



Background

Many species of breeding waders are in decline, including those found on moorland and farmland. This survey focuses on just that part of the upland farmland area that is immediately below the moorland edge. This is termed 'In-bye' and is known to hold substantial numbers of breeding waders, especially Curlews and Lapwings. We have defined In-bye as all farmland up to 1km from the edge of unenclosed moorland. The principal conservation measures in In-bye farmland are agri-environment schemes (AES), whose aims include maintaining or increasing breeding wader numbers. This survey aims to collect data on current population levels in In-bye land, both in and out of AES management, and will provide a baseline against which to measure future change. Details of survey locations and recording forms are available from: www.bto.org/bweuf

Survey design

Tetrads (2km x 2km squares) are the survey units and our aim is to cover 600 core tetrads, with up to 1000 tetrads available. The tetrads have been chosen so that they contain at least 80 hectares of potentially suitable In-bye habitat but typically In-bye covers no more than half the tetrad. This survey is funded by Defra, so only covers England, and survey sites are only found in or near the uplands. *However, we are keen to involve visiting surveyors from non-upland areas – for further details of how we can help you to take part, please contact the survey organiser: Greg Conway (Email: greg.conway@bto.org Tel.: 01842 750050).*

What to do

First, visit the survey page www.bto.org/bweuf to view the available survey tetrads. Next login, or register, if you have not previously taken part in a BTO online survey so that you can request tetrads to survey. The BTO Regional Organiser will allocate the tetrads to you and they will be displayed when you next login to the survey. Download and print a detailed map of each tetrad. This will show uniquely numbered In-bye fields (priority coverage), and other fields and moorland areas (optional coverage). If your tetrad has a very large number of small fields you may prefer a larger-scale field map, so there is an option to zoom in to the required scale and print separate maps for each of the four 1km squares.

Secondly, from the Resources page on the website (www.bto.org/bweuf-resources), print a copy of the survey instructions along with sufficient copies of the recording forms (Tetrad Visit, Habitat and Bird Recording), to cover all the fields in the tetrad. Ideally, we would like bird and habitat data for all labelled In-bye fields, but we recognize that this will be difficult where fields are small and numerous, so please aim to cover as many as possible.

Visits

Two morning survey visits are required: Visit 1: 1st April to 31st May & Visit 2: 1st June to 15th July, with at least two weeks between visits. Please ensure that you cover the same fields on both visits. Survey visits should start at least 30 minutes after sunrise and aim to be finished before midday. Surveys should be undertaken in fine conditions wherever possible, with good visibility and wind below Force 4 (13-18mph). For northern and high altitude sites, where birds may return to breeding sites later, it is recommended to delay surveying until after 15th April. Do not attempt to survey if there is snow cover greater than 10%.

We strongly recommended a recce visit prior to the first survey visit in order to contact landowners and arrange access to fields. We ask you, where possible, to make contact with the landowner to ask for permission for access and to check if it is necessary to contact other land managers (e.g. gamekeepers). A letter of introduction can be downloaded from the Resources page and can be shown to landowners to explain the purpose of the survey and why access to the fields is required. Where agri-environment schemes are known to be present, we will aim to inform the landowner about the survey and help to arrange access. However, where it has not been possible to contact the landowner, check to see if the fields can be viewed from public rights of way or adequately surveyed from a vantage point using a telescope.

Survey coverage

The tetrad map shows the priority In-bye fields shaded light-green (see example below). As many as possible of these require coverage, access or visibility permitting. Fields outside the 1km In-bye buffer, are shaded pale orange labelled with numbers preceded by an X (e.g. X1, X2). Areas of moorland are shaded pale purple labelled with numbers preceded by an M (e.g. M1, M2). Please note, these habitat categories are derived from satellite and mapping data, and may not be 100% correct. Survey coverage of X and M fields is optional. However, please to try record any of the Key species seen or heard anywhere in the tetrad.

