

Caring for our
**WILD
POLLINATORS**



Worcestershire

FARM HEALTH CHECK



Creating a Living Landscape

Worcestershire Wildlife Trust

We own more than 75 nature reserves that form part of our vision for a Living Landscape for Worcestershire. By working with other landowners, managers and communities we aim to **restore**, **recreate** and **reconnect** fragmented habitats to achieve a landscape where wildlife can flourish and people can live happier and healthier lives.

Worcestershire Wildlife Trust relies on the support of its members and on donations and grants.

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*Photo credits – Caroline Corsie & Wendy Carter
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The Wild Pollinators Farm Health Check was adapted from the Pollinator Habitat Assessment Guide developed by the Xerces Society for Invertebrate Conservation, www.xerces.org.



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Introduction to the Worcestershire Wild Pollinator Health Check

The Wild Pollinator Facilitation Fund grant application was inspired by the invertebrates that fill our days with beauty, wonder and fascination as well as ensuring food supplies. Many of them are under threat yet, as the world population burgeons, paradoxically we rely on their services more than ever to pollinate fruit and vegetable crops and wildflowers. Pollinators drink nectar and often eat pollen, their activity results in pollen transfer and seed set. The cocoa tree, which leads to the key ingredient of chocolate production, is fertilised by a tiny fly. Farmers all around the world are being encouraged by numerous organisations to incorporate pollinator-friendly systems into their husbandry approaches. Local fruit growers had approached us to enquire about how they might maximise native solitary and bumblebees and reduce their reliance on bought-in colonies.

In any health check, there are (at least) four key basic categories of need, which we are calling The Big 4, and wild pollinators are no exception:

- Forage/food/nectar
- Nesting habitats
- Wintering/hibernation
- The avoidance of unnecessary stress e.g. pesticides

Meanwhile, the literature review led to the Xerces Society who had recently published their Pollinator Habitat Assessment, and this has undoubtedly been a core influencer in the design of our Wild Pollinator Health Check.

www.xerces.org/wp-content/uploads/2009/11/PollinatorHabitatAssessment.pdf

Within six months of our project starting (July 2015), we have 17 farmers undergoing our Health Check and the initial results show it to be a good engagement tool. It isn't about comparing and ranking farms from best to worst. The Health Check is educational, aims to flag up opportunities that are often very simple, such as retaining dead wood, as well as capturing land managers ideas such creating bare earth banks by bringing in trailer loads of sandy loam.

Participating in The Worcestershire Wild Pollinator Facilitation Fund leads to a 20% increase in the competitiveness of the new Countryside Stewardship Mid Tier Grant, which in turn leads to the opportunity for land managers to focus on wild pollinators alongside a guaranteed five year income from the agri-environment grant. Currently we are also trialling the Health Check on nature reserves and will re-evaluate how effective it is on natural and semi-natural habitats.

HOW TO USE THE HEALTH CHECK

The best time to do the assessment is from spring to early summer when things are growing/active, but it can be done in stages depending on the season and your time availability.

In each section work out the sub scores and record them. Don't get too stuck on working out how we came about deciding on the scores (though we do welcome feedback).

Aerial photos will help with the surrounding landscape assessment and also for identifying opportunities for connecting fragmented habitats (e.g. Google Earth).

Species lists for the 10 key habitats are in the latter part of the document (designed after extensive review by our ecologist, Michael Liley). These will not be exhaustive and if you feel you have species not listed which carry clout then please note this for our review (Then make the decision yourself as to whether they are counted in).

Add up sub score to achieve total scores for the Habitat Assessment.

Transfer the total scores to the summary table at the front of the document.

The total score achievable is 270 points. As a start point we are aiming for around 50%.

Ultimately, the challenge is to ensure knowledge transfer and 'Farmer Science' that leads to Improvements that, on review, will increase the overall Health Check score and, in turn, a healthier environment for our wild pollinators.

I look forward to hearing how you get on.

Caroline Corsie

Facilitator for the Worcestershire Wild Pollinator Facilitation Fund.

30th June 2016

SITE SUMMARY

Farm/Land Holding

Surveyor

Address

Date of assessment **before** implementation
of farm enhancements (existing habitat)

Date of assessment **after** implementation
of farm enhancements

Existing Agri-environment Scheme details

Describe the location you are evaluating (Sketch/maps here if relevant) with target notes etc.

