

A photograph of a field of pink flowers, likely Aster, with a soft-focus background of green foliage and yellow flowers. The text is overlaid on the right side of the image.

An Introduction to the NPMS Methodology

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Volunteer Coordinator**

Welcome and thank you!





National Plant Monitoring Scheme



The need ...

- Vascular plants are crucial yet we know little about them!
- Existing monitoring - potential to mask trends and weaken signals
- Nothing to produce the annual trends in abundance that are regularly produced for birds and butterflies

Need for a **STANDARDISED APPROACH** - published in 2008 by JNCC

- 2012 - the four partners came together
- 2014 - pilot in conjunction with Wildflowers Count
- 2015 - the NPMS was launched



The method ...

- Provide reliable measures of change for individual species and species groups within semi-natural habitats;
- Utilise both positive and negative indicator species for each habitat;
- Be simple, repeatable, and achievable by volunteers.

10 minutes in groups of 3 - What's in a number?

28	NPMS Species	2000
	NPMS broad habitats	
	Partners	
	Number of plots	
4	Recording levels	11
	Volunteers required	
	Visits each year	
408	NPMS fine habitats	3
	2	5

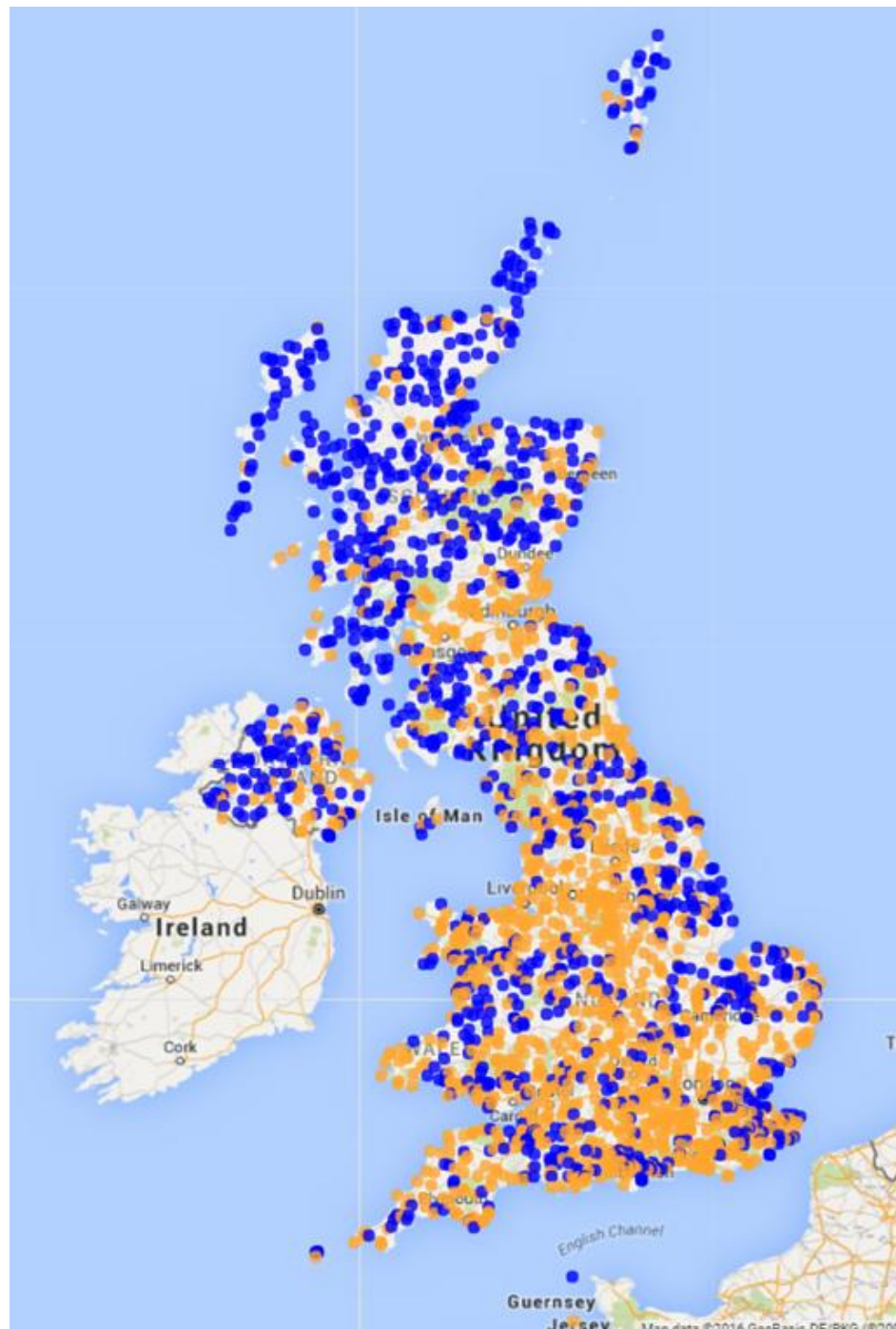
What's in a number? - The Results!

