



Phase 1 Habitat Mapping

Plan for Today



Start : 09hrs00

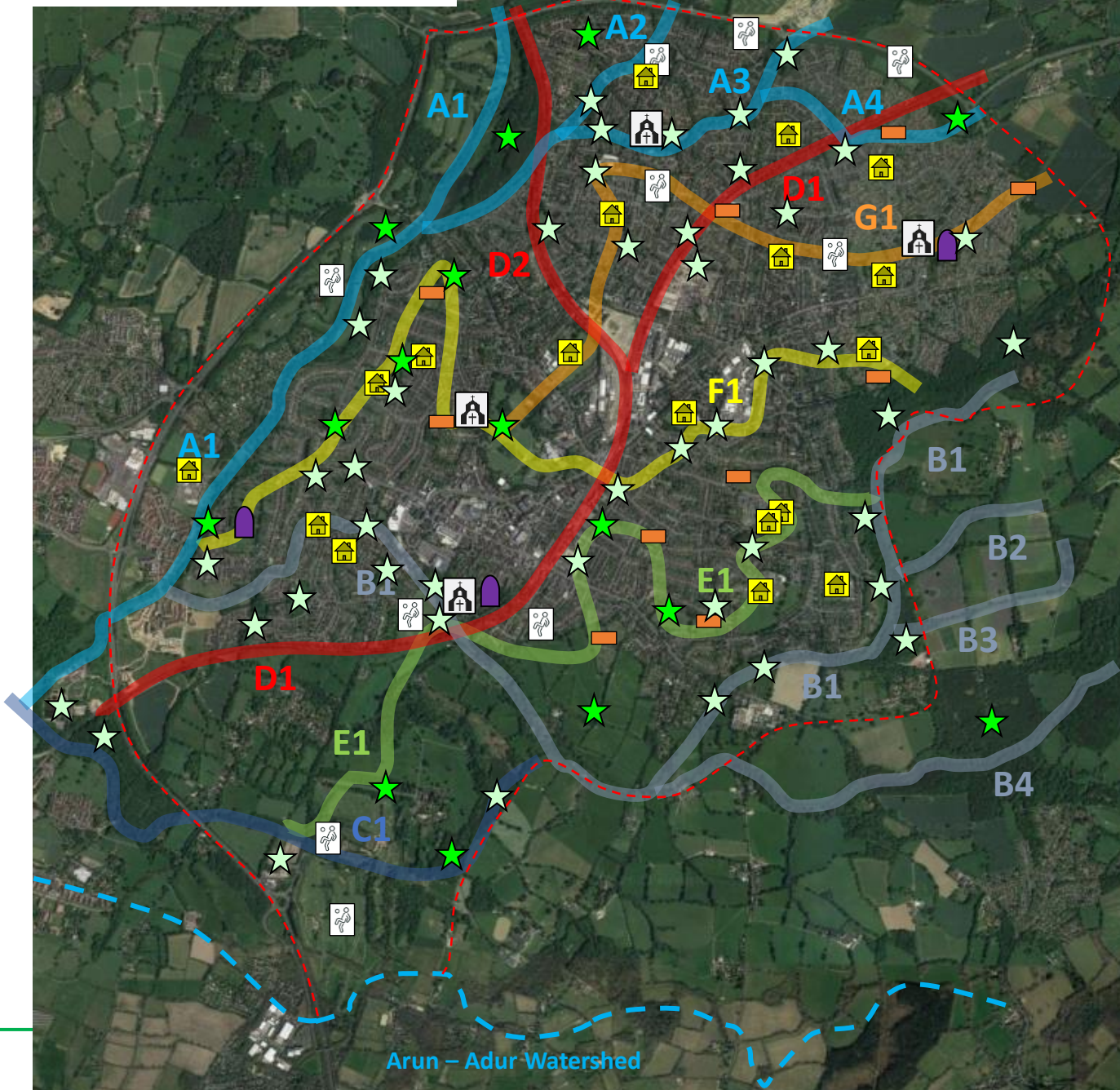
- Why are we doing this ?
- Different Habitat Mapping Systems
- Equipment
- Preparing the Base Map
- The Habitats for Phase 1 Mapping








Break : 10hrs00

- Fieldwork

Finish : 12hrs30

Horsham Town : "Pollinator Flyways"



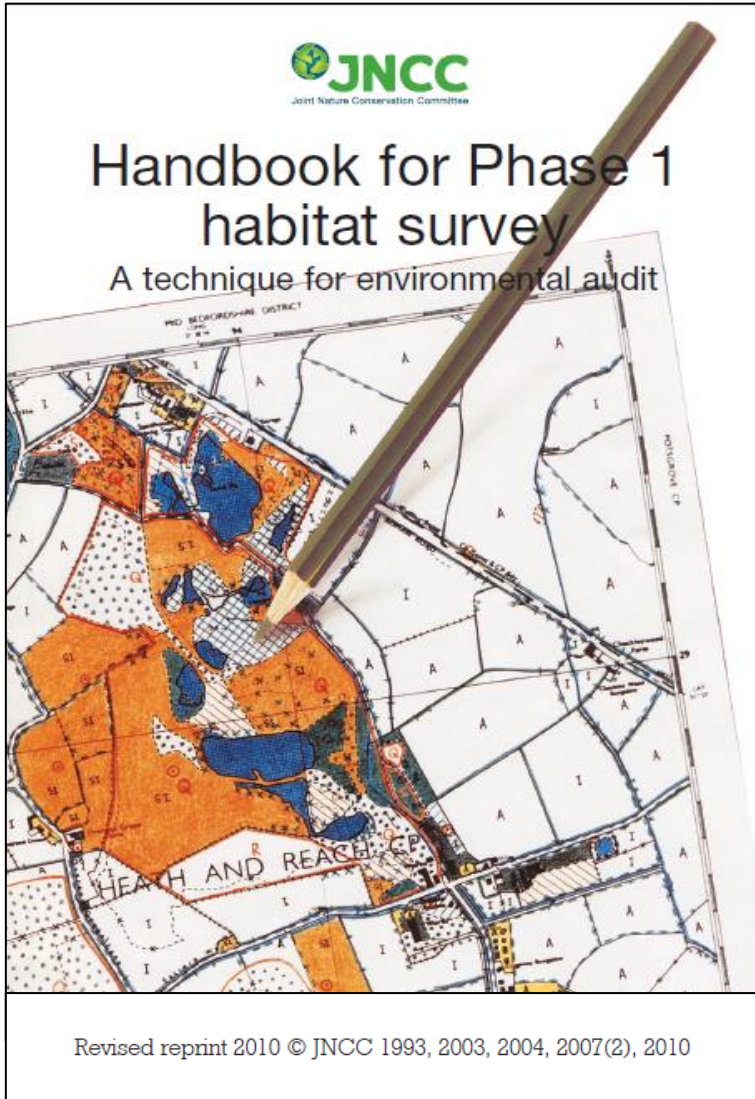
-  Allotments (10)
-  Cemeteries (3)
-  Churches (4)
-  Schools (18)
-  Sports Clubs (10)
-  HGS (15)
-  Other G.S. (44)

