

Red Grouse Survey

Survey Protocol for Counters using the Tape-Lure Transect Method

Health & Safety

See attached booklet for information.

Survey Methodologies

1. **A Linear transect method with tape lures**, will be used in 1 km² squares selected by stratified random sampling on a national scale. This method is easily repeatable by both volunteers and fieldworkers.
2. **Dog count methods** will be applied in a number of selected 2km x 1km survey sites by members of the Irish Kennel Club, Irish Grouse Conservation Committee and the National Association of Regional Game Councils using trained dogs. This method will involve counting a 2 x 1km² area (see Map 3) with pointer or setter dogs quartering the area in front of their handlers, pointing to any grouse present.

There are separate recording forms for both methods. Please note that **Recording Forms** for this survey should only be used for records of grouse seen in the assigned survey square. Any birds seen (or responding to the tape) just outside the survey square or while walking up towards the survey square should be recorded separately on the **Casual Records Form**.

All data recording in the field should be carried out using a pencil on the maps and sheets provided.

Transect Tape Method: Working in pairs, each member of a team should have a field map of the survey square to mark registrations of grouse and a recording sheet to note down specifics of any sightings, habitats etc..

Dog Count Method: For those teams counting with dogs, where possible, one/two persons should be assigned to fill in the Recording Form and mark registrations onto a field map of the assigned survey square.

On completion of the survey square, each team should fill in a final copy of the field map, with all 'agreed' registrations of grouse from all team members marked clearly on the map. In addition a final record sheet should also be completed by the team with all survey square details and amalgamated red grouse sightings and habitat details. These final maps and recording forms should be sent in to the Project Officer along with any field maps. Survey teams may want to photocopy completed maps and record sheets for their records and in case of any lost records through the postal service.

For those teams using the tape lure method only the person playing the tape should fill in the responses section of the record sheet, although the other member of the team can note any responses he/she finds on their field maps in case of any confusion over sightings later.

Overview of transect with tape-lure method to be used in National Red Grouse Study

All survey squares will be covered by a team of two observers working in tandem.

A pair of observers, spaced 250m apart, will walk two sets of parallel linear transects (in a north-south or east-west direction) across a chosen 1km x 1km square, from the National Grid. Linear transect methods involve walking in a 'straight line', where landscape features allow using a compass or GPS to walk towards a bearing point. Please refer to **Map 1** for ideal routes for transects. The first transects will be started at 125m and 375m in from the square corner and the second at the 625 and 875m mark. This method will take observers to within 125m of all parts of the square and will entail ≥ 4 km of walking per team. Access points to the survey square and terrain will determine what direction (i.e. N-S or E-W) the transects will take. **Map 2** highlights how to apply the methods when landscape features prevent walking in straight lines.

The tape lure (of a calling adult male grouse) is used on alternate transects highlighted with blue dashed line (see Map 1). The tape lure will be played at 250m intervals (250m, 500m, 750m in) along each alternate transect for approximately 30 seconds with both observers stopping and scanning for birds as the tape is being played and immediately after the tape has finished. If no response has been elicited after 30 seconds, observers may play the tape again for another 30 seconds and wait and scan for another 30 seconds before continuing on their route. Observers will coordinate their stop and play points through hand signals so that the observer without the tape will know when the tape is being played.

All transect routes that observers take should be plotted (in pencil) onto the field maps provided and labelled Transect (or T) 1, 2, 3 or 4. Any observations of grouse seen (territorial males, non territorial males and females), flushed (plot direction on map) or heard should be plotted on these field maps along with the locations of any fresh roost sites (see photos). Types of droppings, if present, and any collection of feathers should be noted on data sheets. Please note that unsexed birds should also be recorded and locations marked on field maps.

Recording Sheet

It is important to fill out the Record Sheet with as much information as you can. Where possible at least a four figure grid reference with the letter prefix e.g. M5050 should be given for each sighting of grouse, whether singly or in a group. Don't forget to put the 100km Grid square identification letter, M in the example above, before the eastings and northings. Refer to the '**How to use Grid References**' document for further information. Dates should be given as dd/mm/yy and time of day given as am/pm.

Land Use & Grit

If possible, give an indication of the habitat present in the square.

