairy Tare *								3		2								2												
Vicia sativa	Common Vetch *			1							3										1										1
Viola riviniana	Common Violet																				1										
Viola (sp.)	Violet																					2									

Domin Scale.

Non-linear scale indicating percentage cover of a species. The values may add up to more than 100% if species are on top of one another.

Value in table	Percentage cover	
10	91 - 100	over 90%
9	75 - 90	over 75%
8	51 - 74	over 50%
7	34 - 50	over 33%
6	26 - 33	over 25%
5	11 - 25	over 10%
4	4 - 10	over 5%
3	< 4 with many individuals	
2	< 4 with severaindividuals	
1	< 4 with few individuals	



Sketch to show layout of transects and quadrats. (Not to scale)

Appendix III