

Habitat mapping

Whether your group is simply looking to familiarise themselves with their surrounding environment or considering to care for it, compiling a **habitat map** of the area is a great starting point.

A **habitat map** shows the geographic distribution of different habitats within a particular area.

- A **Habitat** is the natural environment in which an organism lives (species), or the physical environment that surrounds, influences and is utilised by a species population. For example, a woodland or a bog is a habitat. Your back garden is a habitat!
- A **Species** is a group of organisms capable of interbreeding and producing fertile offspring. For example, an ash tree or a squirrel is a species.
- An **Ecosystem** is the physical and biological components of an environment which is considered a unit. For example, a freshwater ecosystem includes animal, plant and microbial (minute organisms) life in lakes, rivers and ponds; a valley with some woodlands and a river, and all the life they contain, make up an ecosystem

The purpose of a habitat map

There are a number of reasons for compiling a habitat map, these may vary between groups. Before compiling your habitat map you need to be sure of the reasons for conducting the activity. In other words, establish the purpose and include your desired outputs and how they might benefit your local environment. For example, are you looking to increase the levels of biodiversity in the area? Are you looking to help protect a particular species or preserve an area of natural beauty? Are you simply interested in what surrounds you?

Preparation

Once you have established the purpose, below is a list of some things to consider before you start mapping:

- What size is the area to be mapped?
- What level of detail do I need?
- What resources are available (time/funds/data)?
- Biological and physical parameters

Before you start you should become familiar with the area that is to be mapped. Maps, aerial photographs, satellite images are all valuable ways of organising information about you area. Familiarise yourself with the different land uses in the area. Find out the history of the area. Is the site protected and if so why, what is special about the area? Consider land access.

Once you have this done, **print off a map of the area and mark in the boundaries**. Make sure this map is large enough to work with on site. If you are a school looking to do a habitat map of the grounds, why not get the children to **draw a map** of the school and the surrounding grounds.

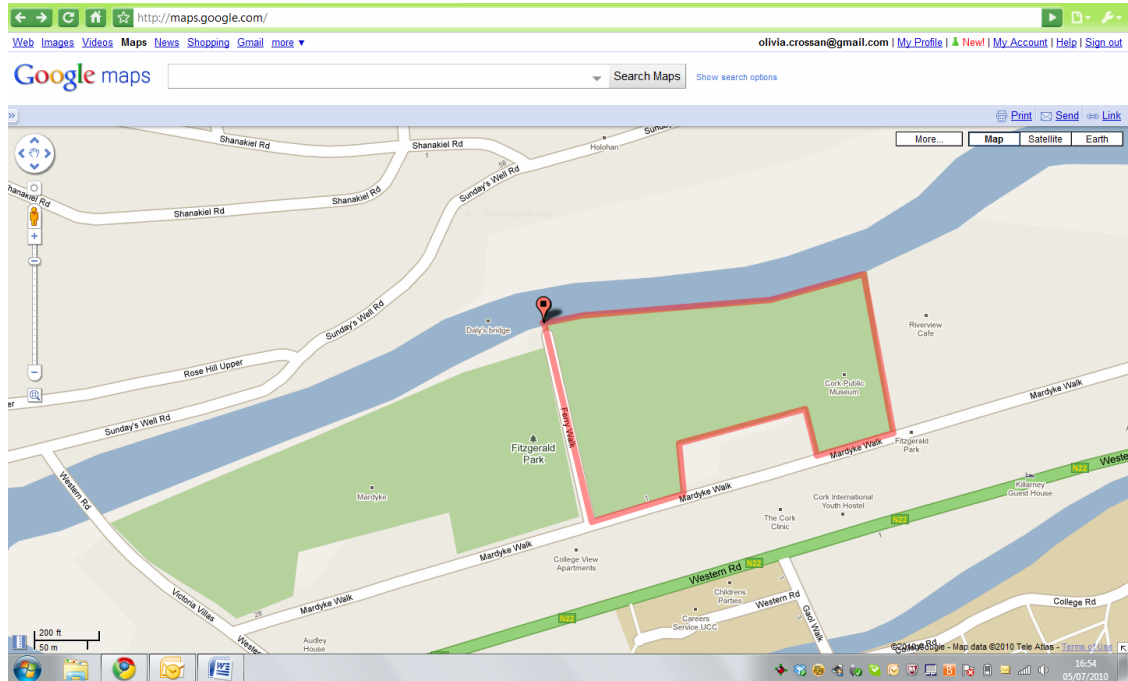
There are various ways of **obtaining a map of the area**:

Option1

- A very basic map of an area (e.g. the schools grounds) can be measured out and drawn up to scale using a scale ruler

Option 2

- Go to Google Maps <http://maps.google.com/>
- Zoom into an area you would like to map



- Outline/frame the area by clicking on the **New Button** at the top right hand corner
- A box will appear and you can enable the **Distance Measurement Tool**
- Right click on **Save changes**
- Next left click on the ruler symbol that has appeared at the left hand corner of the page
- You can now outline the area by left clicking and placing markers around your chosen area
- Create a copy of your map and make it in to a jpeg by **left clicking on the windows symbol** at the bottom left hand corner of your screen and typing **snipping into programme search**
- This will bring up a snip command box, choose the **rectangular snip** command and draw a box around the area you want to copy
- Save this image onto your computer and print

Note: You can also print off a satellite image of the same area to be mapped and use it as a reference. However, keep in mind land use may have changed since the image was taken (e.g. new developments/new roads etc.).

Option 3

If Google Maps does not pick up the area you would like to map clearly or perhaps you want a more detailed, professional map you can buy maps from Ordinate Survey Ireland on their website **osi.ie**. They have maps in A4 and A3 format at various scales sold as digital and paper copies. You can then trace over these maps using tracing paper or using a projector to blow them up in size.

Next write up **a list** of what you will need to bring with you. See the list below:

- Field instructions
- Local and regional maps for reference
- Print off your data sheets and maps
- Notebook, clipboard, waterproof wallets
- Pencils, pens, markers
- Binoculars and camera
- Decide on codes/symbols before you begin mapping and bring them with you or the Fossitt code if you decide to use it

In the field (working in groups)

Walk the area once before you begin mapping

Record the weather/date/exact location on your data sheets

Walking the area using paths wherever possible, map the area and mark all **habitat units** using the **Fossitt Code** or choose your own codes to indicate different habitat units. Delineate the habitat units carefully as the accuracy of the final map depends on the accuracy of the field mapping.

To download a copy of the Fossitt Code go to the Irish Butterfly Monitoring website click on resources next click on Fossitt Habitat Classification (<http://irishbutterflymonitoringscheme.biodiversityireland.ie>).

Wherever possible, identify the dominant species in each of the habitat units mapped and record these on the map using appropriate **species codes** (letter codes to represent the species present) or use the common name for the species.

Mark any areas or features of special concern or of conservation interest on the map using target symbols. **Target symbols** should be recorded and numbered while habitat mapping your area, see example list below. Number each target symbol and enter a corresponding numbered target note into a notebook. Target symbols can be denoted on your map with the following symbol •○

Example list:

1. Litter hotspot
2. Fly-tipping
3. Oak tree
4. Potential Hazard
5. Rocky outcrop covered with various lichen species
6. Hare

Follow up (work as a group or individually)

Transfer the field map onto a master copy to produce a full colour habitat map of the area mapped. Add the codes for the habitat units (Fossitt code) and the dominant species using species codes or common name. Finally, add the target symbols and include a list of the accompanying notes.

General guidelines for Colour Coding your map

- Blue to represent freshwater features
- Green to represent woodland and scrub
- Red to represent rocky or disturbed areas
- Yellow/orange to represent grasslands
- Grey to represent cultivated and built land
- Brown to represent heath and bracken
- Purple to represent peatlands

General guidelines for Shading & Hatching

There are no recommended hatching patterns for all the various habitats. In general, the more common and less important habitat should be paler in colour with simpler (or no) patterns. Habitats that are more important (either ecologically or because of a particular survey focus) or less common should be shown in stronger colours and patterns so they stand out.

The final map should also include the following elements if possible:

- A scale bar
- A map body or outline of area
- A grid, spatial reference or an index/overview map
- Title, figure number and version number
- Direction indicator (North Point)
- Legend/symbols

- Map metadata (e.g. coordinate reference system, OSI license number)
- Neat lines

In summary

A) Preparation classroom based

1. Print off/draw map of the area and mark in the boundaries

B) In the field (work as a group)

1. Walk the whole area and compile a habitat map. On the map, you should delineate (trace the outline of) different habitat units and identify them using standard letter codes (Fossitt code) if possible.
2. Where you can, record the dominant species present in each habitat using the common names or species codes
3. Add target symbols to your map and prepare accompanying target notes (on the map or on a separate notebook)

C) After the field work (work as a group or individually)

1. Construct a full colour habitat map of the area including the habitat codes
2. Add codes for the dominant species using species codes or common names
3. Add target symbols and accompanying notes (annotating your map with brief notes)