TOTAL SCORE FOR HABITAT ASSESSMENT (summary table)

	BEFORE	AFTER
Section 1: Peripheral Landscape Features. 1a + 1b (Max 20 points)		
Section 2: Farmscape Features & Semi-natural habitats. 2a + 2b (Max 45 points)		
Section 3: On-Farm Foraging Habitat. 3a + 3b (Max 40 points)		
Section 4: On-Farm Solitary Bee/Bumblebee Habitat. 4a + 4b (Max 45 points)		
Section 5: Key Pollinator Groups seen on-farm. 5 (Max 15 points)		
Section 6: Integrated Farm Management (IFM). 6a + 6b + 6c (Max 105 points)		
OVERALL SCORE (Max 270 points) Percentage (Max 100%)		

NB: To be completed when you have finished your calculations for sections 1-6 (pages 7-13)

1. PERIPHERAL LANDSCAPE FEATURES (WITHIN 750 METRES OF FARM PERIMETER)

1a. The % of landscape that can be defined as 'semi-natural habitat'. Includes woodland, wetland, unimproved grassland, dwarf-shrub heath – excludes improved or silage fields, amenity grass, urban.

Max score = 10

SELECT ONLY ONE	Score	Comments
> 30%	10	
20-30%	7	
5%-20%	3	
<5%	0	
Subtotal 1a		1a

1b. The dominant vegetation types of non-cropped areas within 750m zone all around farm perimeter.

Max score = 10

SELECT ONLY ONE	Score	Comments
Native flora (woods, meadows, marsh, mire, swamp, heath etc.)	10	
Semi-natural & naturalised species eg part-improved grass swards, scrub	7	
Naturalised fields/strips clover, lucerne mono game-strips eg sunflower phacelia	5	
Species-poor or derelict crop – nettles, cleavers. Laurel scrub, snowberry (game)	3	
Rye-grass leys, amenity grassland, urban cereal crop, plough-land, industrial	0	
Subtotal 1b		1b
LANDSCAPE FEATURES TOTAL 1a+1b Max combined score = 20		1a + 1b Add this score to summary score sheet on page 6

2. FARMSCAPE FEATURES & SEMI-NATURAL HABITATS

2a. % of farm that can be defined as 'semi-natural habitat'. **Max score = 10**

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
> 10%	10			
6-9%	7			
3-5%	5			
1-2%	3			
0%	0			
Subtotal 2a				2a

2b. Additional farm features present (N/A = not applicable to farm). **Max score = 35**

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to increase score
Meadows, field strips or pollen/nectar strips with native flora allowed to bloom	5			
Semi-improved pastures > 30% native /non-invasive flora allowed to bloom	5			
Woods, hedges, scrub, next to cropped areas with native trees, shrubs, flora	5			
Windbreaks (non-pollinator) to afford shelter and reduce/absorb spray drift	5			
Source of clean surface water: springs/ reservoirs (non-polluted)	5			
Riparian/pond buffers, emergent margins that include flowering plants	5			
Annual flowering cover crops/nectar strips, bumble/bird mix, bolting crops etc.	5			
Subtotal 2b				2b
FARMSCAPE FEATURES TOTAL 2a + 2b Max combined score = 45				2a + 2b Add this score to the summary score sheet on page 6

3. ON-FARM FORAGING HABITAT

3a. % of vegetative cover (non-cropped area) with wildflowers, flowering shrubs, pollinator-friendly trees within farm and boundaries, including farmhouse with gardens etc. (need total land area of farm to calculate).

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
>50% cover	10			
30-50% cover	7			
20-30% cover	5			
10-20% cover	3			
<10% cover	1			
Subtotal 3a – Max possible score 10				3a

3b. Flowering plants for pollinators across 10 x Farmland Habitats (N.B. For on-farm survey use, please refer to the species lists in Appendix 1). The threshold number of species per habitat type, needed to score 3 points is shown in brackets in column 1, otherwise score is zero.