Notes on classifying habitats:

Heath has at least 25% cover of dwarf shrubs. If the underlying soil is peat, peat depths of less than 0.5m, usually indicate heath. As a general rule: **Blanket Bog** has peat depths > 0.5m. Upland Blanket bog is found at 150m above sea level, Lowland Blanket Bog at less than 150m a.s.l.. **Raised Bogs**, originated in shallow lake basins/topographic depression, have peat depths of 3-12m. **Cut-over Bog** is where part of the original mass of peat has been removed through turf cutting or other forms of peat extraction.

Land use in terms of grazers (sheep, cattle, deer), forestry and turf cutting would also be useful if noted. Please also note the presence/absence of grit for grouse. For example if there are any suitable tracks or rocky patches in eroded peat with grit present.

Ground conditions underfoot can be assessed as dry, damp or waterlogged. Frozen ground and/or % snow cover can also be noted.

Classifying sightings of Red Grouse

Any birds seen/heard or any signs should be marked on field maps and recorded on survey forms along with their locations (Grid Ref, if possible). Please use a tick on the sightings section of the survey form to indicate any male Red Grouse that exhibited territorial behaviour (calls/displays/interactions). Watch out for where birds flush to so as to ensure that the same birds have not been counted twice. Plotting the direction that these birds fly in and the approximate distance from the transect line will help to avoid counting the same bird twice. The presence or absence of droppings (fresh/old) and/or feathers (see photos below) is also important as they may indicate RG presence where no birds are actually sighted.

We would also appreciate if observers could note, if possible, the general appearance of those birds seen as being pale, dark or indeterminate. Other species of interest (raven/raptors/waders) that are seen during the survey should be recorded.

Responses of Grouse

When using the tape lure method, please fill in the Response section on the record sheet. The main responses of birds will be to; call back, call back and fly off, fly off with no call, no response.

Beaufort Scale: Specifications for use on land

0	Calm	smoke rises vertically
1	Light air	Direction of wind shown by smoke drift
2	Light Breeze	Wind felt on face; leaves rustle
3	Gentle Breeze	Leaves and small twigs in constant motion
4	Moderate Breeze	small branches are moved
5	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets form on inland waters
6	Strong Breeze	Large branches in motion; whistling heard in telegraph wires
7	Near Gale	Whole trees in motion; inconvenience felt when walking against the wind
8	Gale	Breaks twigs off trees; generally impedes progress
9	Severe Gale	Slight structural damage occurs
10	Storm	Seldom experienced inland; trees uprooted; considerable structural damage occurs
11	Violent Storm	Very rarely experienced; accompanied by wide-spread damage
12	Hurricane	--