NPMS Species	408
NPMS broad habitats	11
Partners	4
Number of plots	5
Recording levels	3
Volunteers required	2000
Visits each year	2
NPMS fine habitats	28

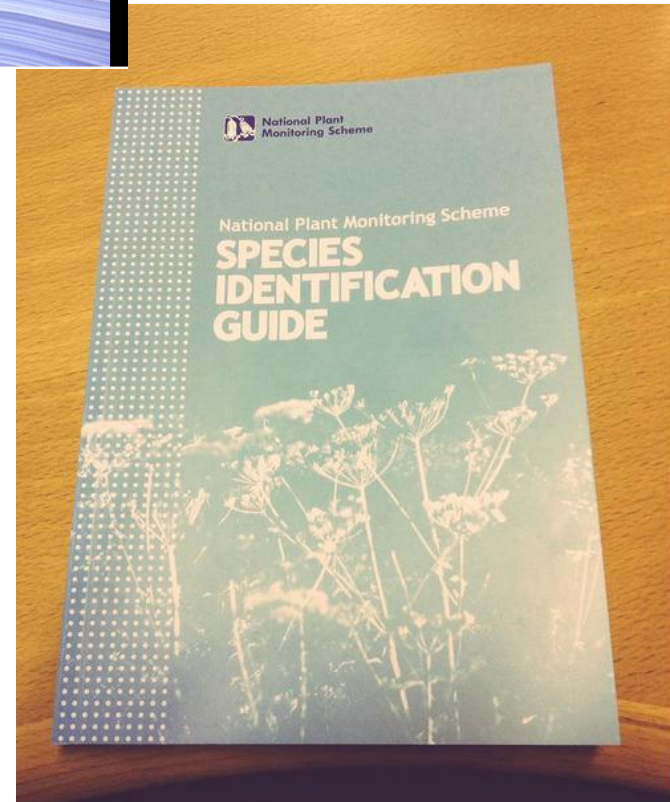
How are we doing so far?

