

BETHANIA CHAPEL, ABERFAN, MERTHYR TYDFIL

POTENTIAL ROOST ASSESSMENT 2023, MITIGATION AND ENHANCEMENTS



QUALITY ASSURANCE

Author	Reviewer	Revision	Date Issued
Rebecca Sheahan-East	Abbey Sanders	1.0	03/04/2023

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CONTENTS

INTRODUCTION	2
LEGISLATION AND POLICY	3
METHODOLOGY	5
Desk Study.....	5
Site Survey.....	5
Constraints.....	5
RESULTS.....	6
Desk Study.....	6
Potential Roost Assessment	7
Other Species	8
EVALUATION	9
IMPACT ASSESSMENT	10
CONCLUSIONS AND MITIGATION.....	11
Mitigation	11
Enhancements.....	11
FIGURES.....	13
REFERENCES	14
APPENDIX A SITE PHOTOS	15
APPENDIX B ENHANCEMENTS - PLANTS FOR POLLINATORS	21

SUMMARY

Bethania Chapel in Aberfan has been the target of vandalism since its closure but the custodians wish to completely renovate the building and bring it back into worship and community use.

As well as a full refurbishment of the interior the building is in need of a new roof as water ingress is damaging the interior woodwork.

A preliminary roost assessment for bats was commissioned to inform a planning application for the roof work and funding of it.

The survey and desk study followed best practice guidelines using appropriate equipment, under suitable weather conditions and was undertaken by an experienced and qualified bat ecologist.

The data search found no records of bats at the address, but a few roosts are known in the search area. No designated sites were found in the search area relating specifically to bats.

The evaluation of the building was of **low potential for roosting bats**, as several small crevices were noted around the building exterior, where small numbers of crevice dwelling, common bats could roost.

At least one dusk emergence or dawn re-entry survey is required to determine the presence or likely absence of bats, approximate numbers, type of roost and species present.

This information would inform the type of mitigation needed as well as the documentation for a Natural Resources Wales licence application if required.

In terms of increasing the biodiversity value of the building and its modest plot a living roof or planters filled with plants for pollinators, bird and bat boxes are recommended.

INTRODUCTION

Bethania Chapel, Aberfan Road, Aberfan Merthyr Tydfil, CF48 4QN lies at an approximate National grid reference **SO 07040021**. The building which is the subject of this report is a single storey 1970's building built as a place of worship with a main space, lobby, kitchen and toilets. The building has been unused for several years and has been subject to theft and vandalism. The main roof is leaking and damaging the internal wood cladding and flooring as well as other areas of water ingress due to vandalism, although the main roof has been faulty since its construction.

The building lies in a built-up area at the end of a terrace of housing. With further housing to the street at the rear, opposite and to the other side of the side street. The relative position of the building is shown in figure 1. Within approximately 200m to the east lies the River Taff which is sparsely vegetated at this point. Within about 150m to the west lies some scrub and woodland on private land near to the cemetery. The built-up area of Aberfan stretches to the south and north of the chapel location.

The charitable organisation now taking responsibility for the chapel wish to re-roof the whole building as well as replace windows and carry out various internal repairs including reinstating the kitchen and toilets. The re-roofing and window replacement work requires planning permission from Merthyr Tydfil County borough Council.

The author of this report, Rebecca of East Ecology has twenty years post graduate experience in ecological consultancy and nature conservation and holds Natural Resources Wales survey licences for protected species including bats. Rebecca is also a full member of the Chartered Institute of Ecology and Environmental Management and a Chartered Environmentalist.

LEGISLATION AND POLICY

Conservation of Species and Habitats Regulations (Amendment) Regulations 2017

All bats found in the UK are High Level Protected Species (HLPS) being protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'.

Under the Habitats Regulations, it is an offence to:

- Deliberately capture, injure or kill any wild animal of an HLPS,
- Deliberately disturb wild animals of any such species,
- Damage or destroy a breeding site or resting place of such an animal.