Arun - Adur Watershed



What Habitat Mapping System
should I use ?

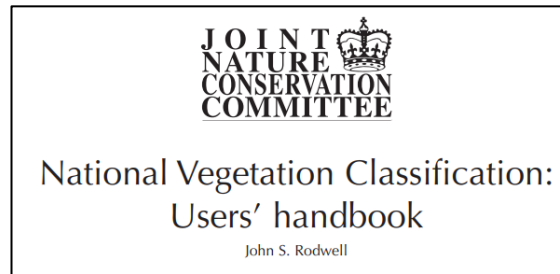
HGS Habitat Mapping : Many Different Systems Available



Analogue



**Digital
(QGIS)**



- Comprehensive classification & description of vegetation communities.
- Used by Nature Conservation Agencies for SSSI's etc

Many other systems focussed on more specific habitats

eg : River Habitat Surveying

Hedgerow Surveying....

JNCC Phase 1 Habitat Survey vs UKHab



Handbook for Phase 1 habitat survey



TRAINING UKHAB AND SURVEY APPS V2.0 CONSULTATION

UK Habitat Classification

| | |
|--|---|
| | g - grassland |
| | w - woodland |
| | h - heathland and shrub |
| | f - wetland |
| | c - cropland |
| | u - urban |
| | s - sparsely vegetated land |
| | r - rivers and lakes |
| | t - marine inlets and transitional waters |

4 Levels of habitat identification :

- Level 1 : eg Grassland
- Level 2 : eg Acid Grassland
- Level 3 : Upland Calc. Grassland
- Level 4 : Holcus-Juncus Neutral Grassland

| A | Woodland and scrub | B | Grassland and marsh |
|---|-----------------------------|----|---|
| 1 | Woodland | 1 | Acid grassland |
| 1 | Broad-leaved | 1 | Unimproved |
| | Green | | Orange |
| | 2 Plantation | 2 | Semi-proved |
| | Green | | Orange |
| 2 | Coniferous | 2 | Neutral grassland |
| 1 | Semi-natural | 1 | Unimproved |
| | True Green | | Orange |
| | 2 Plantation | 2 | Semi-improved |
| | True Green | | Orange |
| 3 | Mixed | 3 | Calcareous grassland |
| 1 | Semi-natural | 1 | Unimproved |
| | Green over true green | | Orange |
| | 2 Plantation | 2 | Semi-improved |
| | Green over true green | | Orange |
| 2 | Scrub | 4 | Improved grassland |
| 1 | Dense/continuous | | No colour |
| | Green | 5 | Marsh/marshy grassland |
| | 2 Scattered | | Purple over orange |
| | Green | *6 | Poor semi-improved grassland (optional) |
| | 3 Parkland, scattered trees | | No colour |
| 1 | Broad-leaved | | |
| | Green | | |
| 2 | Coniferous | | |
| | True Green | | |
| 3 | Mixed | | |
| | Green over true green | | |
| 4 | Recently-felled woodland | | |
| 1 | Broad-leaved | | |
| | Green | | |
| 2 | Coniferous | | |
| | True Green | | |

