

Arable Indicator Survey Instructions

The Arable Indicator Survey is designed to identify locations that have potential to support rare or threatened arable plants. Rare and threatened species are usually scarce throughout the landscape, so this survey involves identifying more common species that are often found in association with the rarer species. Arable land is generally under-surveyed which means there is often a lack of information on arable plants. The Arable Indicator Survey involves identifying and recording species on a set 'indicator species' list. This list largely comprises of more commonly occurring arable plants. There are also some uncommon arable plants, as these might be seen during a survey. The indicator species are characteristic of species-rich arable plant communities.

Soil type tends to dictate the community of plants that occur in a field. There are three broad soil types:

- Sandy loams, shale and other freely draining soils,
- Slowly permeable clay and silt based soils, and
- Dry calcareous soils on chalk or limestone.

Information gathered during an Arable Indicator Survey will highlight the diversity of the arable flora in a given field, and can be used to look for fields that could become more diverse through a slight change in management. The results of these surveys may prompt more in-depth surveys, such as a full Inventory Survey, or if a particularly rare species is found a Population Survey. Volunteers are essential in the collection of this information. If you are volunteering for the Colour in the Margins project, the landowner contact details will be supplied so that you can organise a convenient survey time. If you are outside of the project focus areas please feel free to use this method, but make sure that you have the landowners permission to survey their land.

What you will need to complete an Arable Indicator Survey

- Your survey pack including a map of the fields to be surveyed (if you are in one of the Colour in the Margins focus areas this will be supplied) and survey recording forms
- Identification sheets and/or a wildflower ID book
- Means of locating yourself: OS map / GPS / coordinates app
- Pens / pencils
- Hand lens
- Camera

When to do an Arable Indicator Survey?

Surveys should be carried out from late May / early June but will need to be completed prior to the crop being harvested which can be as early as the end of July. For this reason, we recommend early liaison with the landowner so that an appropriate survey date can be organised. The Colour in the Margins project will have contacted all site landowners prior to the survey season. Maps and forms will be provided to volunteers and the landowners will be expecting a call from a volunteer regarding the survey.

How to carry out the survey

- 1. Call the farmer to organise a survey date that is convenient for both of you.** Surveying the edges of arable fields can take a long time, so you may need more visits if there are a large number of fields, or you are only able to do late afternoons and evenings. Remember to ask the farmer whether they'd like to meet you before the survey, the location of the farmhouse or where to meet on the farm.
- 2. Start the survey.** Meet with the farmer if this is what you have agreed beforehand, and then go to the fields that are identified for survey (refer to the map provided for Colour in the Margins).
- 3. Survey each field separately.** Each field needs to be surveyed separately so that the diversity of the flora can be identified. Even neighboring fields can differ hugely in the diversity of the plants present. Past and current management can affect plant diversity and community composition greatly. Fill in one recording form per field and provide an eight-figure grid reference for the centre of each field being surveyed. This can be done by referring to an OS map, using an app or a GPS (see information in the last section about how to take a grid reference).
- 4. Identify the soil type(s) present.**
Focus plant recording on the species associated with the soil type(s) present at the field. Each form contains the list for all three soil types, and usually one of these applies for each field. Sometimes fields can have more than one type of soil, and as such it might be necessary to refer to species associated with more than one soil type. You may also find the soilscape website useful and is worth referring to prior to the survey date: landis.org.uk/soilscapes/
- 5. Walk the field boundary of each field.** The majority of arable plants grow within the outer 6 m margin of the field where less herbicide and fertiliser is applied. In order to prevent significant disturbance to the crop, access to the crop should be limited to the outer margins. If access needs to be made to the central part of the crop tramlines should be used.
- 6. Complete the Site Information and Soil and Management information boxes** (on the first page of the recording form). Update the form to indicate the soil type(s) at the site. Where possible include information about land management. Although it is not expected that land management information is sought by the volunteer it might be that relevant details are gathered through general conversation with the farmer or through observation.
- 7. Record presence / absence** of each indicator species for the relevant soil type(s). Accessible parts of the field should be walked, focusing on field margins and field corners. The presence/abundance for each indicator species should be recorded at a field level. All plants that are relevant to the soil type have an un-shaded box.

The most uncommon species on the indicator species list are highlighted with an asterisk. Take a photo of these species if present for confirmation purposes.

Mark on your map the location of any particularly noteworthy plants that you have found, such as those highlighted by an asterisk. This can be on the OS map provided in the survey pack (if the survey has been allocated as part of Colour in the Margins) or on a separate map / sketch map if you wish to provide further detail. This information is very useful to help feedback the survey results to the farmer.

If you think that a particular plant has been sown as part of a seed mixture, make a note of this in the comments box. Cornflower, corn marigold, corn chamomile (Austrian chamomile) and corncockle are often used in 'cornfield flower' mixtures.

8. **Record the presence of other plant species of interest.** Provide details regarding any other plant species of interest identified on site. Information on species recorded, location and population size will all be useful.
9. **Record the presence and abundance of negative indicator species.** Provide details regarding the presence of the negative indicator species listed. Areas of high abundance of these species should be marked on the map (if provided by Colour in the Margins). This information will be very useful when providing feedback to landowners and farmers.
10. **Record the presence of other arable wildlife.** Provide details by highlighting the presence of any other arable wildlife including birds and mammals. Use the tick box to highlight any of the species that you have seen and use the comments box below to provide further information such as numbers of individuals etc.
11. **Return the paper survey form to the Colour in the Margins Officer** (if the survey has been organised through the project) by post or email. The project officer will use the indicator survey to feedback information to the landowner about the arable plants on their land. If you find a collection of plants that suggest that a field might be worth surveying more intensely then this might be organised by the project officer and they may contact you for further information or to come and help if you are available.