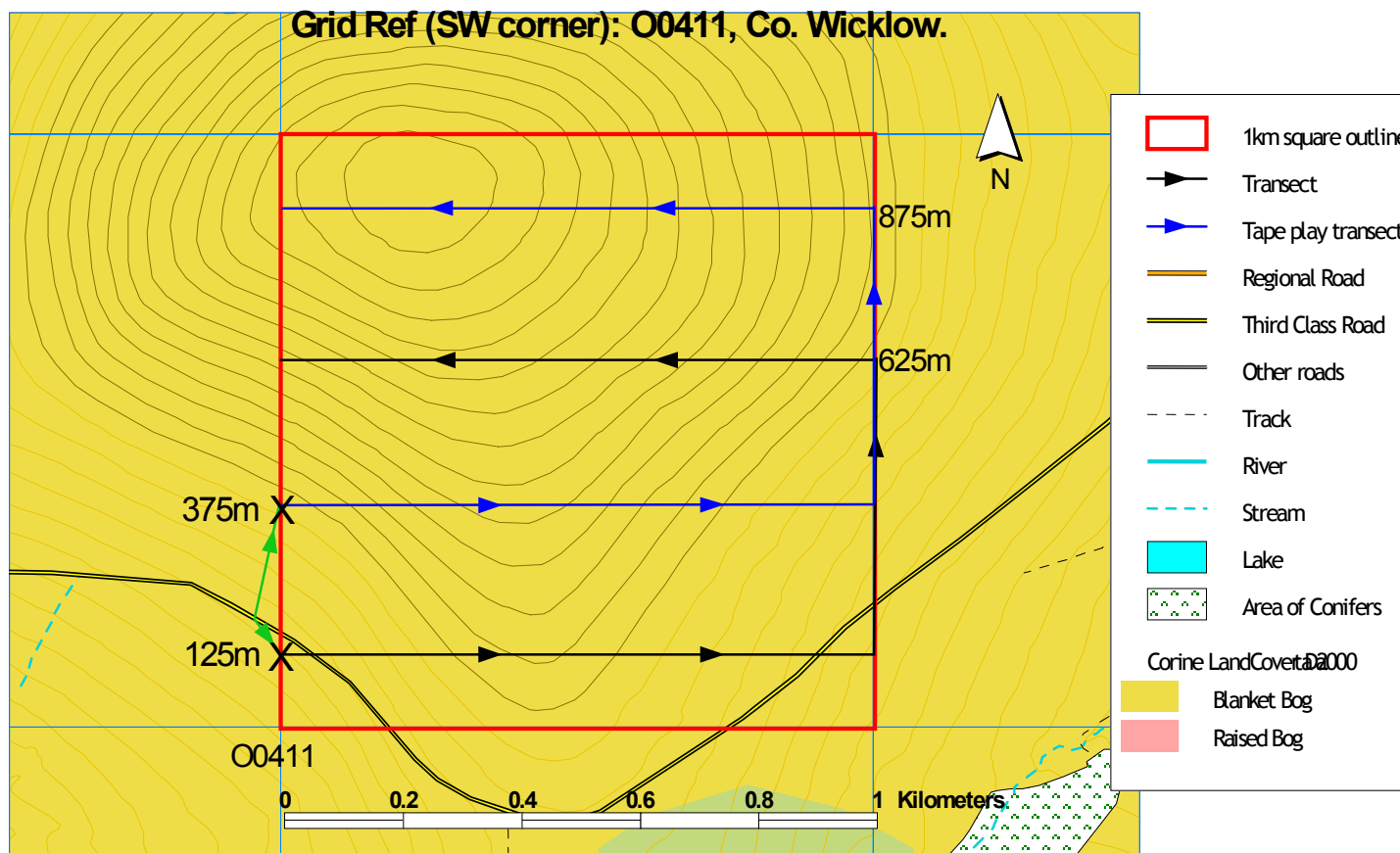
When to survey?

During daylight hours, anytime from approx. 1 hr after dawn till 1 hr before dusk. We do advise that observers should give themselves plenty of time to get back to their vehicles before it gets dark. Navigating terrain in upland areas, particularly bogs, is **extremely**

hazardous and should not be attempted in failing light conditions, unless unavoidable. (See Health & Safety document for proper equipment).