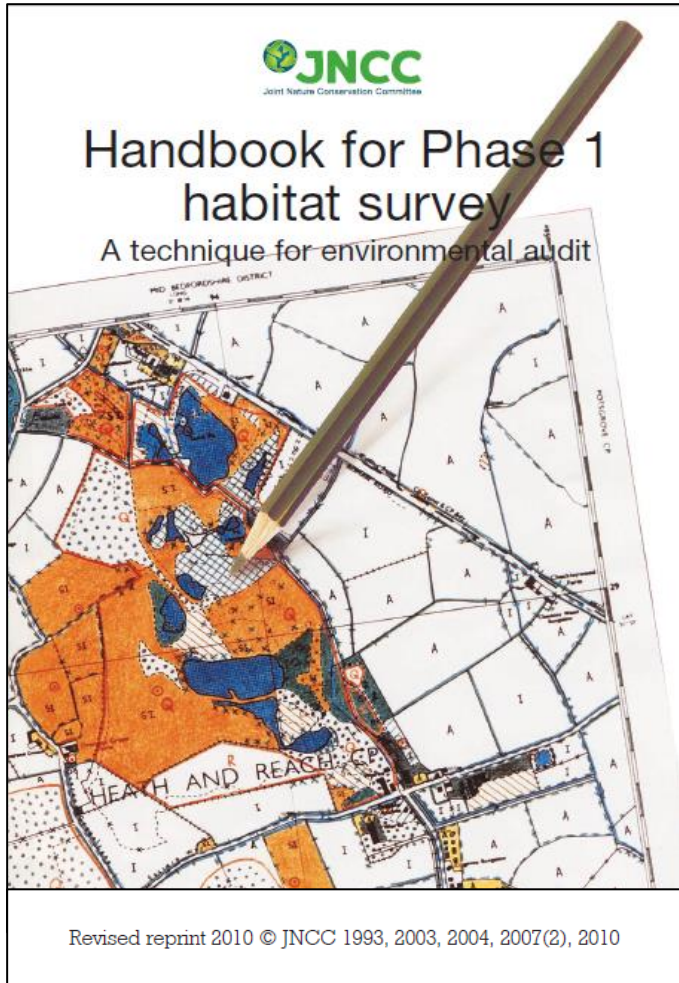
Primary Habitats in UKHab-B - Grassland

| | |
|--|---|
| | g - grassland |
| | g1 - acid grassland |
| | g1a - lowland dry acid grassland |
| | g1b - upland acid grassland |
| | g1b5 - montane acid grasslands (H6150) |
| | g1b6 - other upland acid grassland |
| | g1c - bracken |
| | g2 - calcareous grassland |
| | g2a - lowland calcareous grassland |
| | g2b - upland calcareous grassland |
| | g3 - neutral grassland |
| | g3a - lowland meadows |
| | g3b - upland hay meadows |
| | g3c - other neutral grassland |
| | g3c5 - Arrhenatherum neutral grassland |
| | g3c6 - Lolium-Cynosurus neutral grassland |
| | g3c7 - Deschampsia neutral grassland |
| | g3c8 - Holcus-Juncus neutral grassland |
| | g4 - modified grassland |

Primary Habitats in UKHab-B - Woodland

| | |
|--|---|
| | w - woodland |
| | w1 - broadleaved mixed and yew woodland |
| | w1a - upland oakwood |
| | w1b - upland mixed ashwoods |
| | w1c - lowland beech and yew woodland |
| | w1d - wet woodland |
| | w1e - upland birchwoods |
| | w1f - lowland mixed deciduous woodland |
| | w1g - other woodland-broadleaved |
| | w1g6 - line of trees |
| | w1h - other woodland mixed |
| | w2 - coniferous woodland |
| | w2a - native pine woodlands |
| | w2b - other scots pine woodland |
| | w2c - other coniferous woodland |

JNCC Phase 1 Habitat Survey



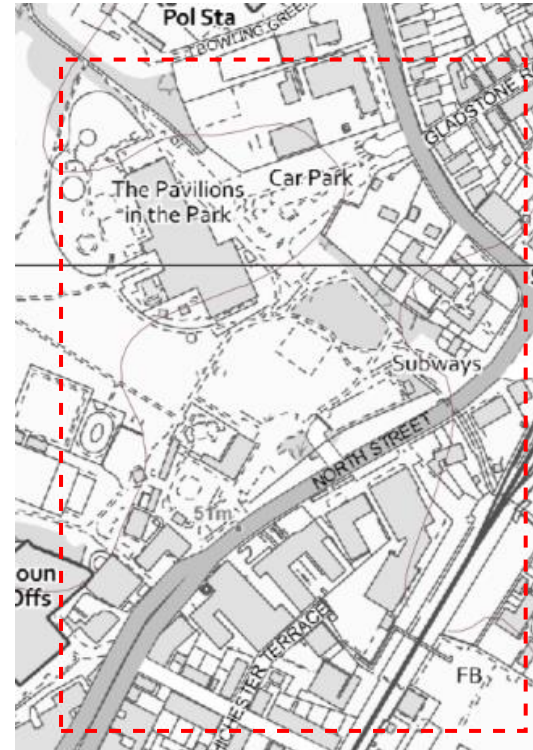
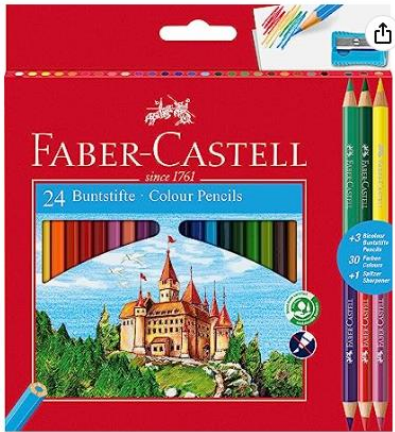
- Time estimate for fieldwork: **80 – 640 ha per day**
- Based on vegetation features
- Habitat maps using standard codes and colours
- **Additional information with target notes**

JNCC Handbook can be downloaded for free :

<https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf>

Or just google : Phase 1 Habitat Mapping

What do you need ?



