

**Survey of wildlife habitats (May 2015)**  
**St Ishmaels Church, St Ismaels, Pembrokeshire.**  
**(GR SN831067)**



**Surveyed by Mrs Alison Wheeler Bsc MSc**

**On behalf of client:**

**Caring for Gods Acre  
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## **Introduction**

Hugh Wheeldon & Co was commissioned by the charity Caring for Gods Acre to survey the wildlife habitats that occur in grounds of St Ishmaels Church near the village of St Ishmaels in South Pembrokeshire. The grounds surrounding the church were surveyed and the wildlife habitats described and mapped. Advice on the care of the church land to benefit nature conservation is offered.

The Church is located in a sheltered wooded valley on the south side of the St Marloes peninsula within the boundary of the Pembrokeshire Coast National Park and in an area well known for its nature conservation importance. The area is also important for tourism, mainly for people visiting the National Park for walking, enjoying the landscape and natural beauty of the coastline.

The church is comprised of a single building with a bell tower at the southern end. There is a small stream passing through the church grounds which flows into the sea just downstream. The church itself is nestled in a valley whose banks are mostly clothed in native woodland and is almost hidden from view. The church yard which extends over 0.45ha is bounded by old stone walls enclosing the graveyard, supports a diverse array of wildflowers that give a succession of colour in spring and early summer. The graves cover most of the bank above the church. There are a number of mature trees scattered across the west facing slope including conifer and native tree species. A small area of mown lawn is maintained around the church itself.

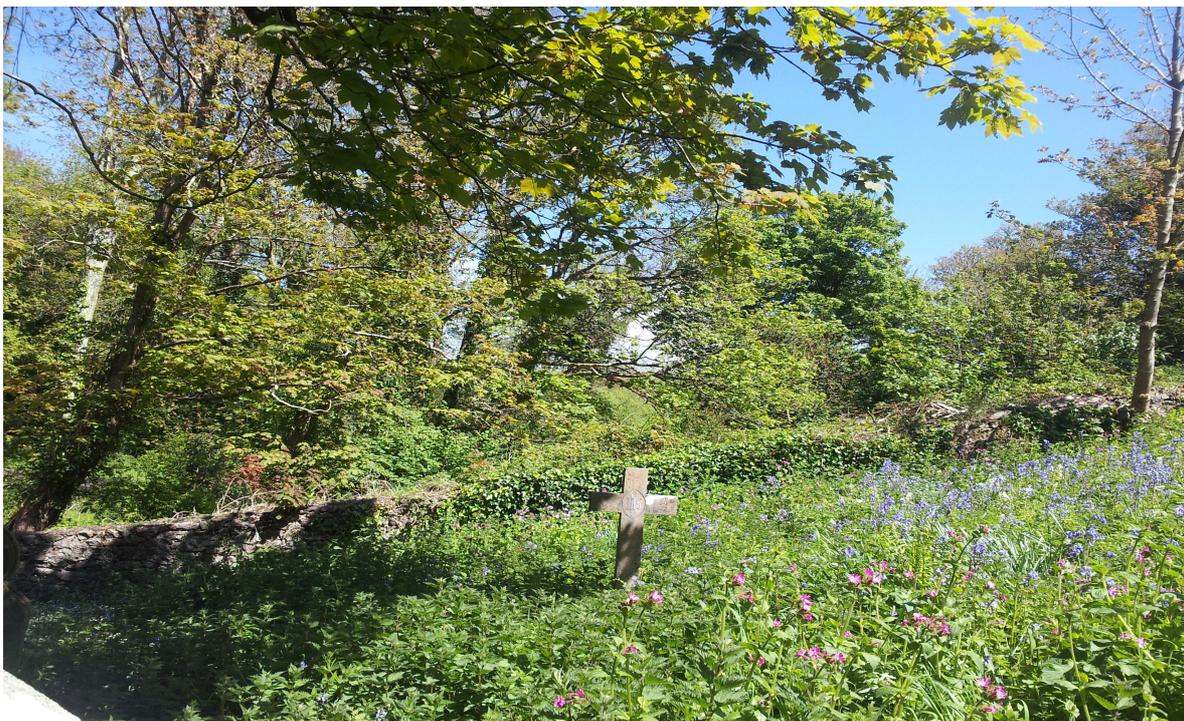
At the time of survey on 13<sup>th</sup> May 2015, the vegetation that covered the bank was uncut and a good display of early summer flowers could be enjoyed. The only mown areas were directly around the church and along paths across the bank to give access to the graveyard. A list of flowering plants was collected and the main habitat types mapped.