Disturbance is defined as that which is likely:

1. To impair the animal's ability:
 - to survive, to breed or reproduce, or to rear or nurture their young, or
 - in the case of animals of a hibernating or migratory species (e.g. bats), to hibernate or migrate; or
2. To affect significantly the local distribution or abundance of the species to which they belong.

Other offences also exist relating to possession, transport and sale.

Wildlife and Countryside Act 1981

Section 9 of the Wildlife and Countryside Act 1981 (as amended) offers varying degrees of protection to species including otter, bats, dormice, amphibians and reptiles. Animals listed on Schedule 5 of the Act are protected against one or more of the following:

- intentional killing, injuring or taking (not applicable to bats, as covered by the regulations above);
- intentional or reckless damage or destruction, or obstruction of access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection;
- disturbance of any such animal while it is occupying a structure or place which it uses for that purpose;
- sell, offer or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in schedule 5, or any part of, or anything derived from such an animal.

Environment Act (Wales) 2016

Section 7 of the Environment (Wales) Act has replaced the Section 42 of the NERC Act 2006 in Wales. Section 7 lists the living organisms and types of habitat in Wales which are considered to be of key significance to sustain and improve biodiversity in relation to Wales.

The Act states that Welsh Ministers must take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps.

Planning Policy Wales 2016

Section 5.2.8 of Planning Policy Wales states that: 'The planning system has an important part to play in meeting biodiversity objectives by promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable.'

METHODOLOGY

Desk Study

A search was made for available information relating to designated sites within a 10km area for their bat interest, including Internationally and Nationally important sites; Special Areas of Conservation (SAC) and Sites of Species Scientific Interest (SSSI). The South East Wales Biodiversity Records Centre (SEWBReC) supplied the data search for bat records within a 2km radius and roof nesting birds within 150m of Bethania Chapel, Aberfan. Freely available information was obtained from internet source Multi Agency Geographical Information for the Countryside (MAGIC). The data search was conducted to the latest bat survey guidelines 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins 2016)'.

Site Survey

Potential roost assessment

Bethania Chapel was visited on 6th March 2023 during daylight hours by an experienced and licensed bat ecologist (licence number S089583-1).

All accessible elevations of the building were examined on the outside as well as inside. Equipment used in the searches included a high-powered torch, a telescopic ladder and a pair of close focusing binoculars.

The surveyor searched for evidence of bats:

- Sightings of live bats
- Dead bats
- Bat droppings
- Urine staining
- Grease marks
- Claw marks
- Sound or smell of bats

The surveyor asked the representative if they had any prior knowledge of bats at the property.

The surveyor also noted down features of the building which would be suitable for bat roosting, suitability of the surrounding area with respect to food sources and connectivity of the landscape was also noted according to the latest bat survey guidelines.

While every effort is made during this type of survey to identify positive signs of bat use, evidence may be absent or difficult to access even if small numbers of bats are present. An absence of evidence identified does not necessarily indicate an absence of bats as a structure may still have potential for them.

Constraints

There were no constraints to the survey which would produce invalid results.

RESULTS

Desk Study

Designated Sites

No sites designated for their bat interest were found in the search area.

Species Records

45 records of bats and 15 records of birds were recovered from the search area, the results of the data search are summarised in Tables 1 and 2. No records were found relevant to the building itself and the closest relevant record was from 285m away of an unknown bat species roost. Other records were scattered through the valley floor and around the woodland areas. Several records of roof nesting birds were found and reported in Table 2. These appear at the same distance due to the same recorder, visiting the same site over many years.

Scientific name	Common name	No. Records	Proximity	Status
<i>Chiroptera</i>	Bats	6	285m	EPS, WCA5, LBAP (ANG, DEN, FLI, RCT, SNP, TRA, TRF),
<i>Myotis daubentonii</i>	Daubenton's bat	1	922m	EPS, HDir, WCA5, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF)
<i>Myotis mystacinus</i>	Whiskered bat	1	1422m	EPS, HDir, WCA5, Bern, RDB2 (UK), LBAP (ANG, DEN, FLI, GWY, POW, SNP, TRA, TRF)
<i>Myotis Nattereri</i>	Natterer's bat	1	285m	EPS, HDir, WCA5, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF)
<i>Myotis</i>	Myotis bat species	3	285m	EPS, HDir, WCA5, Bern, LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
<i>Nyctalus noctula</i>	Noctule bat	4	285m	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
<i>Pipistrellus nathusii</i>	Nathusius pipistrelle	1	922m	EPS, HDir, WCA5, Bern, RDB2 (UK), LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	12	285m	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	10	285m	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, BBNP, CLY, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)