- Plant & tree identification guides : Book or App
- Permission from Landowner if working on Private Land



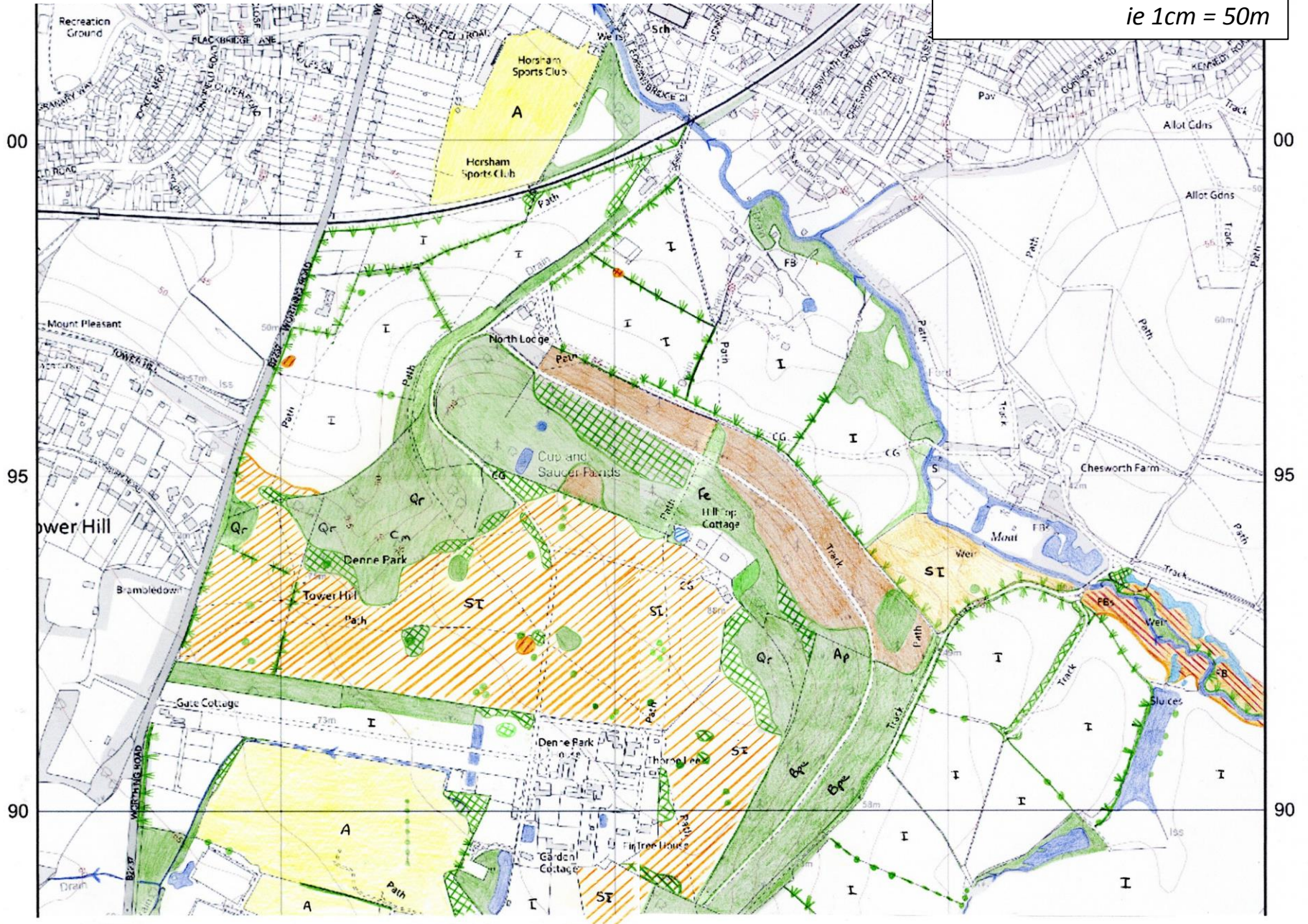
Preparing the Base Map

What Scale should I map at ?