## **Description of wildlife habitats and recommendations for management**

### **Grasslands**

The northwest facing bank slopes steeply to the church. Graves cover most of the slope and a circular mown path provides access to most of these. The slope supports a colourful flower-rich grassland (area 1) with a succession of flowers providing interest throughout the spring and early summer. The current regime of management appeared to be a mid-late summer cut to allow flowering of plants over much of the site. The grassland immediately surrounding the church is mown on a regular basis.

The plant diversity across the site is likely to support an interesting insect and invertebrate fauna adding further to the biodiversity interest of the habitat. Numerous bumble bees and hoverflies were observed foraging. Wild honey bees swarming on the northern end of the church roof during the survey were also foraging in the grassland.



Spring flowering meadows

In early spring the principle interest is the display of spring vernal species including snowdrop *Galanthus nivalis*, daffodils *Narcissus spp*, primroses *Primula vulgaris* and bluebells *Hyacinthoides non-scripta*, all of which are fairly abundant, particularly along the north and south boundary walls. Ramsons *Allium ursinum* also occur along the base of the slope close to the stream and at one or two other locations on the slope.

A diverse assemblage of woodland plants feature in the grassland in early summer. Of

particular note is sweet woodruff *Galium odoratum* which occurs in only one area in the north west corner close to the wall where it forms a pretty white carpet. Pignut *Conopodium majus* was also observed on the slower part of the slope midway along the bank amongst the grasses although this was not very widespread being limited to just a small number of plants, probably limited by the larger leaved aggressive grasses and plants that dominate the main part of the slope.



Ramsons



Sweet woodruff

Other plants in flower in May included red campion *Silene dioica*, enchanters nightshade *Circea lutetiana*, wood avens *Geum urbanum*, wild arum *Arum maculatum*, herb robert *Geranium robertianum*, common violet *Viola riviniana*, germander speedwell *Veronica chamaedrys*, wood sorrel *Oxalis acetosella*, barren strawberry *Potentilla sterilis*, lady's smock *Cardamine pratensis*, ivy leaved toadflax *Cymbalaria muralis* and hedge woundwort *Stachys sylvatica*. All of these species were widespread across the slope and are mostly woodland plants as might be expected due to the valley setting within a wooded environment.

From mid summer, other plants in flower include meadow vetchling *Lathyrus pratensis*, greater birds foot trefoil *Lotus pedunculatus*, meadowsweet *Filipendula ulmaria*, foxglove *Digitalis purpurea*, thistle species *Cirsium spp*, common knapweed *Centaurea nigra*, hairy willowherb *Epilobium hirsutum* and *Phyllitis scolopendrium* and soft shield fern *Polystichum setiferum*, both species typically associated with a base-rich soil and found in areas supporting sycamore, ash and wych elm. Male fern *Dryopteris felix-mas* and broad buckler fern *D. dilatata* also occur but are less obvious.

Although the grassland supports a diverse flora with many nectar-rich plants, more aggressive species are beginning to dominate parts of the slope leading to localised reduced diversity in the sward (area 2).



plants indicative of nutrient enrichment increasing eg nettle

Stands of nettle *Urtica dioica*, hogweed *Heracleum sphondylium*, cleavers *Galium aparine* and false oat grass *Arrhenatherum elatius* are becoming extensive mid slope crowding out other plant smaller species recorded along the margins of the burial grounds, particularly spring flowering bulbs. Whilst these species provide some wildlife interest since they

provide nectar and support insects, they thrive where fertility increases due to the build up of dead cut material left in situ following annual cutting. These species will continue to spread across the slope and lead gradually to a decline in botanical diversity unless fertility can be reduced by removal of cut vegetation. Although aggressive weeds, some have some value as nectar-rich and larval foodplants.

Other problematic species that can become dominant at the expense of other native plants that are establishing themselves are winter heliotrope *Petasites fragrans* which occurs along the southern boundary (area 3) forming a large patch midslope. Bracken *Pteridium aquilinum* is also invading from the northern boundary into the grassland. Both are difficult to control without the use of herbicides and dedicated manual cutting would be required each year to prevent their spread.