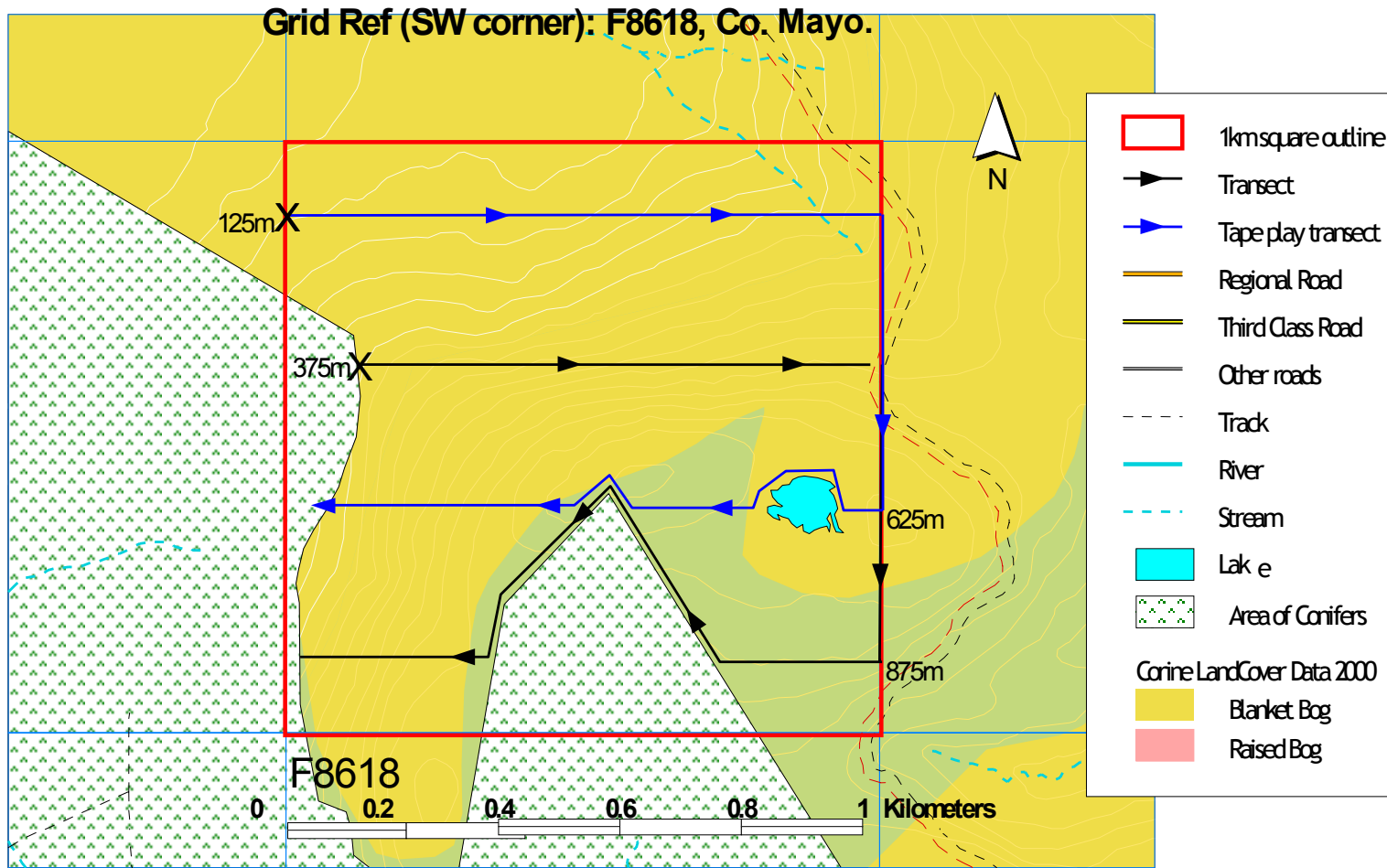
Where appropriate (i.e. Tape-Method), start and finish times of transects should be noted onto data sheets. The time of each observation of grouse should also be noted. Each fieldwork visit, working in a team of two, should not take more than 2 hours once in the survey square. Please do not survey in poor weather conditions and/or, particularly when using the tape-lure method, in winds greater than Force 6.

Please contact Sinéad Cummins, Project Manager, at redgrouse@birdwatchireland.ie for any further information on the Red Grouse Survey of Ireland.