Maximum possible score for 10 habitats is 30 points

FARM HABITAT TYPE (x 10) (With minimum threshold No of species needed to score 3 points)	Score	Before	After	Treatment to increase score
1. Arable (fodder/novel) crop (8)	3 or 0			
2. Flower-rich nectar margin (9)	3 or 0			
3. Permanent pasture/meadow (26)	3 or 0			
4. Hedge/hedge bank/linear (21)	3 or 0			
5. Wetland/marsh/riparian/ditch (13)	3 or 0			
6. Traditional or commercial orchard (5)	3 or 0			
7. Weedy strip/fallow/margin (18)	3 or 0			
8. Woodland/copse (21)	3 or 0			
9. Scrub (12)	3 or 0			
10. Bare ground/arid/dry land (5)	3 or 0			
Subtotal 3b – Max possible score 30				3b
FORAGING HABITAT TOTAL 3a + 3b Max combined score = 40				3a + 3b Add this score to the summary score sheet on page 6

4. ON-FARM SOLITARY GROUND-NESTING BEE/BUMBLEBEE HABITAT

4a. Sites for solitary ground-nesting bees, solitary wasps, and bumblebees. Habitat hints: solitary bees – close mown lawns, rabbit grazed areas with ant mounds, uncropped strips left bare, south-facing banks, light sandy soils or calcareous grasslands, track-sides/compacted but friable-soils ground. Bumblebees – bases of tussocky grasses, old vole/mouse burrows & runs, moss mats (old grassland)

Habitat Features Scoring* 5 = abundant 3 = moderate 1 = scarce 0= absent (Max score = 25)

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to Increase Score
1 point for every 10% of area untilled	0-10			
Areas of undisturbed tussocky grasses – margins/corners adjoining cropped areas	0-5*			
Areas of untilled, uncompacted, well-drained ground – bare or sparsely vegetated	0-5*			
Banks (south-facing) close-mown or close grazed grass sward/ant mounds etc.	0-5*			
Subtotal 4a				4a

4b. Sites for wood & cavity nesting bees – e.g. leaf-cutter bees, flower bees, mason bees, ivy bees. Habitat hints: leaf-cutters – hogweed, foxglove, great mullein. Hairy-footed flower bees – dead wood of all kinds, bramble rose. Scissor bees – old beetle burrows in dead wood; hollow reed-stems; yellow-face bees – burrows in dead wood, bramble stems.

Habitat Features Scoring* 10 = abundant 5 = moderate 1 = scarce 0 = absent (Max score = 20)

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to Increase Score
Dead wood, woody stumps with beetle holes, dead/diseased elm + left piles of brush/cut materials adjoining crop or along field margins (Includes artificial bee hotels!)	0-10*			
Robust plants with persistent hollow stems: hogweed, teasel, mullein, knapweed, burdock and shrubs with pithy stems: bramble, elder, currants, privet	0-10*			
Subtotal 4b				
POLLINATOR NESTING HABITAT TOTAL (4a+4b = Max Score 45)				4a + 4b Add this score to the summary score sheet on page 6

5. KEY POLLINATOR GROUPS SEEN DURING FARM SURVEY/AUDIT

At least two species representatives from each of the following wild invertebrate pollinator groups: Bumblebees, solitary bees, hoverfly or other flies, flower visiting beetles, moths/butterflies, wasps & solitary wasps, flower visiting plant-bugs. Score 2 points per two species seen from each group.

7 groups x2 = Max possible Score of 14 points (+ 1 bonus if all are seen) = 15

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to Increase Score
Bumble bees 2 or more = 2				
Solitary bees 2 or more = 2				
Hoverflies, Flies/Diptera et al 2 or more = 2				
Flower/leaf beetles 2 or more = 2				
Butterflies/moths 2 or more = 2				
Plant bugs 2 or more = 2				
Social & solitary wasps 2 or more = 2				
KEY POLLINATOR GROUPS SEEN DURING SURVEY Subtotal (5 points)				Add this score to the summary score sheet on page 6



6. FARM MANAGEMENT PRACTICES / Integrated Farm Management

Applies to pest management practices, pesticide use and land management practices in and around habitat areas. These can have significant impacts upon bee and pollinator populations.

6a. Non-chemical crop and pest management techniques used on the farm.

