

Ramsey Churchyard

Ivy removal trials 17-19 March 2008

Introduction

Following initial discussions in January 2008 a team of 4 from English Heritage/University of Oxford (Amanda White & Alan Cathersides of EH and Dr. Heather Viles and Troy Sternberg from OUCE Oxford) carried out full removal of ivy from 3 gravestones and partial removal (for demonstration purposes) from 1 gravestone. The initial results and lessons learnt from this exercise were communicated verbally to David Kenny (English Heritage H.E.F.A.) and local representatives of the Town and Ramsey Rotary Club. This report is a record of those initial findings.

Existing Situation

Ramsey churchyard contains a remarkable, probably unique, number of gravestones completely encased in ivy growth. Both individual stones and in some cases whole rows of stones are encased, often with neighbouring stones fully exposed.

The team classified the ivy covered stones into 4 classes;

- **Juvenile** - stones with young growth/s of ivy growing up one or both sides, but where the individual ivy stems are very clear and a large proportion of the gravestone is visible.
- **Shroud** – stones which are completely covered with ivy, with very little, if any, stone showing on either side and ivy growths cascading down from the top increasing the thickness of the cover, but no flowering/arboreal growth present.
- **Shrub** – stones as above, but where the woody flowering stems of ivy have been produced over the whole structure, from ground level up to and above the top of the stone.
- **Shrub & Shroud** – similar to ‘shroud’ but where the woody flowering stems have been produced at the top of the stone only, not all the way down to the ground.

Ivy was removed completely from one example each of ‘Shrub’, ‘Shroud’ and ‘Shrub & Shroud’ types.

Typical examples of these stones are shown in photographs 1-4 below;



Photograph 1: **Juvenile**



Photograph 2: **Shroud**



Photograph 3: **Shrub**



Photograph 4: **Shrub & Shroud**

The Work

The work was carried out using hand tools only – secateurs, loppers and hand saws. These tools were found to be entirely sufficient for the removal of all ivy tackled and greatly reduced the risk of damage to the gravestones beneath.

In each case work began at the outer extremities of the ivy growth and shoots were cut and removed in easily handled lengths. Care was taken to remove only freely cascading growth first and where they were entangled with other stems to cut them free before removal to avoid pulling to sharply on any stems and risking pulling the gravestone over.

The growth was gradually removed back until the framework of main stems affixed to the gravestone were fully exposed. Removal of material from the tops of stones

needs particularly careful attention for two reasons; firstly the tops were all heavily covered with numerous overlapping stems and care needs to be taken to ensure saws do not cut into the gravestone. Secondly, the tops of stones may be of different forms, with stepped details, carved swirls and possibly ornate finials or similar and great care needs to be taken to prevent damage to these when pulling stems off (see photographs 5 & 6 below). The simplest way to tackle these was to remove stem sections individually rather than trying to peel off great chunks.



Photographs 5 & 6 : care needs to be exercised at the top of stones to protect detailing

Once the top has been cleared the stems running down the sides can be cut and in all cases the rest of the framework proved surprisingly easily to simple peel away from the face of the gravestone (see Photographs 7 & 8 below).



Photographs 7 & 8 : Older stems proved remarkably easy to peel away once the outer growth had been removed

When this is done the main stump and roots can often be either completely pulled up, or pulled up sufficiently to cut the main roots some way along their length. If this is achieved further growth should be prevented because ivy does not regenerate from roots. Where the ivy cannot be removed with the majority of its roots, either because the ground disturbance would be too great or the stump is inaccessible – for instance wedged between the main gravestone and the smaller ‘footstone’ (see photograph 9) – which seems to be a frequent occurrence – the main stem should be cut as low as possible and the remaining stump treated with an appropriate chemical to prevent regrowth (e.g. Triclopyr) or any subsequent regrowth removed before it can properly establish.



Photograph 9 : many stems become established between the main gravestone and adjacent ‘footstone’

Interestingly, juvenile stems were found to be much harder to remove than the much older stems. When dealing with these stems it is probably best to remove the basal section (and root) and leave the remainder to completely die, after which removal will be easier (see photographs 10 & 11 below). This method will work well for gravestones, where there is no possibility of the stems rooting into the structure, but should be used with great caution if dealing with walls or monuments where rooting into the structure is possible.



Photograph; 10 & 11 : Completely dead young stems of ivy can be removed easily

All stems which have touched the ground and layered (rooted in) should be removed completely as even quite small pieces left can re-shoot. This will be particularly important when clearing rows of stones which have effectively become ivy 'hedges' as many of the low stems between gravestones will be layered.

Prepare for a large amount of waste – each of the gravestones cleared produced over 6 large sacks of arisings (see photo 12).