<i>Pipistrellus sp</i>	Pipistrelle species	4	348m	EPS, WCA5, LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
<i>Plecotus auritus</i>	Brown long eared bat	2	922m	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)

Table 1. Summary of data search results relating to bats from SEWBReC.

Scientific name	Common name	Proximity	No. Records	Status
<i>Apus apus</i>	Swift	537m	1	LBAP (BRG, RCT, VOG), WBAm(RSPB), UKBAm(RSPB)
<i>Cyanistes caeruleus</i>	Blue tit	537m	3	Bern, LBAP (CON, POW)
<i>Delichon urbicum</i>	House martin	537m	2	Bern, LBAP (BRG, CON, POW, RCT, VOG), UKBAm(RSPB)
<i>Falco peregrinus</i>	Peregrine	537m	1	BDir1, WCA1.1, Bern, CITES, LBAP (ANG, CLY, CON, GWY, PEM, POW, TRF, VOG), LI(VC43)
<i>Hirundo rustica</i>	Swallow	537m	1	Bern, LBAP (ANG, CON, GWY, POW, VOG), WBAm(RSPB)
<i>Larus fuscus</i>	Lesser black backed gull	537m	2	BDir22, LBAP (CON, GWY, PEM, POW, SNP), WBAm(RSPB), UKBAm(RSPB)
<i>Parus major</i>	Great tit	537m	2	Bern, LBAP (CON, POW)
<i>Passer domesticus</i>	House sparrow	537m	3	S7, LBAP (CLY, CON, FLI, GWY, VOG), WBAm(RSPB), UKBR(RSPB)

Table 2. Records of roof nesting birds

UKBAP = UK Biodiversity Action Plan Priority Species, UKBAP (R) = UK Biodiversity Action Plan Priority Species (Research only species), BDir1 = EC Birds Directive Annex 1 Species, BDir21 = EC Birds Directive Annex 2.1 Species, BDir22 = EC Birds Directive Annex 2.2 Species, Bern = The Bern Convention on the Conservation of European Wildlife and Natural Habitats Bonn = The Bonn Convention on the Conservation of Migratory Species of Wild, Animals Species, CITES = Convention on International Trade in Endangered Species, EPS = European Protected Species, HDir = EU Habitats Directive Species, NRW = Natural Resources Wales Priority Species, RD1 (Wales) = Welsh Red Data Book listing based on IUCN guidelines RD1 (UK) = UK Red Data Book listing based on IUCN guidelines, RD2 (UK) = UK Red Data Book listing not based on IUCN guidelines (Nationally, Rare and Scarce), WBR (RSPB) = RSPB Welsh Red listed birds (not based on IUCN criteria), WBAm (RSPB) = RSPB Welsh Amber listed birds (not based on IUCN criteria), UKBR (RSPB) = RSPB UK Red listed birds (not based on IUCN criteria), UKBAm (RSPB) = RSPB UK Amber listed birds (not based on IUCN criteria) S7 = Environment Act (Wales), Section 7 Species, WCA1.1 = Wildlife and Countryside Act Schedule 1 Part 1 Species, WCA5 = Wildlife and Countryside Act Schedule 5 Species, WCA8 = Wildlife and Countryside Act Schedule 8 Species, WCA9 = Wildlife and Countryside Act Schedule 9 Species, INNS = Invasive Non-Native Species, WSG.P = Guidelines for the Selection of Wildlife Sites in South Wales – Primary, species, WSG.C = Guidelines for the Selection of Wildlife Sites in South Wales -Contributory species, WVP = IUCN Threat Listing of Welsh Vascular Plants, LBAP (xxx) = Local Biodiversity Action Plan Species (see key below), LI (SEWBReC) = Locally Important Species (as identified by local specialists) in SEWBReC area, LI (BIS) = Locally Important Species (as identified by local specialists) in BIS area, LI (BRYO-MON) = Locally or nationally scarce or rare bryophyte in Monmouthshire, LI (VC##) = Locally Important Species (as identified by local specialists) in Vice County ##, LI (VC##, LS) = Locally Scarce in Vice County ##, LI (VC##, LR) = Locally Rare in Vice County ##, LI (VC##, EX) = Extinct in Vice County ##, LI (VC##, UR) = Under Recorded in Vice County ##