N/A = option not applicable (Max score = 25)

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to Increase Score
Farm exhibits high crop diversity and/or whole-farm diversity, naturally limiting pest outbreaks	5			
Growing conditions optimise plant health, limit plant stress and improve plant resistance	3			
Resistant crops and varieties are selected	3			
Crop rotation is used to break pest and disease cycles and improve plant health. Examples: use of clover & herb-rich leys	3			
Planting times are adjusted to minimise overlap between major pests and sensitive stages of plants	3			
Sanitation is practised (removing or destroying infested fruit or plants)	3			
Using flexible range of practices to support beneficial insects (e.g. cover cropping, companion planting, beetle banks, tolerating low-levels of pest species)	5			
Subtotal 6a				6a

6b. Pesticides use

(Max possible score if pesticides not used = 50 Max possible score if pesticides used = 35)

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to Increase Score
No use of pesticides (including organic-approved products) (proceed to Section 6c.)	50			
If Pesticides are used:				
Most pest issues tackled by non-chemical means (e.g. use of row-covers, plant collars, pheromone traps, mating disrupters, hand-picking, biological control etc.)	5			
No soil fumigation	3			

Min. 10m buffers: sprayed crop vs. habitats / field margins	3			
Applications made when pest pressure warrants, based on scouting & economic thresholds	3			
Application only occurs outside crop bloom period	3			
BUT No Insecticides (e.g. metaldehyde, neonicotinoid, pyrethroid) if so then less 10 points	-10			
Mowing is used to reduce bloom in any adjacent or under storey habitat subject to drift	3			
Spraying only occurs in calm conditions	3			
Spraying only occurs at night	3			
Specialised spray equipment is used to reduce drift e.g. electrostatic sprayers	3			
Spray equipment regularly calibrated	3			
Subtotal 6b				Subtotal to be carried forward/added to Section 6c.

6c. Land management techniques used within semi-natural habitats on the farm. These questions relate to ongoing site management as opposed to site preparation.

N/A = option not applicable (Max score = 30)

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to Increase Score
If farm includes semi-natural grassland areas and/or pollinator habitat, mowing or haying is limited to 1/3 of habitat per year – alternatively leaving field margins/corners uncut – when feasible. Haying or mowing is done with high blade setting and after mid-July (flowering)	10			
If farm includes common-land or permanent pasture, prescribed grazing practices that encourage wildflower abundance/diversity, such as low stocking rates, or short duration grazing with long sward recovery time are used.	10			
If farm has orchards, vineyards or row crops, disturbance in field borders is performed infrequently and only to enhance habitat quality	10			
Subtotal 6c				6c
FARM MANAGEMENT PRACTICES TOTAL 6a + 6b + 6c				Add this score to the summary score sheet on page 6

APPENDIX 1 FARM HABITATS AND FEATURES

Pollinator Plants: 10 Farmland Habitats

When scoring each habitat, you gain 3 points if you record 50% or more of the total number of species in the habitat list. If you add unlisted additional species into your total, or substitute them for listed ones (NB these must be flowering plants not grasses/ferns), then you still need to exceed 50% of your total number of species recorded in order to score your 3 points.

If you assess several, or multiple features, of the same habitat type (for example three lengths of hedgerow) then you will need to calculate the average (of the three totals) in order to work out your score.

(1) ARABLE CROP

	Area 1	Area 2	Area 3
1. Alsike clover			
2. Borage			
3. Buckwheat			
4. Chicory			
5. Comfrey sp			
6. Field beans			
7. Fodder radish			
8. Lavender			
9. Lucerne			
10. Lupine			
11. Phacelia			
12. Quinoa			
13. Red clover			
14. Sainfoin			
15. Sunflower			
16. White clover			