1173 Volunteers with
one square or more

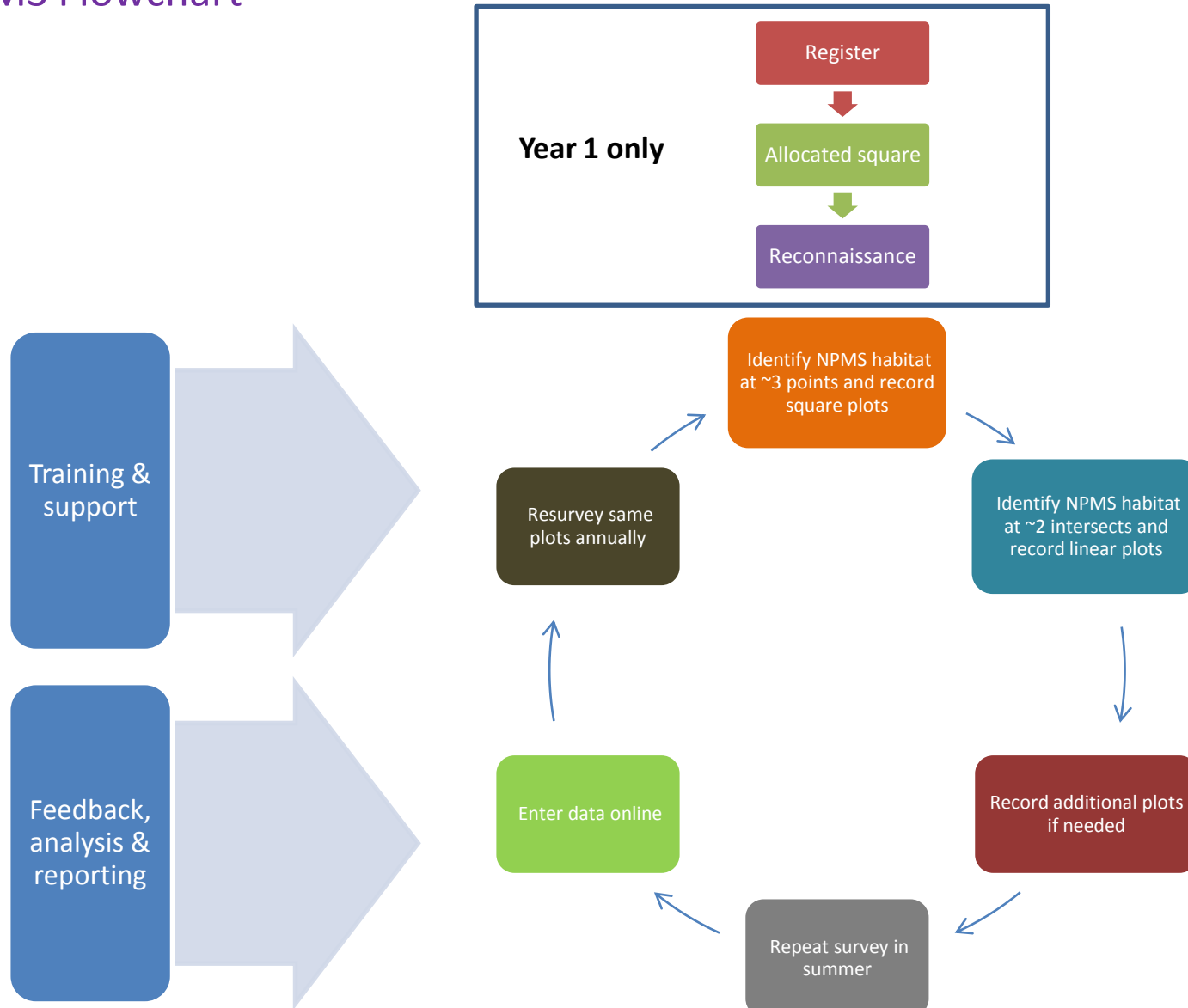
2230 Volunteers
registered on the
NPMS website since
the 1st March 2015



New scheme - shiny new materials!