### **Management advice**

- *The best management practice for species-rich grassland is grazing which maintains a sward with good structural diversity; approximately 70% of the grassland being between 5-20cm height with scattered clumps of grasses covering about 20% and a little bare ground and dead litter with less than 5% scattered scrub. However grazing is usually not feasible or desirable in churchyards and **annual cutting** of vegetation is the the most common practice. Regular cutting to maintain a short sward will reduce the conservation interest of the grassland by preventing flowering and regeneration of species and removing structural variety in the sward that would otherwise harbour a wealth of insect life and small mammals.*

*Unfortunately annual removal of vegetation also abruptly removes the habitat for invertebrates and small mammals and the species that feed on these, such as birds and bats. Cutting as late as possible to allow flowering and setting of seed of as wide a range of the plants present in the sward should be encouraged as best practice. There are a number of late flowering plants such as betony and field scabious which are in full flower in early August. It is recommended that a strip of uncut grassland is left each winter as a refuge for species and is cut the following year. This “**refuge strip**” can be moved around the site each year.*

- *The most important conservation practice is baling (if possible) and removing the cut vegetation from the grassland following cutting to avoid build up of fertility and loss of flowering species and to avoid smothering of other plants as they emerge the following year.*
- *Weed control of aggressive species such as nettle, creeping thistle, japanese knotweed, winter heliotrope etc is important to prevent their spread as early as possible. Use of herbicide is often necessary and spot treatment rather than use of a boom sprayer is vital to ensure treatment affects only the target species. Use of a non-drip weed wiper is advised using a selective approved herbicide. This was not however considered to be a issue at present as regular cutting has prevented species from becoming dominant.*
- *Continuation with the current regime of annual cutting of the vegetation across the*

*slope in mid to late summer is recommended. Late cutting is advisable as this gives the later flowering species a chance too flower and set seed. It also encourages a greater range of invertebrates. Regular cutting of the shorter sward grassland around the church is also beneficial since it provides feeding ground for thrushes as well as suitable habitat for waxcap fungi, a group often associated with short sward, old grassland with low fertility. An autumn survey would confirm whether the churchyard supports waxcaps.*

## **Individual trees and native woodland**

There are a number of mature trees scattered across the slope that provide historical and conservation interest as nesting sites for birds and nectar for insects. The conifer most often associated with churchyards, the yew tree is well represented. A short avenue of old yew trees grow alongside a path at the southern end. It appears that the yews on the north side of the path were felled in the past as space dictated. The dead stumps provide deadwood habitat for invertebrates and fungi. A single large ancient yew tree also occurs midslope.

There are a number of large mature conifer specimen trees including Norway spruce, Cedar and pine. Sycamore is widespread in the valley where woodland cover is extensive outside the church boundary and there are a line of mature sycamore trees growing along the eastern boundary wall. Some smaller specimens occur on the slope.

Where trees occur on the churchyard slope, the shade that these cast has helped to control the spread of rank grasses, allowing smaller plants to thrive, particularly woodland plants and flowering bulb species such as primrose, bluebell, wood avens and so on. The shade provided by widely scattered trees is therefore beneficial and adds to the habitat mosaic that can be seen across the site. Where there appears to be some gaps without gravestones in the central part of the slope where more aggressive, larger leaved grasses and plants dominate the grassland, planting two or three native fruit trees could be considered. These would provide forage for nesting birds and other wildlife. Suitable species are crab apple and damson.

A small stand of mature alder coppice (area 4) occurs alongside the stream just to the north of the church on waterlogged soil. The woodland is used to store compost waste beneath the shade of the trees. This remnant tract of wet woodland adds biodiversity interest as a semi-natural habitat. Yellow archangel, marsh figwort and opposite-leaved golden saxifrage were recorded here. Although outside the boundary of the churchyard, japanese knotweed is becoming established at the roadside margin of this woodland and every effort should be made to encourage the adjacent landowner to eradicate this aggressive species which could potentially spread into the church grounds.

### **Management advice**

- *Consider planting 2-3 small native fruit trees in the open areas without burial sites mid-slope where aggressive species dominate the sward and out-compete smaller*

*plants. This would help to create shade and encourage spread of a more diverse flora as well as provide fruit for wildlife.*

- *Maintain dead tree stumps for their wildlife interest – fungi, invertebrates.*

### **Stream**

A small stream flows through the churchyard which again adds aesthetic and conservation interest. The channel (approx 1-2m wide) is well vegetated with Hemlock water dropwort *Oenanthe croccata*, fools watercress *Apium nodiflorum* and wild angelica. Pendulous sedge *Carex pendula* is frequent along the bank with lady fern *Athyrium felix-femina*, wavy bittercress *Cardamine flexuosa* and some large but contained bushes of *Rhododendron ponticum*, a shrub that is often very invasive in woodlands and requiring control. Here the plants provide colour and cover for birds and if their current extent is maintained would not be considered to be a problem.



Stream next to church

### ***Management advice***

N/A

### **Built environment – walls and church buildings**

The church yard is surrounded by an old stone wall approximately 1m high, presumably of some antiquity. Much of the north and east boundary wall is mortared with lime and is uncapped and the wall has many gaps and holes for a variety of wildlife to find refuge.