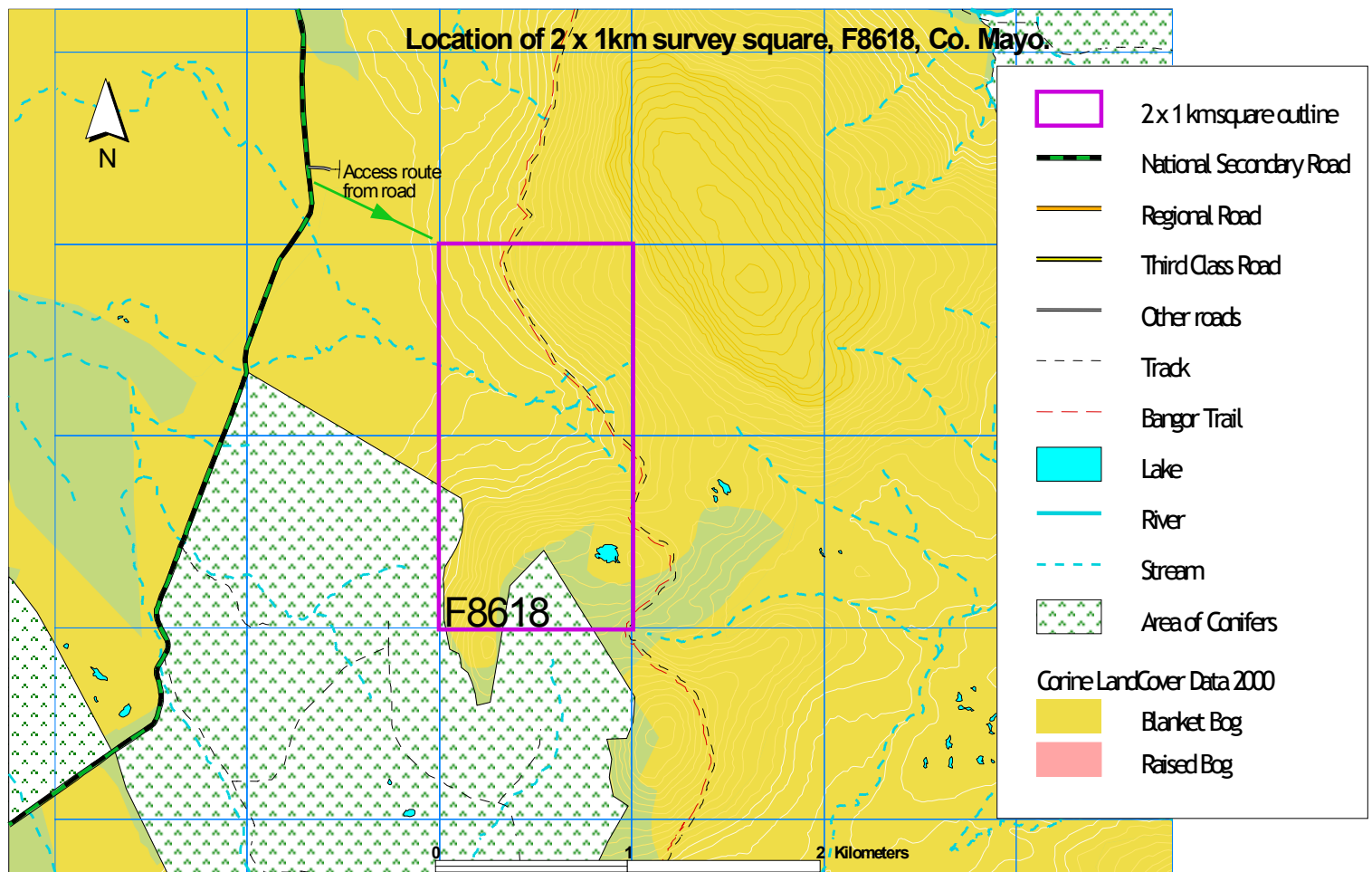
Linear transect with tape method

Map 1. Example of a 1km x 1km survey square with transects plotted W-E/E-W direction to follow the easiest contours and access points (in green). Starting points labelled X.



Linear transect with tape method

Map 2. Example of survey square where observers cannot follow straight lines due to landscape features such as a lake or an area of forestry. Starting points labelled X.



Counting with Dogs- example of a survey square

Map 3. An example of a 2 x 1km square that could be surveyed using dogs with access route (in green) marked.



Olivia Crowe, BWI

Fresh Caecal Droppings indicated by their shiny appearance. Usually two signifies a single roost site.



Although the caecal dropping does not look as fresh as those in the pictures above (with their shiny appearance), the presence of a fresh grouse pellet (chestnut brown pellet in the centre) indicates this is a fresh roost. Droppings can deteriorate in condition after periods of bad weather.



A pile of droppings (see above), indicate a roost site. If there are two piles of droppings around 1m apart, this usually indicates a roost site of a pair.

Olivia Crowe, BWI



Olivia Crowe, BWI

Fresh pellets are still bulky, not shrivelled. The faecal tips have not faded and the colour remains chestnut brown, not a faded washed out brown as above.



Grouse Feathers

Olivia Crowe BWI

Red Grouse feathers are often attached to heather and can be an important sign of RG presence, particularly when no birds are seen.

Please Note: Where possible, obtain permission from landowners before entering privately owned land, particularly those volunteers participating in dog counts.