Potential Roost Assessment

Bethania Chapel was a single storey detached building placed at the end of a terrace in the centre of Aberfan. It was built in 1971 and was constructed of block and brick with large

glazed windows to the east end. The roof was mainly flat covered by resin and some bitumen felt on smaller areas with a mono pitch area over the east end of the building covered by slate.

External

The building has been unused for several years and has been subject to vandalism and theft. Lead flashings have been removed for example.

The building retained much of its integrity but contained some missing brick mortar on the east elevation tower and some gaps at the wooden boarding on the east side above the windows.

Further gaps were noted high on the west side again with missing mortar in the brickwork. Various gaps around the edges of the flat roofs were observed on the south side.

No external lighting had been in use since the closure of the chapel many years prior to the survey but one wall mounted light was present near to the main door at the northeast corner and another at the west. These are presumed to not be very bright.

Internal

The internal space of the chapel had no loft or voids that could be accessed. The main body of the building was open to the wood cladding of the ceiling with only a small space above it to the flat resin roof covering. The kitchen and toilets to the east end also had a flat roof with no void to inspect as the internal ceilings had been removed. A metal shutter had been installed by the custodians of the building to prevent unauthorised access via the broken window on the south side, but this had considerable gaps around it through which bats could pass. No signs of bats were found anywhere in the internal spaces of the chapel although a moderate degree of disturbance and cleaning had taken place in recent months.

Other Species

The tower of the chapel lies in the northeast corner near to the main entrance. The surveyor was informed of a honey bee nest in the cavity wall of the tower. Professional advice had been sought on this matter, but was unresolved regarding the required roof work and possible removal of the nest.

The land surrounded the chapel was laid to tarmac and paving and offered no habitat for any other species. The small plot of land immediately to the south contains some scrub, but is outside of the control of the chapel.

EVALUATION

No designated sites fell into the search area designated specifically bats.

The chapel contains several small crevices which may be suitable for bats and can therefore be classed as having 'low' potential for small numbers of a crevice dwelling and common species. The chapel building was not thought to be suitable for larger numbers of bats for breeding and was not thought to be suitable for free hanging or void dwelling bats.

The evidence gathered from the potential roost assessment survey and the desk study suggest that the building has low roost potential value. At least one dusk emergence or dawn re-entry survey is recommended between May and the end of August to determine first whether bats are present or likely absent. Any subsequent visit would therefore determine the species present, relative numbers and type of roost.

IMPACT ASSESSMENT

The proposals to re-roof the entire building is likely to have impacts on bats should they be present. In this case mitigation design will be needed with a licence application to Natural Resources Wales.

Mitigation would take the form of wall mounted bat boxes and potentially replacement crevices where this does not impact on the building structure.

A licence application to Natural Resources Wales can take up to 40 working days to process, must be undertaken by a competent bat ecologist following the submission of a working method statement, application form and other supporting documents.

CONCLUSIONS AND MITIGATION

Bethania Chapel was thought to hold low roosting potential for small numbers of bats of common and crevice dwelling species.

At least one dusk emergence survey / dawn re-entry survey is recommended to establish if bats are present or likely absent between May and the end of August.

The survey data within this report is considered by NRW as valid for up to two years. Following this point in time the site will require further survey to detect any changes in bat use of the building if the project is delayed.

Mitigation

Mitigation may be needed in the form of wall mounted bat boxes, since the walls of the building are not being disturbed, build-in options are not available.