JNCC Phase 1 Habitat Survey : Denne Hill - North

Mapped at : 1 : 5,000

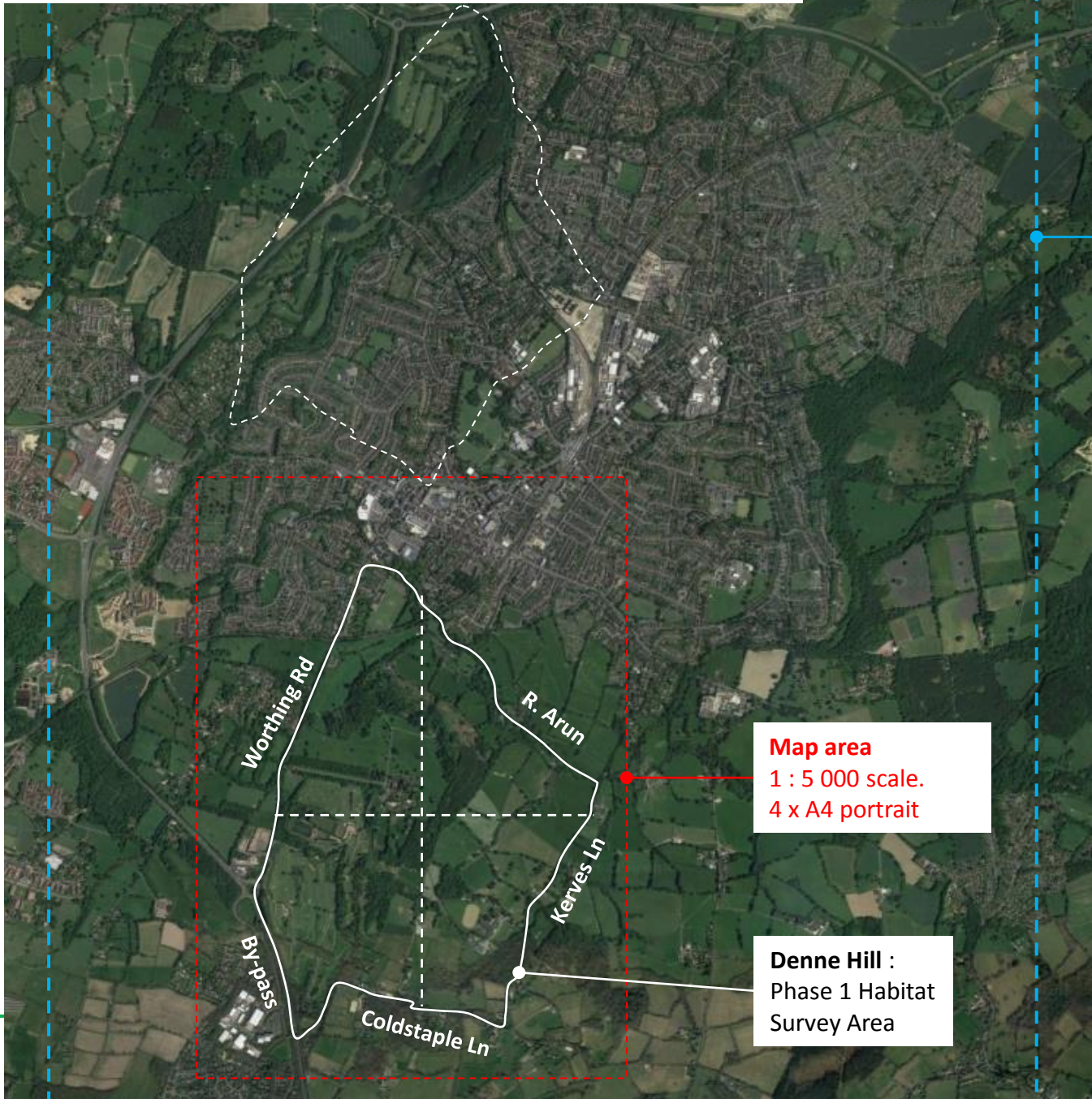
ie 1cm = 50m



JNCC Phase 1 Habitat Survey : What Scale ?



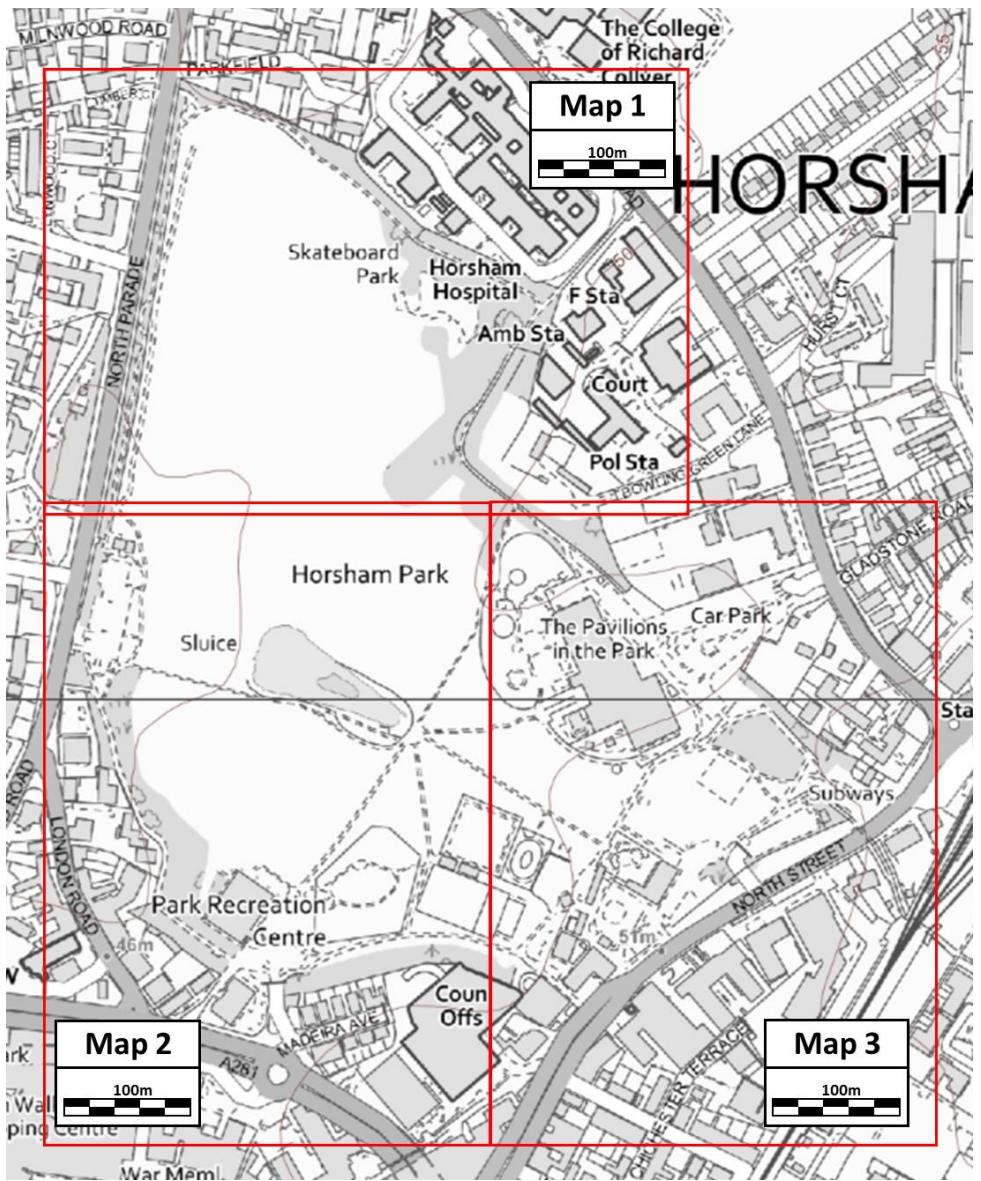
Horsham Town Map
1 : 10 000 scale.
JPEG A1 portrait



Map area
1 : 5 000 scale.
4 x A4 portrait

Denne Hill :
Phase 1 Habitat
Survey Area

JNCC Phase 1 Habitat Survey : What Scale ?