(2) FLOWER-RICH NECTAR MARGINS

	Area 1	Area 2	Area 3
1. Birdsfoot trefoil (<i>Lotus corniculatus</i>)			
2. Burnet saxifrage (<i>Pimpinella saxifraga</i>)			
3. Common knapweed (<i>Centaurea nigra</i>)			
4. Common sorrel (<i>Rumex acetosa</i>)			
5. Crimson clover (<i>Trifolium incarnatum</i>)			
6. Dandelion (<i>Taraxacum agg.</i>)			
7. Field scabious (<i>Knautia arvensis</i>)			
8. Grass vetchling (<i>Lathyrus nissolia</i>)			
9. Hogweed (<i>Heracleum sphondylium</i>)			
10. Lady's bedstraw (<i>Galium verum</i>)			
11. Meadow buttercup (<i>Ranunculus acris</i>)			
12. Meadow vetchling (<i>Lathyrus pratensis</i>)			
13. Musk mallow (<i>Malva moschata</i>)			
14. Ox-eye daisy (<i>Leucanthemum vulgare</i>)			
15. Persian clover (<i>Trifolium resupinatum</i>)			
16. Self heal (<i>Prunella vulgaris</i>)			
17. Wild carrot (<i>Daucus carota</i>)			
18. Yarrow (<i>Achillea millefolium</i>)			

(3) PERMANENT PASTURE (MEADOWS etc.)

	Area 1	Area 2	Area 3
1. Agrimony (<i>Agrimonia eupatorium</i>)			
2. Birdsfoot trefoil (<i>Lotus corniculatus</i>)			
3. Burnet saxifrage (<i>Pimpinella saxifraga</i>)			
4. Buttercup spp (<i>Ranunculus spp</i>)			
5. Common cat's-ear (<i>Hypochaeris radicata</i>)			
6. Common rock-rose (<i>Helianthemum nummularia</i>)			
7. Common sorrel (<i>Rumex acetosa</i>)			
8. Common vetch sp (<i>Vicia sativa spp</i>)			
9. Cowslip (<i>Primula veris</i>)			
10. Creeping cinquefoil (<i>Potentilla reptans</i>)			
11. Daisy (<i>Bellis perennis</i>)			
12. Dandelion (<i>Taraxacum agg.</i>)			
13. Devil's-bit scabious (<i>Succisa pratensis</i>)			
14. Dyers greenweed (<i>Genista tinctoria</i>)			
15. Ericoid spp (<i>Calluna vulgaris/Erica cinerea</i>)			
16. Fairy flax (<i>Linum catharticum</i>)			
17. Field scabious (<i>Knautia arvensis</i>)			
18. Grass vetchling (<i>Lathyrus nissolia</i>)			
19. Hairy violet (<i>Viola hirta</i>)			
20. Harebell (<i>Campanula rotundifolia</i>)			
21. Hawkbits spp (<i>Leontodon spp</i>)			
22. Heath bedstraw (<i>Galium saxatile</i>)			
23. Heath speedwell (<i>Veronica officinalis</i>)			
24. Hogweed (<i>Heracleum spondylium</i>)			
25. Common knapweed (<i>Centaurea nigra agg</i>)			
26. Lady's bedstraw (<i>Galium verum</i>)			
27. Least birdsfoot? (<i>Ornithopus perpusillus</i>)			
28. Marjoram (<i>Origanum vulgare</i>)			
29. Marsh thistle (<i>Cirsium palustre</i>)			

30. Meadow buttercup (<i>Ranunculus acris</i>)			
31. Meadow vetchling (<i>Lathyrus pratensis</i>)			
32. Milkwort spp (<i>Polygala spp</i>)			
33. Musk mallow (<i>Malva moschata</i>)			
34. Musk thistle (<i>Carduus nutans</i>)			
35. Orchid spp (<i>Dactylorhiza spp, Anacamptis sp etc</i>)			
36. Ox-eye daisy (<i>Leucanthemum vulgare</i>)			
37. Pepper saxifrage (<i>Silaum silaus</i>)			
38. Pignut (<i>Conopodium majus</i>)			
39. Plantain spp (<i>Plantago spp</i>)			
40. Rest harrow spp (<i>Ononis spp</i>)			
41. Salad burnet (<i>Sanguisorba minor</i>)			
42. Saw-wort (<i>Serratula tinctoria</i>)			
43. Self heal (<i>Prunella vulgaris</i>)			
44. sheep's sorrel (<i>Rumex acetosella</i>)			
45. Tormentil (<i>Potentilla erecta</i>)			
46. Tufted vetch (<i>Vicia cracca</i>)			
47. Wild basil (<i>Clinopodium vulgare</i>)			
48. Wild carrot (<i>Daucus carota</i>)			
49. Wild thyme (<i>Thymus polytrichus</i>)			
50. Yarrow (<i>Achillea millefolium</i>)			
51. Yellow rattle (<i>Rhinanthus minor</i>)			
52. Zig-zag clover (<i>Trifolium medium</i>)			