Photograph 12: The arisings from one gravestone cleared of ivy

Although the work was carried out relatively slowly to ensure no damage, to allow ivy removed to be weighed and to allow frequent photographs to be taken, it was estimated that two people working carefully could remove the ivy from a heavily covered, large gravestone in 45 to 60 minutes.

Points to note

It is quite clear that nesting birds do use the heavily ivy covered stones, so removal during the nesting period (Mar – July) should be avoided if possible, or gravestones checked to ensure no nesting birds if work is undertaken during this period (Under the Wildlife and Countryside Act 1981 it is an offence to ‘take, damage or destroy the nest of any wild bird while that nest is in use’).

It might be advisable to avoid uncovering gravestones during the cold winter months, as the sudden exposure to the elements might be more damaging than being uncovered during summer and being allowed to acclimatize more gradually.

A phased approach to removing the ivy cover over several years might be advisable to allow for monitoring the condition of those exposed. It would also be more beneficial for any wildlife interest than sudden complete removal.

Once exposed gravestones it would be advisable for gravestones to be photographed front and back for future monitoring purposes. Additionally the inscriptions should be recorded if this has not been done previously.

Uncovering already damaged stones (see photographs 13 & 14) might result in increased damage through their exposure to the elements. The Churchyard Authorities are strongly advised to plan for the uncovering of damaged stones and to make the necessary financial provision to cover the costs of any essential repairs.



Photograph 13 & 14 : Exposure of pre-existing defects might open the gravestones up to further damage by the elements

Future management

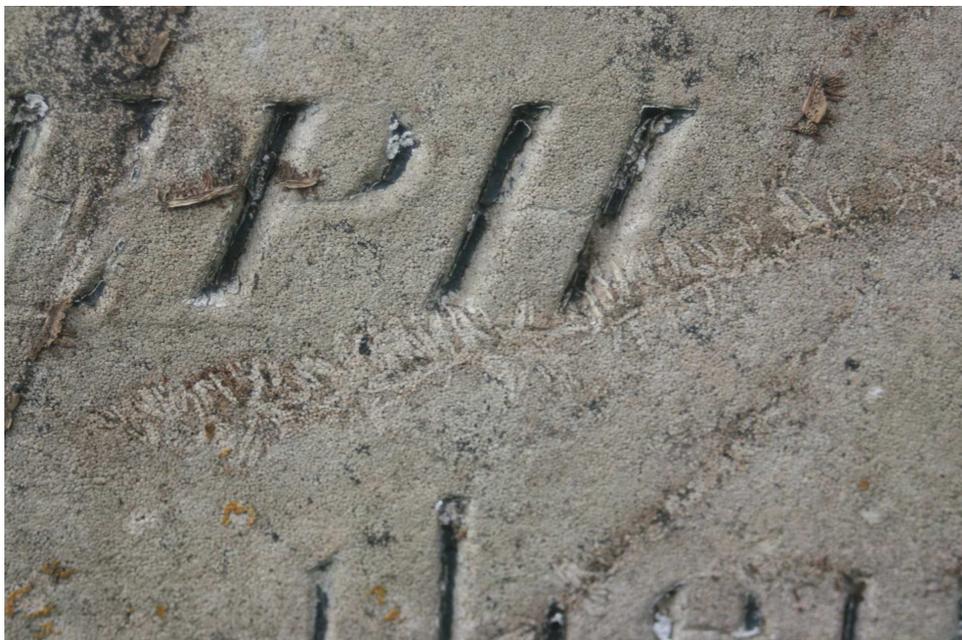
If the aim is to have a graveyard free from ivy covered stones, it would be advisable to have a regular system of monitoring all the stones – annually at least – and acting immediately to control any ivy starting to grow up them and take measures to slow any deterioration of the stones due to weathering or mechanical means.

Sections were taken from the main stems of the ivy plants covering the stones worked on and these were ring counted at Oxford. One of these was 6 years old, the remainder 10 years old. This shows that it takes as little as 6 years for unchecked ivy to completely cover a gravestone.

Damage assessment

On the four gravestones uncovered there was little evidence that the covering of ivy had done any physical damage. The aerial roots have not penetrated into the stones (this was not expected) and do not appear to have any marked impact on the surface of the stones.