- Denne Hill Survey at 1 : 5,000
ie 1cm = 50m
- For smaller Green Spaces better to work at a **larger** scale
ie 1 : 2,500 (1cm = 25m)
or 1 : 1,000 (1cm = 10m)
or 1 : 500 (1cm = 5m)

*Working at 1 : 2,000 scale
ie 1cm = 20m*

*Horsham Park would require
3 x A4 pieces of paper*

JNCC Phase 1 Habitat Survey : The Rec

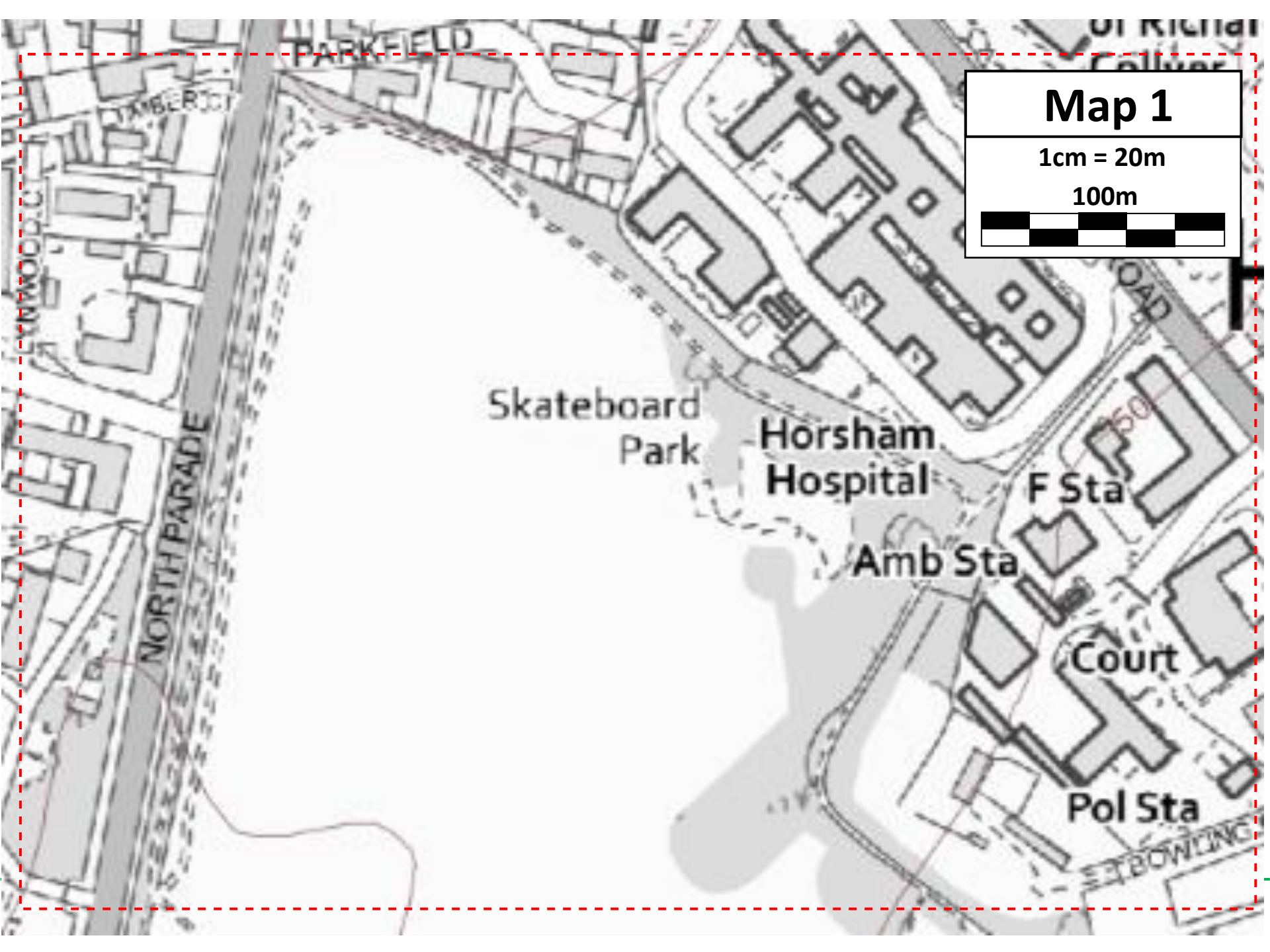


Mapped at : 1 : 1,000
ie 1cm = 10m
1 x A4 Landscape



Preparing the Base Maps

Aerial view if possible



Map 1

1cm = 20m

100m



PARKFIELD

OF RICHA
Collyer

WOLC
TAMBERICT

NORTH PARADE

Skateboard
Park

Horsham
Hospital

Amb Sta

F Sta

Court

Pol Sta

BOWLING

Map 1

1cm = 20m

100m

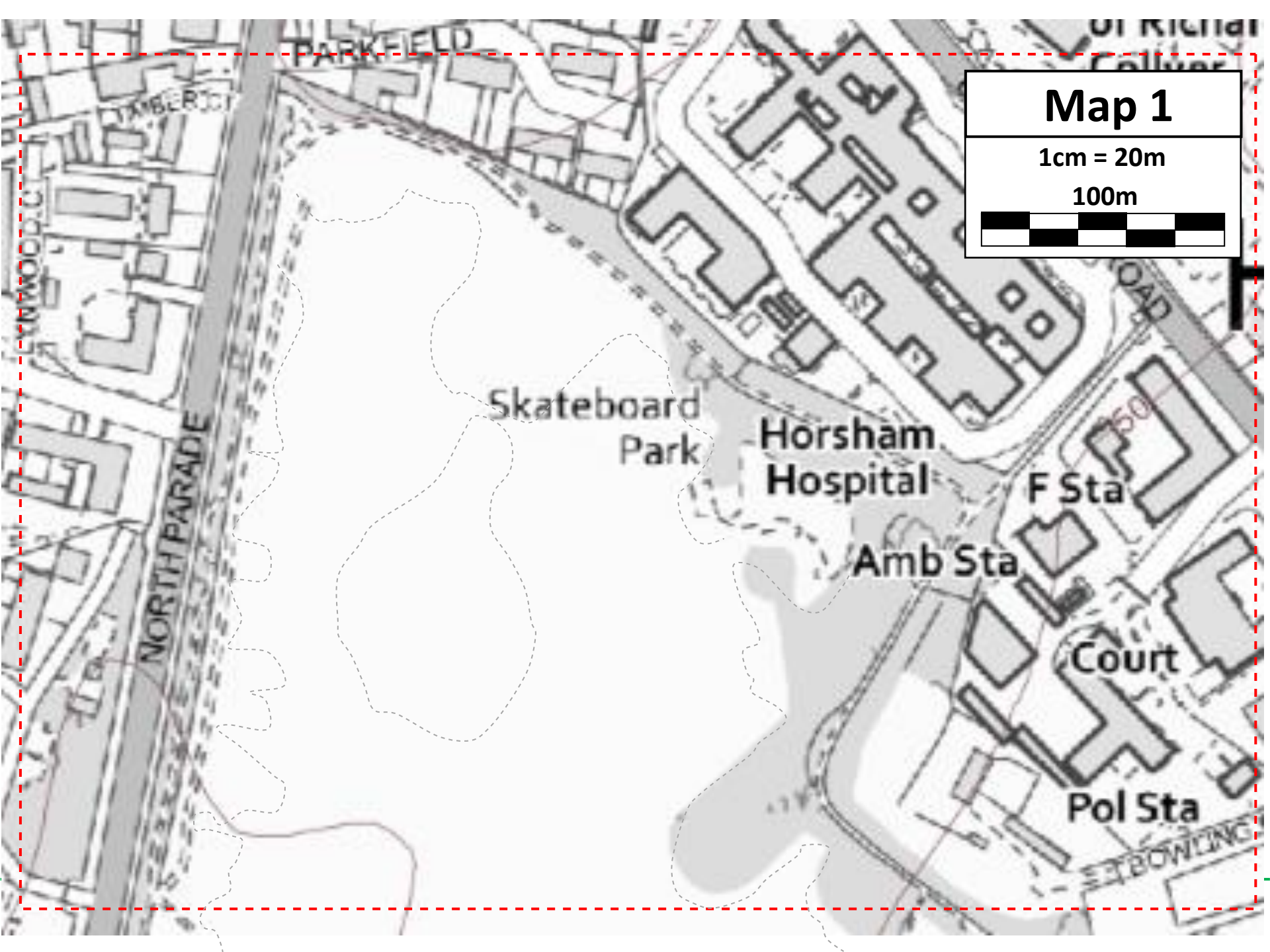


Map 1

1cm = 20m

100m





Map 1

1cm = 20m

100m



PARKFIELD

TAMBERICT

WINDY

NORTH PARADE

Skateboard
Park

Horsham
Hospital

Amb Sta

F Sta

Court

Pol Sta







BOWLING



What are the Habitats that will be mapped ?

Phase 1 Habitats – A1 : Woodland





| | | | |
|----------------|--------------|--|------------------------------------|
| A | | Woodland | |
| 1 Woodland | | | |
| 1 Broad-leaved | | | |
| 1 | Semi-natural |  | D. Green |
| 2 | Plantation |  | D. Green |
| 2 Coniferous | | | |
| 1 | Semi-natural |  | L. Green |
| 2 | Plantation |  | L. Green |
| 3 Mixed | | | |
| 1 | Semi-natural |  | D. Green over L. Green |
| 2 | Plantation |  | D. Green & L. Green |

- Tree cover **>30% of area**
- Trees **>5m in height**
- Dominant Tree & Understorey species to be coded if possible
 - **Broadleaved** : **10%** or less conifer in canopy
 - **Coniferous** : **10%** or less broadleaved in canopy
 - **Mixed woodland** : **10-90%** of either broadleaved or conifer in the canopy.
Target Note approx. Proportions.
 - **Semi-natural** : **<30%** of trees are planted