(4) HEDGES, HEDGE BANKS AND LINEAR HABITATS

	Area 1	Area 2	Area 3
1. Ash (<i>Fraxinus excelsior</i>)			
2. Black bryony (<i>Tamus communis</i>)			
3. Blackthorn (<i>Prunus spinosa</i>)			
4. Bluebell (<i>Hyacinthoides non-scriptus</i>)			
5. Bramble (<i>Rubus fruticosus agg</i>)			
6. Buckthorn (<i>Rhamnus cathartica</i>)			
7. Bush vetch (<i>Vicia sepium</i>)			
8. Crab apple (<i>Malus sylvestris</i>)			
9. Dog-rose (<i>Rosa canina</i>)			
10. Dog's mercury (<i>Mercurialis perennis</i>)			
11. Dogwood (<i>Cornus sanguinea</i>)			
12. Elder (<i>Sambucus nigra</i>)			
13. English elm (<i>Ulmus procera</i>)			
14. Field maple (<i>Acer campestre</i>)			
15. Foxglove (<i>Digitalis purpurea</i>)			
16. Garlic mustard (<i>Alliaria petiolata</i>)			
17. Geranium spp (<i>Geranium spp</i>)			
18. Goldilocks buttercup (<i>Ranunculus auricomus</i>)			
19. Great willowherb (<i>Epilobium hirsutum</i>)			
20. Greater stitchwort (<i>Stellaria holostea</i>)			
21. Grey willow (<i>Salix cinerea</i>)			
22. Ground ivy (<i>Glechoma hederacea</i>)			
23. Hawkweed spp (<i>Hieracium spp</i>)			
24. Hawthorn (<i>Crataegus spp</i>)			
25. Heath bedstraw (<i>Galium saxatile</i>)			
26. Hedge woundwort (<i>Stachys sylvatica</i>)			
27. Hogweed (<i>Heracleum spondylium</i>)			
28. Honeysuckle (<i>Lonicera periclymenum</i>)			

29. Hop (<i>Humulus lupulus</i>)			
30. Ivy (<i>Hedera helix</i>)			
31. Sessile oak (<i>Quercus petraea</i>)			
32. Pedunculate oak (<i>Quercus robur</i>)			
33. Primrose (<i>Primula vulgaris</i>)			
34. Privet (<i>Ligustrum vulgare</i>)			
35. Red campion (<i>Silene dioica</i>)			
36. Rose-bay willowherb (<i>Chamerion angustifolium</i>)			
37. Spindle (<i>Euonymus europaeus</i>)			
38. Sweet violet (<i>Viola odorata</i>)			
39. Upright hedge-parsley (<i>Torilis japonica</i>)			
40. White bryony (<i>Bryonia dioica</i>)			
41. White dead-nettle (<i>Lamium album</i>)			
42. Wild clematis (<i>Clematis vitalba</i>)			
43. Wood avens (<i>Geum urbanum</i>)			

(5) FARM WETLANDS: MARSH, PONDS DITCHES etc.

	Area 1	Area 2	Area 3
1. Amphibious bistort (<i>Persicaria amphibia</i>)			
2. Brooklime (<i>Veronica beccabunga</i>)			
3. Butterbur (<i>Petasites hybridus</i>)			
4. Celery-leaved buttercup (<i>Ranunculus sceleratus</i>)			
5. Colt's-foot (<i>Tussilago farfara</i>)			
6. Cuckoo flower (<i>Cardamine pratensis</i>)			
7. Fleabane (<i>Pulicaria dysenterica</i>)			
8. Fools watercress (<i>Apium nodiflorum</i>)			
9. Forget-me-not spp (<i>Myosotis spp</i>)			
10. Greater bird's-foot trefoil (<i>Lotus pedunculatus</i>)			
11. Great bittercress (<i>Cardamine amara</i>)			
12. Great burnet (<i>Sanguisorba officinalis</i>)			