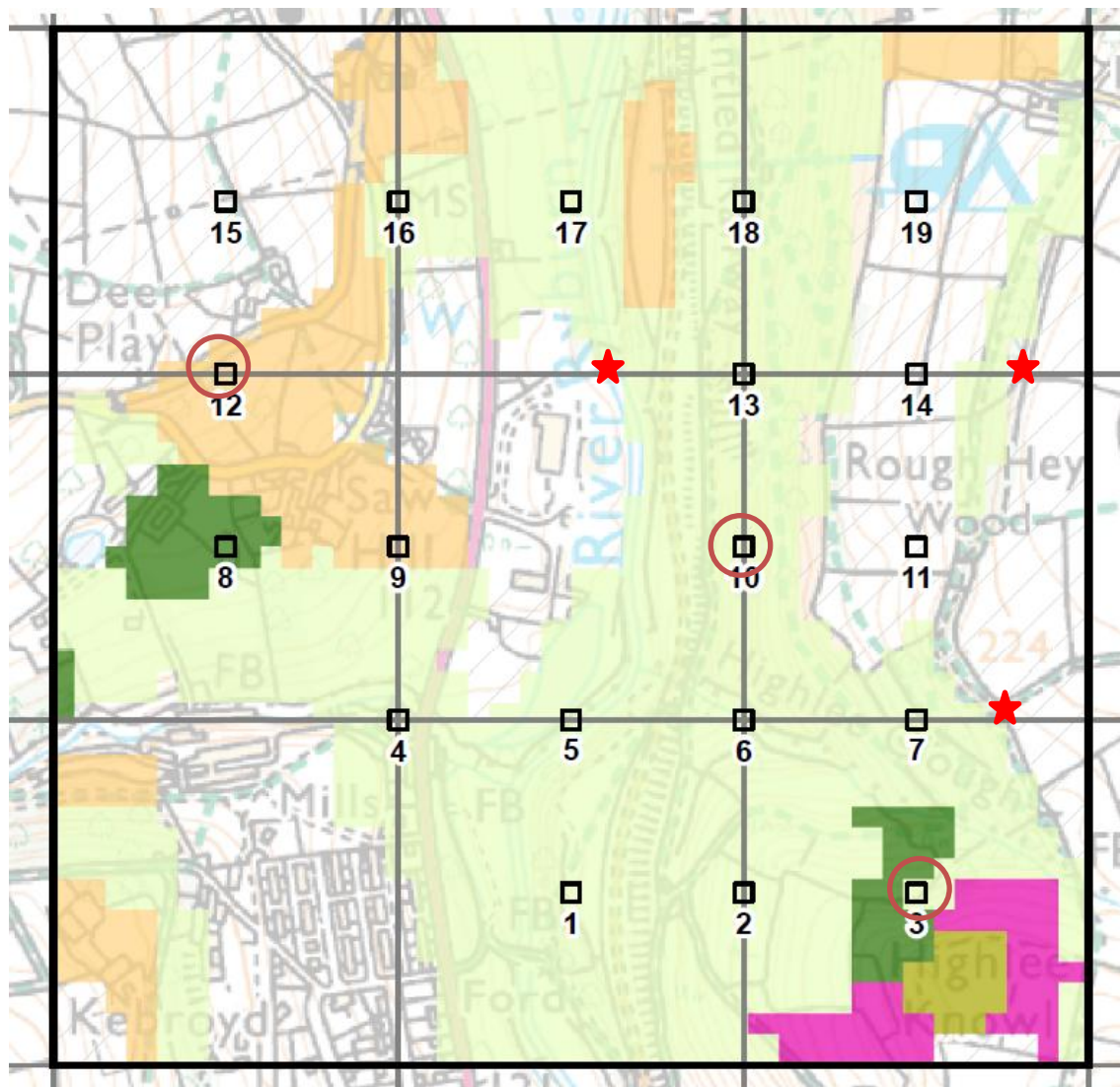
NPMS Flowchart









How to locate survey plots:

- 3 square plots

- 2 linear plots



Habitats

 Acid grassland	 Heather grassland
 Broadleaved woodland	 Rough grassland
 Coniferous woodland	 Other

20 minutes in groups of 3/4 - Where would you survey?

In groups take a look at the selection of maps and discuss how you would approach locating plots for the NPMS.

Think about:

NPMS Habitats?

5 Plots – Linear or square?

Access?

Potential problems and how you would overcome these?

NPMS Habitats:

Broad category	Fine-scale habitat(s) included	Wildflower	Indicator
Arable field margins	Arable field margins	15	30
Bog & wet heath	Blanket bog; raised bog; wet heath	31	53
Broadleaved woodland	Dry deciduous woodland; hedgerows of native species; wet woodland	49	75
Coast	Coastal saltmarsh; coastal sand-dunes; coastal vegetated shingle; machair; maritime cliff-tops and slopes	65	110
Freshwater	Nutrient-poor lakes and ponds; nutrient-rich lakes and ponds; rivers and streams	29	56
Heathland	Dry heathland; dry montane heathland	28	48
Lowland grassland	Dry acid grassland; dry calcareous grassland; neutral damp grassland; neutral pastures and meadows	62	98
Marsh & fen	Acid fens, flushes, mires and springs; base-rich fens, flushes, mires and springs	33	51
Upland grassland	Montane acid grassland; montane calcareous grassland	31	53
Native pinewood & juniper scrub	Conifer woods and juniper scrub	21	29
Rock outcrops, cliffs & screes	Inland rocks and scree; montane rocks and scree	34	52

20 minutes in groups of 3/4 - Which habitat am I?