Plants that are often associated with wall habitats such as wall pennywort *Umbilicus rupestris*, ivy leaved toadflax *Cymbalaria muralis*, harts tongue fern *Phyllitis scolopendrium*, primrose and soft shield fern *Polystichum setiferum* are frequent, particularly along the northern boundary wall. Plants have established themselves in the cracks and crevices between stones. Ivy *Hedera helix* is also present although this has been removed from part of the wall. Ivy should be retained over patches of the wall since it provides habitat and fruit for birds but should not be allowed to dominate the surfaces. Ivy currently covers about half of the wall surface along the northern boundary and is absent from the eastern boundary wall which is probably acceptable. 30-40% cover of ivy would be a good target.

Wildlife species such as common lizards and slow worms inhabit the gaps between stones and although not observed during the survey, may well be present. Walls are also used by nesting birds and small mammals such as woodmice and bank voles. They are also important for snails, a favoured food for thrushes. In order to encourage the wildlife value of these old walls which provide immense ecological value in their own right, it is advisable to maintain the walls free of tall ruderal vegetation growing up against their bases by clearing nettles, hogweed and so on to keep the faces relatively open and well-lit.



Traditional stone wall with gaps and crevices

Sycamore is a prolific seeder and can be problematic where it establishes into walls, sometimes causing damage and it is advisable to cut out any saplings that appear. There are two coppiced sycamores growing out of the wall on the northern boundary that may be best managed by re-coppicing every few years to prevent them from getting too top heavy. If a decision to cut and treat the stumps is taken in order to protect the wall, the deadwood that develops in the stump will be useful as a dead wood habitats for invertebrates and fungi and should be retained.

The wall along the south and west boundaries has been pointed and capped with cement and there is a stark difference between this where gaps are virtually absent and the traditional stone wall with numerous cracks and gaps for wildlife. Any future restoration work, particularly on the lime mortared walls should use traditional methods and lime, ensuring that crevices are retained in order to protect the wildlife importance of this feature and to protect the stone. These features are of historical and wildlife value. Cement can damage the stone.



Old stonewall capped and pointed with cement

There is little vegetation on the walls of the church whose stones are mainly pointed with lime. Black spleenwort *Asplenium adiantum-nigrum*, ivy leaved toadflax, harts tongue fern, maidenhair spleenwort *A. trichomanes* and wall pennywort all occur. Ferns are mainly restricted to shaded corners.



Harts tongue fern in a shady corner on the church wall

The church is highly likely to support bats as there are significant gaps beneath the soffit boards along the roof edge. This survey did not however include a specific survey of bats.

### *Management advice*

- *Periodic control of ivy growing on the traditional stone walls should maintain cover at about 30-40% as patches scattered across the face. This will ensure there are significant areas of wall that remain exposed and well-lit for establishment of calcicolous plant species. This will also encourage species such as lizards.*
- *Periodic coppicing of sycamore growing from the walls should prevent trees causing damage to the feature. Retain dead stumps where they occur.*
- *Clear rank, tall vegetation growing up at the base of the lime mortared walls to limit shading of the exposed wall faces. This need only target the limed walls. If resources are limited for this work, consider clearing two good-sized sections.*

### **Lichens and graveyards**

Lichens are usually associated with graveyards where they grow on the faces of the gravestones and are often very old since they can take many years to grow. Lichens normally indicate good air quality and there are many different species that require a specialist to identify.



Lichens on a gravestone

The lichen flora appears to be quite rich at St Ishmaels and may deserve further study. It is unlikely that these will be undisturbed by management.

### **Summary**

The grounds of St Ishmaels are rich in semi-natural habitats which include mature trees, patches of woodland, spring and early summer meadows, a vegetated stream and traditional stone walls with an array of habitat niches that support a wealth of wildlife. The current management of the grasslands creates a mosaic of grassland types, taller sward grassland which is cut annually and allowed to flower and set seed and shorter sward grassland that is regularly cut around the church attractive to birds such as thrushes and providing suitable habitat for waxcap fungi.

The church buildings often provide breeding and roosting sites for bats and birds such as swallows and swifts. These species feed over flower-rich meadows targeting insects that are abundant when grasslands allowed to flower. Careful management of the church grasslands can therefore increase availability of feeding habitat for wildlife in an agricultural setting where flower-rich meadows have declined in the wider countryside.

The current management regime at St Ishmaels encourages a diverse range of habitats and the species that depend on them. This report suggests further refinement to this that will help to ensure that the nature conservation interest of this idyllic location continues to be cared for in the future.

### **References**

Caring for Gods Acre: A key to unlock the treasures of churchyards and burial sites.

Managing grassland for waxcaps : lawns, cemeteries and parks. Guidance for owners and land managers. Pems Fungus Recording Network.