13. Great willowherb	<i>(Epilobium hirsutum)</i>			
14. Gypsywort	<i>(Lycopus europaeus)</i>			
15. Hemp agrimony	<i>(Eupatorium cannabinum)</i>			
16. Marsh marigold	<i>(Caltha palustris)</i>			
17. Marsh woundwort	<i>(Stachys palustris)</i>			
18. Meadow rue	<i>(Thalictrum flavum)</i>			
19. Meadowsweet	<i>(Filipendula ulmaria)</i>			
20. Purple loosestrife	<i>(Lythrum salicaria)</i>			
21. Ragged Robin	<i>(Lychnis flos-cuculi)</i>			
22. Water dropwort spp	<i>(Oenanthe spp)</i>			
23. Water forget-me-not	<i>(Myosotis scorpioides)</i>			
24. Water mint	<i>(Mentha aquatica)</i>			
25. Watercress	<i>(Rorippa nasturtium-aquaticum)</i>			
26. Wild angelica	<i>(Angelica sylvestris)</i>			
27. Yellow iris	<i>(Iris pseudacorus)</i>			

(6) TRADITIONAL & COMMERCIAL FRUIT ORCHARDS

	Area 1	Area 2	Area 3
1. Apple varieties			
2. Cherry varieties			
3. Pear varieties			
4. Plum varieties			
5. Bullace			
6. Quince			
7. Greengage			
8. Hazel (nut)			
9. Walnut			
10. Mulberry			
11. Blackcurrant			
12. Apricot			

(7) WEEDY CORNERS & MARGINS (RUDERALS)

	Area 1	Area 2	Area 3
1. Black medick			
2. Bristly ox-tongue			
3. Bugloss			
4. Charlock			
5. Chickweed			
6. Corn buttercup			
7. Corn spurrey			
8. Cut-leaved dead nettle			
9. Field bindweed			
10. Field forget-me-not			
11. Field madder			
12. Field pansy			
13. Fool's parsley			
14. Fumitory spp			
15. Hairy tare			
16. Hedge mustard			
17. Knotgrass			
18. Mayweed spp			
19. Nipplewort			
20. Poppy spp			
21. Red bartsia			
22. Red dead nettle			
23. Round-leaved fluellen			
24. Scarlet pimpernel			
25. Sharp-leaved fluellen			
26. Small-flowered buttercup			
27. Smooth tare			
28. Sowthistle spp			

29. Spear thistle	(<i>Cirsium vulgare</i>)			
30. Speedwell spp	(<i>Veronica spp</i>)			
31. Spreading hedge-parsley	(<i>Torilis arvensis</i>)			
32. Stinking chamomile	(<i>Anthemis cotula</i>)			
33. White dead-nettle	(<i>Lamium album</i>)			

(8) WOODLAND / COPSE

		Area 1	Area 2	Area 3
1. Alder	(<i>Alnus glutinosa</i>)			
2. Ash	(<i>Fraxinus excelsior</i>)			
3. Aspen	(<i>Populus tremula</i>)			
4. Black poplar	(<i>Populus nigra</i>)			
5. Bluebell	(<i>Hyacinthoides non-scriptus</i>)			
6. Bramble	(<i>Rubus fruticosus agg</i>)			
7. Crack willow	(<i>Salix fragilis</i>)			
8. Dog-rose	(<i>Rosa canina</i>)			
9. Dogwood	(<i>Cornus sanguinea</i>)			
10. Enchanter's nightshade	(<i>Circaea luteiana</i>)			
11. Field maple	(<i>Acer campestre</i>)			
12. Figwort spp	(<i>Scrophularia spp</i>)			
13. Goldilocks buttercup	(<i>Ranunculus auricomus</i>)			
14. Greater stitchwort	(<i>Stellaria media</i>)			
15. Grey willow	(<i>Salix cinerea</i>)			
16. Guelder rose	(<i>Viburnum opulus</i>)			
17. Hairy St John's-wort	(<i>Hypericum hirsutum</i>)			
18. Hazel	(<i>Corylus avellana</i>)			
19. Honeysuckle	(<i>Lonicera periclymenum</i>)			
20. Lesser celandine	(<i>Ficaria verna</i>)			
21. Orchid spp	(<i>Dactylorhiza spp, Anacamptis spp</i>)			
22. Poplar hybrids	(<i>Populus x canadensis etc.</i>)			
23. Primrose	(<i>Primula vulgaris</i>)			