In groups take a look at the habitat pictures and match them up with the fine habitat label.

You can use the habitat descriptions on pages 27 – 39 of the survey guidance to help.

Which habitat am I? - Answers:

Dry deciduous woodland	Coastal sand dunes
Arable field margin	Dry calcareous grassland
Neutral damp grassland	Dry heathland
Wet woodland	Coastal saltmarsh
Neutral pastures and meadows	Rivers and streams

If you are unsure:

- Try Google
- Britain's Habitats book
- New FSC fold-out
- Use the broad habitat list

Coast comprising Coastal saltmarsh (CS), Coastal sand dunes (CSD), Coastal vegetated shingle (CVS), Machair (M) and Maritime cliff tops and slopes (MCT)

Name	Common name	WF	Page No.	Fine Habitats
<i>Achillea millefolium</i>	Yarrow		2	M / MCT
<i>Alopecurus geniculatus</i>	Marsh Foxtail		130	CSD
<i>Ammophila arenaria</i>	Marram		131	CVS
<i>Angelica sylvestris</i>	Wild Angelica		3	M
<i>Apium graveolens</i>	Wild Celery		5	CS
<i>Armeria maritima</i>	Thrift		66	CS / MCT
<i>Aster tripolium</i>	Sea Aster		83	CS
<i>Atriplex portulacoides</i>	Sea Purslane		106	CS
<i>Atriplex sp.</i>	Orache		107	CVS

Pick a survey level:








- *Wildflower Level* – 212 easily identifiable species, divided into lists applicable for habitats



- *Indicator Level* – an expanded list of 408 species, divided into groups applicable for habitats including some species which are more challenging to identify (e.g. more grasses, sedges, ferns)

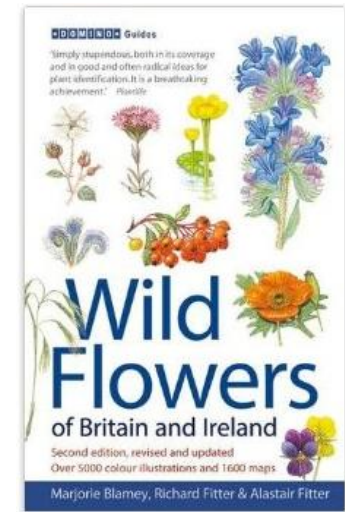
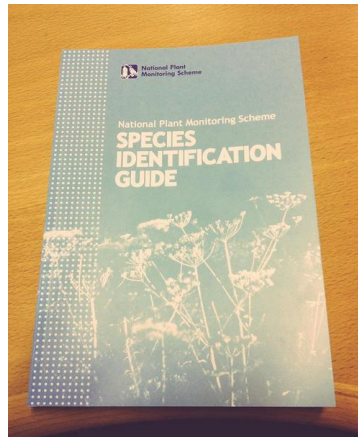
- *Inventory Level* – designed for volunteers who are capable of recording all vascular plant species which they find in a habitat

Broadleaved woodland comprising Dry deciduous woodland (DDW), Hedgerows of native species (HNS) and Wet woodland (WW)

Name	Common name	WF	Page No.	Fine Habitats
<i>Ajuga reptans</i>	Bugle		83	WW
<i>Allium ursinum</i>	Ramsons		3	DDW
<i>Anthriscus sylvestris</i>	Cow Parsley		4	HNS
<i>Arctium minus / nemorosum</i>	Lesser / Wood Burdock		83	HNS
<i>Arum maculatum</i>	Lords-and-Ladies / Cuckoopint		106	HNS
<i>Asplenium scolopendrium (Phyllitis scolopendrium)</i>	Hart's-tongue		125	HNS
<i>Berula erecta</i>	Lesser Water-parsnip		7	WW
<i>Caltha palustris</i>	Marsh-marigold		34	WW
<i>Campanula latifolia</i>	Giant Bellflower		85	DDW

Species ID - Resources:

Floras:



Web Resources:

Botanical Society of Britain & Ireland

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Plant Crib

Sections from edition 2, with some updated sections from the planned Plant Crib 3.