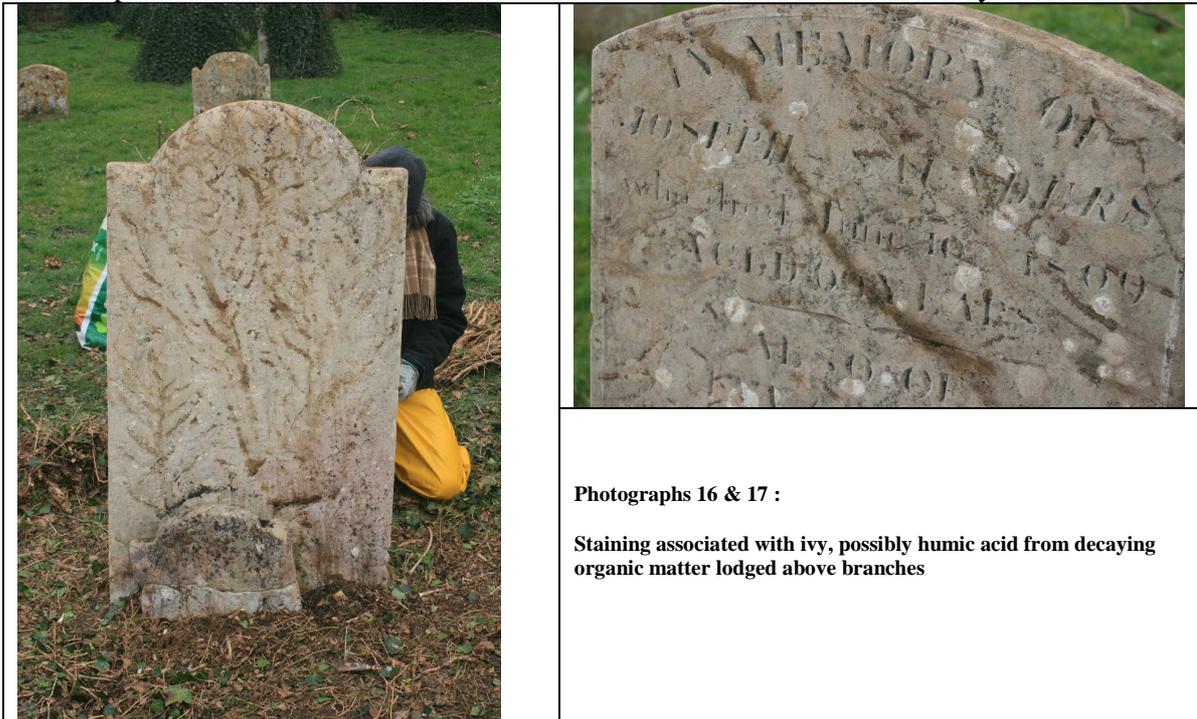
However, in some cases these aerial roots do seem to have left clear marks (see photograph 17 below) these marks are not visibly etched into the stone and may be simply where the aerial roots have covered part of the stone and the surrounding area is dirty.



Photograph 15 : Marks left by some aerial roots

On two of the stones uncovered there is clear evidence of brown staining directly associated with the branch network. This appeared not to be associated with the ivy stems/branches directly producing materials which stain the stone, but with the accumulation of organic matter above branches which begins to decay and release

humic acid (see photographs 16 & 17 below). This staining may disappear after a time exposed to the elements and this will be monitored over the next few years.



Photographs 16 & 17 :

Staining associated with ivy, possibly humic acid from decaying organic matter lodged above branches

There is no clear evidence about whether such massive growths of ivy on individual gravestones has any de-stabilising effect. In the case of the ‘shroud’ types it probably does not and may even have a stabilising effect – making a tall narrow object only slightly taller but much wider and this may also apply to the ‘shrub’ type, although the arboreal, flowering growths on these do make the gravestones quite a bit taller. However the ‘Shrub and Shroud’ type, with a massive growth of the arboreal, flowering stems above the top of the gravestone are more likely to make them top heavy.

The weight of ivy removed from each of the gravestones fully cleared (3 in total) was weighed during the work and the results are shown below;

Stone	Type of covering	Weight of normal ivy (Kg/lb)	Weight of flowering ivy (Kg/lb)	Total weight of ivy growth (Kg/lb)
1	Shroud	43 / 95	-	43 / 95
2	Shrub	19 / 42	11 / 24	30 / 66
3	Shrub & shroud	21 / 46	4 / 9	25 / 55

These figures provide an interesting record of the weight of vegetation growing on these three stones but are not directly comparable because the stones were not identical in size. Although the weight of flowering growth high up on stone 3 is quite substantial and must to a degree affect stability by making the stone more ‘top heavy’, it must be remembered that there is the additional ‘windsail’ effect of this vegetation.

There is only one example of toppled gravestone which was covered in ivy (see photographs 18 & 19 below). Although this appear to be more of a ‘shrub’ type and it is impossible to say if the stone itself had a pre-existing flaw.



Photographs 18 & 19 : The only fallen ivy covered stone