 - **Plantation** : **>30%** of trees are planted
- Tree cover **<30%** = Scattered trees (see below)

Phase 1 Habitats – A2 : Scrub



| | | |
|--------------------|---|----------|
| 2 Scrub | | |
| 1 Dense/continuous |  | D. Green |
| 2 Scattered |  | D. Green |

- Vegetation dominated by **Native Shrubs**, **< 5 m tall**,
- Occasionally with a few scattered trees.
- Code dominant species if possible.

- Should include :
 - Bramble,
 - Hawthorn,
 - Blackthorn,
 - Willow sp.

- Should not include :
 - Hedges,
 - Introduced Shrubs

Phase 1 Habitats – A3 : Parkland & Scattered Trees



3 Parkland.scattered trees

1 Broad-leaved



D. Green

2 Coniferous



L. Green

3 Mixed












D. Green &
L. Green

- Tree cover < **30%**
- Superimpose green dot over appropriate habitat colour eg semi-improved neutral grassland etc
- Green dot colour determined by :
 - **Broadleaved : 10%** or less conifer
 - **Coniferous : 10%** or less broadleaved
 - **Mixed woodland : 10-90%**

Phase 1 Habitats – B : Grassland

and Marsh



| B Grassland and marsh | | |
|--|---|--------------------|
| 1 Acid grassland |  | Orange |
| 1 Unimproved | | |
| 2 Semi-proved |  | Orange |
| 2 Neutral grassland | | |
| 1 Unimproved |  | Orange |
| 2 Semi-improved |  | Orange |
| 3 Calcareous grassland | | |
| 1 Unimproved |  | Orange |
| 2 Semi-improved |  | Orange |
| 4 Improved grassland |  | No Colour |
| 5 Marsh/marshy grassland |  | Purple over Orange |
| *6 Poor semi-improved grassland (optional) |  | No Colour |

- **Improved** heavily dominated by a few “agricultural” grass species, very few wild flowers and regularly grazed and improved with fertilisers, herbicides etc

Tends to be an homogenous green colour

- **Semi-improved** = lots of wild flowers in the grass.