24. Ramsons	(<i>Allium ursinum</i>)			
25. Red currant	(<i>Ribes rubrum</i>)			
26. Rowan	(<i>Sorbus aucuparia</i>)			
27. Small-leaved lime	(<i>Tilia cordata</i>)			
28. Spindle	(<i>Euonymus europaeus</i>)			
29. Sycamore	(<i>Acer pseudoplatanus</i>)			
30. Violet spp	(<i>Viola spp</i>)			
31. White willow	(<i>Salix alba</i>)			
32. Wild service	(<i>Sorbus torminalis</i>)			
33. Wild strawberry	(<i>Fragaria vesca</i>)			
34. Wood anemone	(<i>Anemone nemorosa</i>)			
35. Wood avens	(<i>Geum urbanum</i>)			
36. Wood sage	(<i>Teucrium scorodonia</i>)			
37. Wood sorrel	(<i>Rumex sanguineus</i>)			
38. Wood speedwell	(<i>Veronica montana</i>)			
39. Wood spurge	(<i>Euphorbia amygdaloides</i>)			
40. Wych elm	(<i>Ulmus glabra</i>)			
41. Yellow archangel	(<i>Lamium galeobdolon</i>)			
42. Yellow pimpernel	(<i>Lysimachia nemorum</i>)			

(9) BARE GROUND – ARID AND XEROPHYTIC

		Area 1	Area 2	Area 3
1. Colt's-foot	(<i>Tussilago farfara</i>)			
2. Cudweed spp	(<i>Gnaphalium & Filago spp</i>)			
3. Harefoot clover	(<i>Trifolium arvense</i>)			
4. Knotted clover	(<i>Trifolium striatum</i>)			
5. Least birdsfoot	(<i>Ornithopus perpusillus</i>)			
6. Mouse-ear hawkweed	(<i>Pilosella officinarum</i>)			
7. Red bartsia	(<i>Odontites vernus</i>)			
8. Sand spurrey	(<i>Spergularia rubra</i>)			
9. Stonecrop spp	(<i>Sedum spp</i>)			

10. Storksbill spp	(<i>Erodium Spp</i>)			
11. Subterranean clover	(<i>Trifolium subterraneum</i>)			

(10) SCRUB

		Area 1	Area 2	Area 3
1. Bilberry	(<i>Vaccinium myrtillus</i>)			
2. Blackthorn	(<i>Prunus spinosa</i>)			
3. Bramble	(<i>Rubus fruticosus agg</i>)			
4. Broom	(<i>Cytisus scoparius</i>)			
5. Buckthorn	(<i>Rhamnus cathartica</i>)			
6. Buddleia spp	(<i>Buddleia davidii</i>)			
7. Dog-rose	(<i>Rosa canina</i>)			
8. Elder	(<i>Sambucus nigra</i>)			
9. Ericoids	(<i>Calluna vulgaris, Erica cinerea</i>)			
10. Foxglove	(<i>Digitalis purpurea</i>)			
11. Gorse	(<i>Ulex europaeus</i>)			
12. Grey Willow	(<i>Salix cinerea</i>)			
13. Hairy willowherb	(<i>Epilobium parviflorum</i>)			
14. Hedge bindweed	(<i>Calystegia sepium</i>)			
15. Hedge woundwort	(<i>Stachys sylvatica</i>)			
16. Hogweed	(<i>Heracleum spondylium</i>)			
17. Honeysuckle	(<i>Lonicera periclymenum</i>)			
18. Hop	(<i>Humulus lupulus</i>)			
19. Ivy	(<i>Hedera helix</i>)			
20. Meadowsweet	(<i>Filipendula ulmaria</i>)			
21. Perforate St.John's-wort	(<i>Hypericum perforatum</i>)			
22. Rosebay-willowherb	(<i>Chamerion angustifolium</i>)			
23. Thistle spp	(<i>Cirsium spp</i>)			
24. Wild clematis	(<i>Clematis vitalba</i>)			