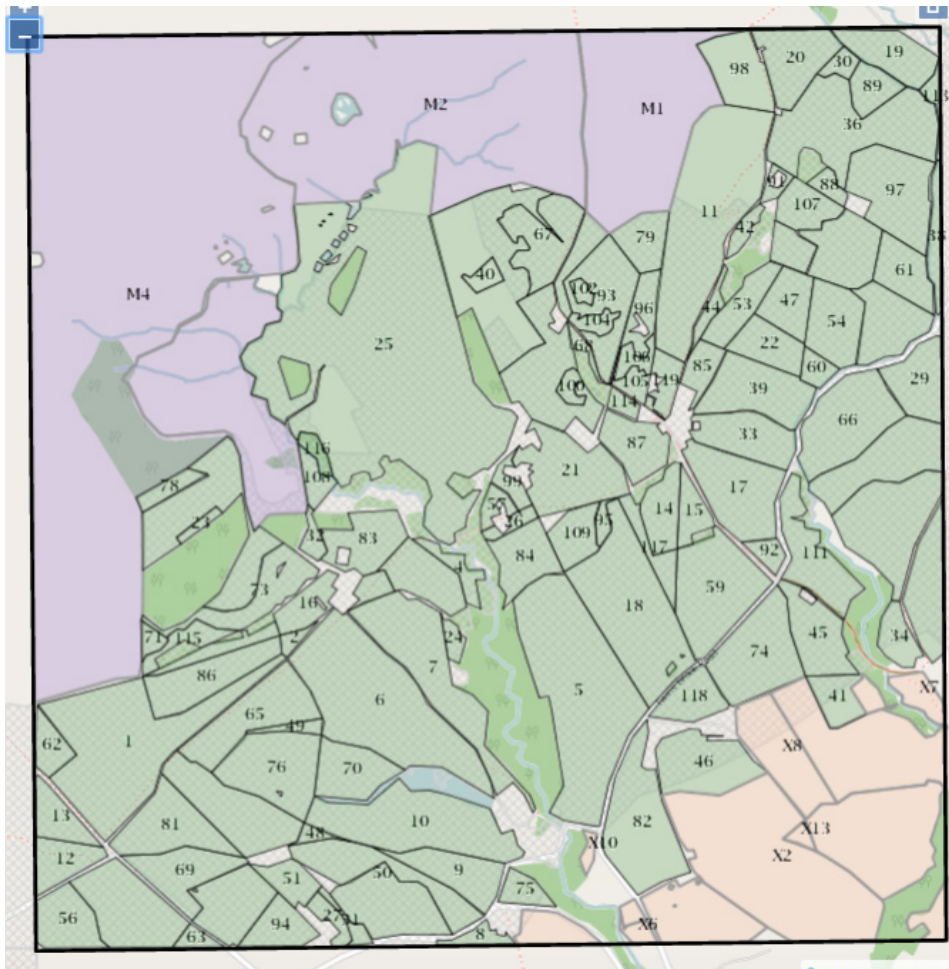
Please note that to thoroughly survey for waders in fields with tussocky or long vegetation you may need to walk within about 100m of every point in the field. But there is no need to enter the field if there is good visibility over it and you can confirm absence or count the birds present with confidence from the boundary. Note that prolonged disturbance of breeding birds must be avoided, but a short survey visit is unlikely to pose any significant problem. However, if you find yourself in an area with a number of active nests, please retreat carefully, retracing your footsteps, to minimize the potential risk of trampling nests and chicks. It is important to ensure that the survey has minimal impact and this will help to maintain good public relations with landowners etc.

Example Tetrad Survey Map

Please aim to cover all, or as many as possible, of the 'In-bye' fields (shaded green and numbered: 1,2,3, etc), and record habitat details as far as possible, even if you are unable to conduct a bird survey.

Optionally, cover any fields outside the 'In-bye' (shaded orange and labelled X1, X2, X3, etc), if the habitat appears suitable for breeding waders.

There is no need to cover the moorland areas (shaded purple and labelled M1, M2, etc). If present, however, please do record habitat details any waders or bird species observed.



Field boundary changes

If during the recce or first survey visit you find that field boundaries have changed such that a boundary has been removed please still record the two areas as separate fields. However, if there have been more substantial changes, so that the boundaries no longer resemble those on the map, please mark the boundary changes on a printed copy of the map and label the 'new' field by re-allocating the original field numbers, or adding new numbers if needed. Then send the amended maps to the Survey Organiser as soon as possible, so the field boundaries can be changed online before you make the survey visits.

Visit data recording

On each visit use the Visit Recording Form to record the date and start times for each visit. Also, details of mammalian predators are to be recorded, either as the number of individuals counted or recent presence (during 2016) based on signs (droppings or footprints), reliable reports or seen on additional survey visits.