- **Acaena** Pin-pin-burs
- **Actinidia** Monk's hoods
- **Agrostoidae**
- **Azaceae**
- **Aster**
- **Scismilla**
- **Alisma**
- **Alois**
- **Alpecurus a piletica**
- **Amaranthus**
- **Ambrosia**
- **Ameletanther**
- **Anthyllus**
- **Ashaceae**
- **Asium**
- **Asplenium**
- **Aster**
- **Asteraceae - marisolds**
- **Asteraceae - yellow**
- **Potamogeton** (pondweeds)
- **Potentilla** (pink-wilds)
- **Potentilla erecta** (strewberries)
- **Prunus** (cherries)
- **Pinguicula** (cushions)
- **Puccinellia distans** (reflexed saltmarsh-grass)
- **Pyris** (pears)
- **Quercus** (oaks)
- **Ranunculus flammula** (water-crowfoots)
- **Ranunculus flammula** (buttercups)
- **Ellis** (cornruts)
- **Scilla** (yellow-cresses)
- **Salix** (willows)
- **Rumex** (dock)
- **Rumex crispus** (curled dock)
- **Sagina maritima** (sea purslane/sandworts)
- **Salicaria** (grassworts)
- **Sida** (willow)
- **Senecio** (burnets)
- **Saxifraga** (saxifrages)
- **Saxifraga hypnoides** (marsh saxifrage)
- **Schoenus** (club-rushes)
- **Scrophularia** (figworts)
- **Trifolium** (clovers)

Other Identification Resources

- **Botanical Keys** A free and easy online key for beginners, by Quentin Ingram
- **Have a go at the Flora of NW Europe's** identification Test.
- **Jeremy Roberts's website** on Trichophorum, Eleocharis, Viola rupestris and Mytenophyllum

the species recovery trust

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The Species
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Training Resources

A page with links to our learning resources (these are mainly plants at the moment but this page will be expanding).

Grasses

- [Grasses quiz on Buzzfeed](#)
- [Sedges and Rushes quiz on Buzzfeed](#)
- [Grass Training Film](#)
- [The SRT channel on Youtube](#), with lots of short films (and one long one of grass ID)
- [Common Grasses crib sheet](#)
- [The Field Guide to Grasses, Sedges and Rushes link to purchase book](#)
- [Grasses - Magic 52 a beginners guide to grasses, sedges and rushes](#)
- [Old Sezem Grass Listy for attendees on the grass course](#)

Training:

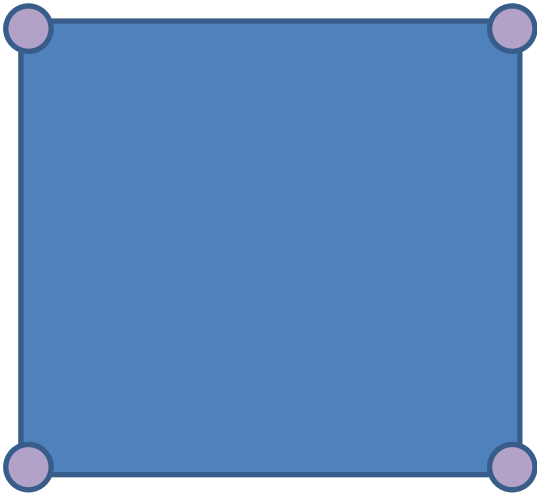


National Plant Monitoring Scheme

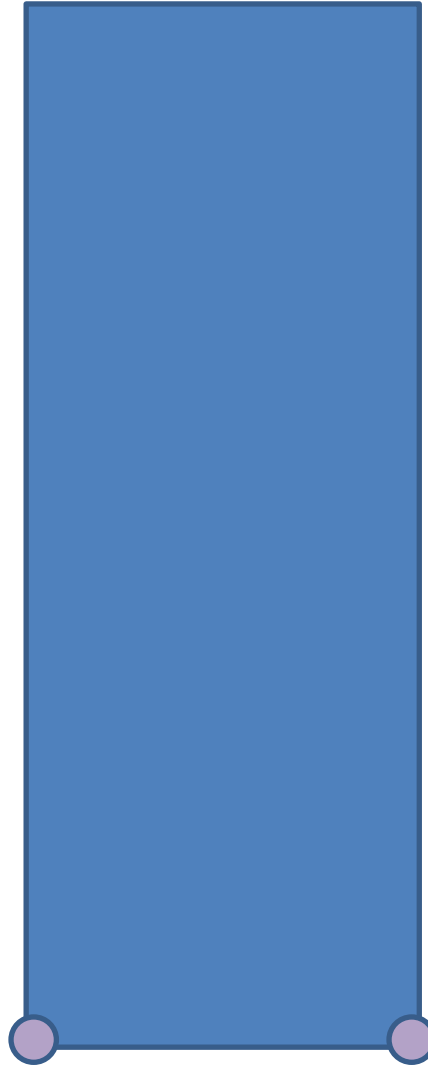


Laying out your survey plot:

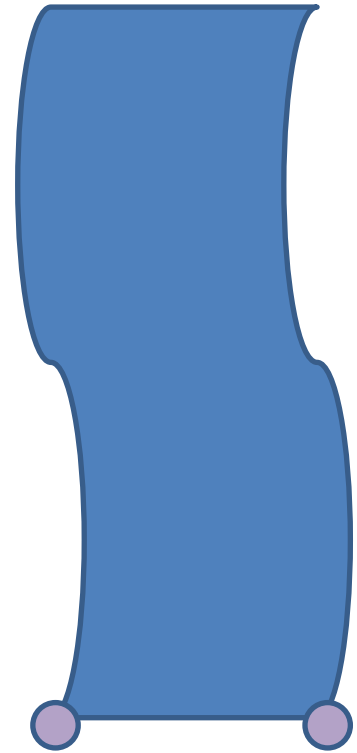
Square plot - 5x5m



Linear plot - 1x25m



Linear plot - 1x15m



Fill in your recording form for the plot

Assessing % cover using the DOMIN scale:

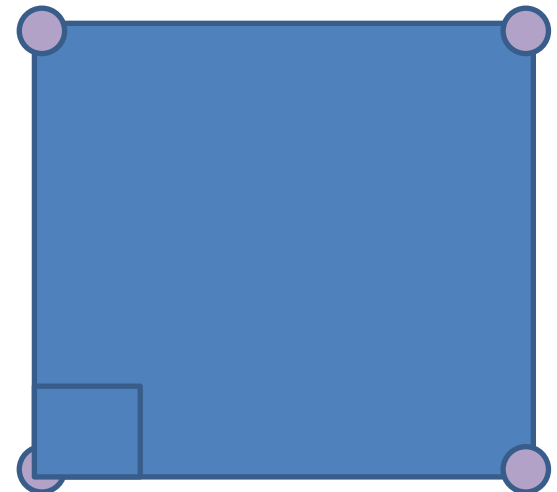
Score:	1	2	3	4	5	6	7	8	9	10
% Cover:	<1	<1	1-4	5-10	11-25	26-33	34-50	51-75	76-90	91-100

- 1 – 2 individuals = 1
- Several individuals but not 1% = 2
- If species are scattered try to imagine them clustered in a corner – how many 50x50cm square would they occupy, including their leaves?

50x50cm square = 1% of a 5x5m square plot



Square plot - 5x5m



The results ...

- National trends
- Annual trends - species, groups of species
- Non-natives, climate sensitive etc.
- Direct impacts of physical events e.g. Severe weather, introduction of pests
- Changes in land management
- Links with other species groups e.g. pollinators

This afternoon:

- Setting up square and linear plots in a range of habitats
- Get to grips with the DOMIN scale

Any Questions?