Patchwork of different greens

- **Unimproved** doesn't exist in UK (apparently).

- **Acid** : pH <5.5

- **Neutral** : pH 5.5 to 7.0

- **Calcareous** : pH >7.0

- **B5 Marsh / Marshy Grassland**

- Water table close to but below substratum most of the year

Phase 1 Habitats – J1 : Cultivated / Disturbed Land








| | |
|------------------------------|----------------------|
| J | Miscellaneous |
| 1 Cultivated/disturbed land | |
| *1 Arable | No Colour |
| *2 Amenity grassland | Yellow |
| *3 Ephemeral/short perennial | Black |
| *4 Introduced shrub | Brown |

- **Arable** : cropland, nurseries, vegetable plots, flower beds
- **Amenity Grassland : Regularly mown** - Lawns, Playing Fields
- **Ephemeral/short perennial** : derelict urban areas
- **Introduced Shrub** : Non native introduced shrub
Introduced shrub below woodland should be target noted.
eg. Invasive Rhododendrons

Phase 1 Habitats – C : Tall Herb & Fern






| C Tall herb and fern | |
|------------------------------|--|
| 1 Bracken 1 Continuous |  Brown |
| 2 Scattered |  Brown |
| 2 Upland species-rich ledges |  Brown - target note |
| 3 Other 1 Tall ruderal |  Brown |
| 2 Non-ruderal |  Brown |

- **Bracken** Continuous or Scattered
- **Tall Ruderal** : tall (>25cm) perennial or biennial flowering plants :
eg : Nettle, Willowherb etc
- **Non-ruderal** : Ferns

Phase 1 Habitats – F : Swamp, Marginal and Inundation











| | |
|---------------------------|---|
| F | Swamp, marginal and inundation |
| 1 Swamp |  L. Blue |
| 2 Marginal and inundation | |
| 1 Marginal vegetation |  L. Blue & Target Note |
| 2 Inundation vegetation |  L. Blue |

- **Swamp** : Generally in standing water most of the year.
 - Tall emergent vegetation typical of transition zone between open water and land.
- **Marginal Vegetation** : Margins of lowland water courses. Usually **<5m** in width
- **Inundation Vegetation** : Unstable communities in areas of periodic flooding on pond, lake & river margins

Phase 1 Habitats – G : Open Water



| | | | |
|--|---|---|---------|
| G | Open water | | |
| | 1 Standing water |  | D. Blue |
| | Optional codings: | | |
| | 1 Eutrophic |  | D. Blue |
| | 2 Mesotrophic |  | D. Blue |
| | 3 Oligotrophic |  | D. Blue |
| | 4 Dystrophic |  | D. Blue |
| | 5 Marl |  | D. Blue |
| 6 Brackish (*includes saline lagoons) |  | D. Blue | |
| 2 Running water |  | D. Blue | |


- Water beyond the limits of swamp or emergent vegetation but may have free floating or floating leaved vegetation.
- **Standing Water** - Ponds, Lakes etc
 - **Eutrophic** : pH usually >7, strongly discoloured with algae
 - **Mesotrophic** : pH neutral, some algae discolouration
 - **Oligotrophic** : pH <7, usually clear
 - **Dystrophic** : peat stained, pH v low (3-5 – 5-5)
- **Running Water** – streams, rivers etc

Phase 1 Habitats – J2 : Boundaries




2 Boundaries (mapping optional)

1 Intact hedge

*1 Native species-rich  D. Green


*2 Species-poor  D. Green

2 Defunct hedge

*1 Native species-rich  D. Green

*2 Species-poor  D. Green

3 Hedge and trees

*1 Native species-rich  D. Green

*2 Species-poor  D. Green

4 Fence

 Black

5 Wall

 Red Red

6 Dry ditch

 D. Blue

*7 Boundary removed

 Black






*8 Earth bank

 Black

- Only concentrate on boundaries with habitats
- **Intact Hedge** – dense enough to be stock proof
 - **Native Species rich** - diversity of native woody species and a good hedgerow bottom flora.
 - **Species Poor**
- **Defunct Hedge** – A hedge with gaps
- **Hedgerow with Trees** – frequency of cross hatching to reflect density of trees.
- **Dry Ditch** – dry most of the year
- **Earth Bank** -
- **Fence, Wall etc** – Only map those supporting habitats

Phase 1 Habitats – J3 : Built-up Areas



| | | |
|--------------------------------------|---|---------------------|
| 3 Built-up areas | | |
| 4 Caravan site |  | Black |
| *5 Sea wall (artificial material) |  | Black |
| *6 Buildings |  | Black |
| 4 Bare ground |  | Black |
| 5 Other habitat |  | Black & Target Note |

- All pretty Self Explanatory
- **Target Note** – Very Important and is the connection between your map and your notebook.
- Phase 1 system uses **abbreviations from latin names**. Appendix 3 in JNCC handbook.

Phase 1 Habitats – Others



- **Heathland**
 - **Coastline**
 - **Mire**
 - **Rock Exposure & Waste**
-

Phase 1 Habitats – End Result





Any Questions ?



Fieldwork