Enhancements

Bats

Where bats are thought to be likely absent, and no mitigation is required. At least one wall mounted wood-crete bat box would be desirable as biodiversity enhancement. Bat boxes will need to be mounted at 3m or more from ground level facing in a southeast or southwest direction where possible.

Exterior lighting should be kept to a minimum making use of downlit models with a maximum of 2000 lumens. Lighting will be in areas away from bat boxes and any mitigation bat entrances.

Birds

Wall mounted bird boxes will also be added to the different elevations with a minimum of two targeting species known to be in decline such as house sparrow or starling.

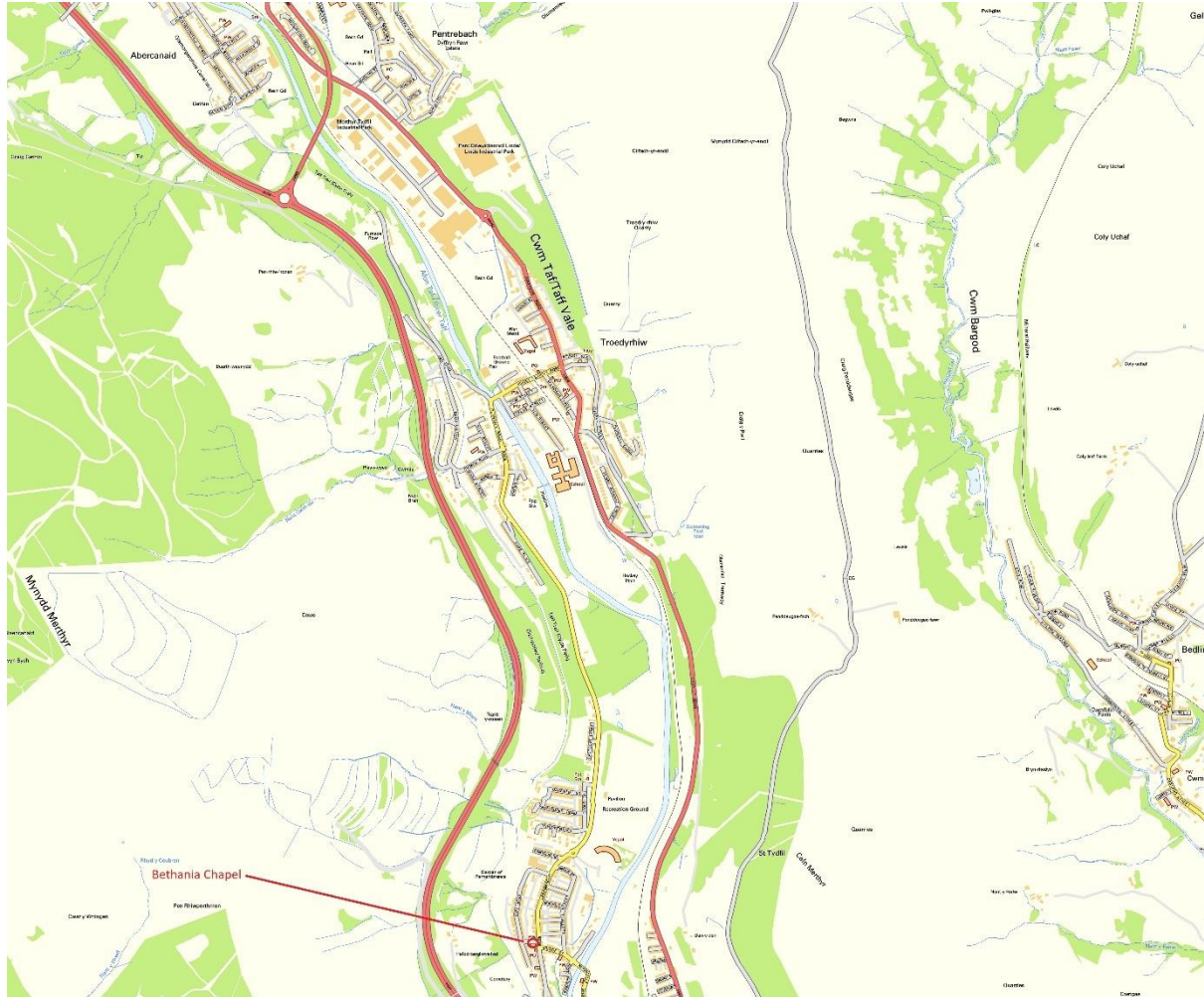
Enhancement for other species

Available outdoor space at the chapel is limited, but a container garden to the east side containing a variety of plants selected to attract pollinators will be added. A table of recommended plants from the Wildlife Trusts to bring flowering through as much of the seasons as possible can be found in Appendix B. Broader lists of appropriate species may be found on the RHS website garden plants; <file:///C:/Users/User/Downloads/P4P-Garden-Plants-August-2019.pdf> and wildflowers <file:///C:/Users/User/Downloads/P4P-Wildflowers-August-2019.pdf>.

Alternatively, a living roof could be considered depending on funding and the strength of the roof structure. A living roof would most likely consist of mainly sedum species which are low-growing and very low maintenance plants. These are pollinator species and may be combined with others to create a semi-natural habitat for pollinators over a much greater area than a container garden could.

FIGURES

Figure 1. Location of Bethania Chapel. Contains Ordnance Survey data © Crown copyright and database right 2013



REFERENCES

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Department of the Environment, Food and Rural Affairs (2016) *MAGIC interactive maps*
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Natural Resources Wales, designated sites search (2022)