Information on gamekeeping activities is also required on each visit to help assess the level of predator control. Details of game bird feeders, traps and dead corvids and moles is required, ideally a count for each or recorded as present based on reliable reports or observations from other recent visits during 2016.

Field Coverage and Habitat recording

On the first visit, please record habitat and land-use details on the Habitat Recording Form for all the numbered In-bye fields (unless they could not be viewed even from a distance) and for any non-target X and M areas where birds have been recorded. There is no need to repeat this on the second visit, unless there have been obvious changes (such as ploughing, crop emergence, mowing, flooding, etc.).

It is very important that we know which parts of the In-bye areas you have been able to survey, so if you cannot access, or survey, all parts of a field, please use your judgement to record an estimate of the percentage of the field you have covered on the form. For all In-bye fields, please record coverage types as: **Complete** or **Partial** (record the percentage of field surveyed) and for **Not covered**, indicate whether this was because Access denied or Not viewed. Additionally, record whether the field was entered or viewed from outside the boundary.

The habitat and boundary features of each field are essential for assessing their suitability and use by breeding waders so, if at all possible, we need this information for every field, even if no waders are observed or surveying was not possible.

Enter ticks or percentage cover in the appropriate columns to indicate features of the grassland and other habitats. If the field contains unsuitable water breeding habitat (e.g. woodland, scrub, urban, etc.) please record it as 'other unsuitable'. See the Habitat Recording Form for details of all habitats codes and the Habitat Guide (on the Resources page) for photographic examples of the habitat/or types.

Bird recording

The **Key** species to record are the waders: **Curlew, Lapwing, Oystercatcher, Redshank and Snipe** (the survey method is not designed to maximise detection for Snipe but will still provide useful count data).

There is also a list of **Required** species to record. These include raptors corvids and gulls to help interpret predation risk and breeding productivity (**Carrion Crow, Magpie, Raven, Buzzard, Hen Harrier, Kestrel, Merlin, Peregrine and Sparrowhawk, Common Gull, Lesser Black-backed Gull and Herring Gull**) and gamebirds to inform about game keeping intensity (**Black Grouse, Grey Partridge, Pheasant, and Red-legged Partridge**). In-bye is also an important habitat for a number of other bird species of conservation value; we are particularly interested in records of the following species: **Cuckoo, Golden Plover, Linnet, Meadow Pipit, Reed Bunting, Ring Ouzel, Skylark, Stonechat, Twite, Wheatear, Whinchat and Yellow Wagtail**.

Optionally, any other bird species may be recorded. The Key and required species, together with their standard codes are printed on the Bird recording form. Please print as many copies of the bird recording form as required, for use in the field. Each species recorded on each field will require a row on the form.

Please count and record the following for each field fully or partially covered:

- 1) **Total adults** using the field (All species), including birds that may have moved from other fields.
- 2) **Total chicks & young** (Key species only).
- 3) **Estimated pairs** (All species), based on the number of adults apparently holding territory displaying/territorial males and active nests.

Counts of adults and young should include birds that are not nesting in the field, such as feeding flocks, or in flight above the field (excluding high flying commuting species, such as gulls, etc), including either hunting/foraging or song/display flight. So for example, a single Kestrel seen hunting over several fields should be recorded as present in each of those fields. (In a case like this you may wish to use just one line of the form to record all the field numbers but when entering the data online its presence in each field will need entering separately).

When making the estimate of pairs, **DO NOT INCLUDE** birds that are known, or strongly suspected, to have moved between fields and have been counted already. Estimated pairs should add up to the total number of pairs present in the tetrad.

However, *counts of birds* (both adults and young) in each field should reflect the use of the field that you observe and **MAY INCLUDE** double-counting across fields.

Please also record any of the listed species seen or heard elsewhere in the tetrad.

Entering your Data

After each visit, login to the survey page: www.bto.org/bweuf under the Visit tab you will be presented with a list of the Tetrads allocated to you. Then select the Visit number which will take you to the data entry section. After entering the visit date, time and other details, you will be able to select each In-bye field separately and enter the habitat and bird. If you do not have, or are unable to find, suitable internet access, please contact the Survey Organiser to discuss the best option for entering your data.

For more information, please visit the Resources page (www.bto.org/bweuf-resources), which contains, recording forms and other useful information, that can be viewed and downloaded, or contact the **Survey Organiser:**
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