<https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-sites-search/?lang=en>

Mitchell-Jones A.J. (2004) Bat Mitigation Guidelines. Natural England

South East Wales Biodiversity Information Centre (2022) Data search

APPENDIX A SITE PHOTOS



Photo 1.
East
elevation
and
tower



Photo 2.
Side
(north)
elevation
and part
of west



Photo 3.
West
elevation
s



Photo 4.
South
elevation
including
new
shutter
over
kitchen
window



Photo 5.
Gaps in
boarding
to east



Photo 6.
Gaps
and roof
edge
and
board to
east



Photo 7.
Gaps
around
roof
edge to
northeas
t corner



Photo 8
Slate
mono-
pitch
with
some
misalign
ed slates



Photo 9.
Interior
looking
west
showing
wood
clad
ceilings



Photo
10.
Ceilings
removed
in the
toilets



Photo 11.
Ceiling removed in the former kitchen



Photo 12.
Ceiling removed inside tower

APPENDIX B ENHANCEMENTS - PLANTS FOR POLLINATORS

From the Wildlife Trusts UK

Early season	Mid season	Late season
<i>Aubretia</i> spp	Buddleia - <i>Buddleja davidii</i>	Coneflower - <i>Echinacea</i> spp.
English bluebell - <i>Hyacinthoides non-scripta</i>	Heather - <i>Erica cinerea</i>	French marigold - <i>Tagetes patula</i>
Currant - <i>Ribes</i> spp.	Lady's bedstraw - <i>Galium verum</i>	Golden rod - <i>Solidago</i> spp.
Grape hyacinth - <i>Muscari armeniacum</i>	Lavender - <i>Lavandula angustifolia</i>	Honeysuckle - <i>Lonicera periclymenum</i>
Lungwort - <i>Pulmonaria officinalis</i>	Common mallow - <i>Malva sylvestri</i>	Ice plant - <i>Sedum spectabile</i>
Primrose - <i>Primula vulgaris</i>	Purple toadflax - <i>Linaria purpurea</i>	Ivy - <i>Hedera helix</i>
Sweet violet - <i>Viola odorata</i>	Rock cress - <i>Arabis</i> spp.	Meadow saffron - <i>Colchicum autumnale</i>
Winter aconite - <i>Eranthis hyemalis</i>	Sea holly - <i>Eryngium maritimum</i>	Michaelmas daisy - <i>Aster pyrenaeus</i>
Wood anemone - <i>Anemone nemorosa</i>	Verbena - <i>Verbena bonariensis</i>	Common sunflower - <i>Helianthus annuus</i>
Alyssum - <i>Alyssum montanum</i>	Wallflower - <i>Erysimum cheiri</i>	Red valerian - <i>Centranthus ruber</i>