The Monks Wood Feeder Trap and trapping strategy Richard K Broughton

1. Brief description

   A lightweight, portable, direct trap, the Monks Wood Feeder Trap was designed for catching Marsh Tits, but is also effective for Nuthatch, Willow, Great, Crested and Coal Tits, and will also catch Blue Tits. Garden Robins, House Sparrows, Greenfinches and wintering Blackcaps have also been caught.

2. Materials and construction

   The trap is built around a conventional two-port sunflower-seed feeder. A cage of 1.2 cm (½ in) Weldmesh [1" x ½" is also suitable] is constructed around the feeder, with a drop door at one end. The cage should be 15.2 cm (6 in) wide by 15.2 cm (6 in) high and *c*.40 cm (16 in) long. All long sides can be constructed from one piece of Weldmesh, making just one longitudinal join, although the base should be lined with 0.6 cm (¼ in) mesh to provide a better surface and reduce food dropping through the floor. Cable-ties, which are cheap and durable, are used for binding the mesh, with the ends trimmed down after fitting. The long join in the Weldmesh is bound after fitting the feeder (see below).

   The feeder should be positioned 15.2 cm (6 in) from the front, i.e. the drop door end, of the trap. The feeder ultimately sits with its base resting on the bottom of the cage, with the lengthways-pointing feeding ports inside the cage and the lid and upper section outside. This is achieved by dismantling the lid and hanging wire of the feeder and passing the tube up through the mesh flaps of a suitably-sized cross cut into the roof of the cage. The lid and hanging wire can then be re-attached and the cut edges of the mesh flaps can be trimmed and folded up and around the tube to create a close fit (securing with wire or a large cable-tie). The feeder can be secured to the floor of the cage using cable-ties fed through the floor and looped over the port perches of the feeder.

   The front of the trap is made from a piece of Weldmesh (as per the main body), incorporating a 1.2 cm (½ in) overlap on all sides, which is folded over the main body of the trap and fixed with cable-ties. A door aperture measuring 8.9 cm (3 ½ in) tall by 8.9 or 10.2 cm (3½ or 4 in) wide should be cut into the front, being placed centrally but at least 2.5 cm (1 in) from the top of the trap. The door itself, placed on the inside of the trap front, should have a small overlap (e.g. 0.6 cm or ¼ in) over each side of the aperture. An overlap at the bottom is not necessary, since this will increase the arc of the door's swing, which should be minimised. The door is attached to the trap using two cable-ties, fitted more loosely to act as hinges; one hinge at either side along the top of the door is sufficient, and the door should move quite freely. Use a filing drill-bit to grind down the cut edges of the mesh around the door, otherwise your hand could be badly scratched when extracting birds.

   At the rear of the trap, the back 10 cm (*c*.4 in) should taper to a close and be fixed with cable-ties. This rear portion is necessary, as birds will try to access the seed port that appears closest at first, so will spend a lot of time clinging to the rear of the trap if the distance between the feeder and the back is any shorter.

   The trap is activated by pulling a monofilament fishing line (e.g. 20 lb thickness), fed off a spool, to allow the door to drop. The line is attached to a 'pin', a piece of wire or a straightened paper clip, which can be braced through the mesh roof to secure the bottom edge of the door against it, thereby pinning it open. Pulling the line releases the door when the bird is in the trap.

3. Placement and bait

   For tits, the trap is best sited at chest height, wedged among branches of a bush, or secured to a trunk. The trap can be secured using a couple of short lengths of plastic-coated garden wire tied through the cage and then around branches to prevent movement, tilting very slightly downwards toward the front. Birds should be able to approach the trap from cover and convenient perches. Securing a twig or two to the trap front will also help birds find the entrance more quickly by providing a perch from which they can peer through the door. A relatively clear line of sight between the trap and the ringer is necessary, 7-12 metres/yards, both to observe birds entering the trap and to ensure that the line does not snag.

   The trap should be baited with sunflower seeds (for tits) and left in position to allow birds to find and start using it (pre-baiting). Lining the floor with a thin layer of moss or strip of bark between the feeder and the door, and placing on it a small handful of bait, will get birds using the trap more quickly. The loose seeds should be removed from the floor when trapping, to get the birds to enter as far as the feeder. When not trapping, tie open the door with *two* short lengths of strong wire (in case a squirrel gnaws through one). An unsecured door should be avoided at all costs, as birds can still push their way in and become trapped (the ringer-in-charge should check this before leaving the site).

4. Catching and Extracting Trapped Birds

   Birds are caught by pulling the wire as the bird reaches the feeder within the trap, allowing the door to drop behind it. Birds can be extracted by reaching in through the door of the trap with one hand. Do not stand at the front of the trap when trying to extract, as the bird will move away from you towards the back – standing to the side and near the rear flushes birds to the front. Be careful to block the area around your hand (with the other hand, or a bird bag) as you reach in to extract a bird – they may otherwise slip out past your wrist. Extraction should take only a few seconds, as the bird is usually quickly cornered at the front of the trap, where it can be *gently* gathered in one hand and lifted out. Grabbing at the bird is to be avoided – if it will not come to the front of the trap then stand at the rear and tap the cage until it does. An easier method of extraction is to use a large (30 cm deep) clear polythene bag, with the open end held fully over the front of the trap. Using a finger to hold open the door, the bird sees an apparent escape route through the clear plastic and can easily be ushered into the bag with the other hand. The bird will then hit the end of the loose bag and drop into it safely, where it can be taken out and transferred to a bird bag. This method is much safer and less stressful (for bird and ringer!) than getting the bird out of the trap by hand, as you do not even have to touch it until it's fully out the trap.

5. Good Points

   The trap is very easy to use, cheap and easy to make, and is very successful for certain species or for targeting specific birds. It was originally designed to trap Marsh Tits without the concomitant "by-catch" of Great and Blue Tits typical of mist netting at feeding stations. To this end it is extremely successful. It has also been used to target Nuthatches, Willow, Great and Coal Tits with success. It can be used by ringers who lack a mist net endorsement, and it requires little training. Rapid extraction minimises stress, and other birds are often quick to return after a capture. The trap takes seconds to set up and can also be operated in virtually any

weather. The trap is also discrete, being hard to spot by the public when placed a few metres from paths behind some vegetation.

6. Bad Points

   Only one bird can be caught at a time, though often in very quick succession. In areas where birds are unused to being fed, it may take up to a couple of weeks before they become accustomed to using the trap, although even in 'virgin' sites catching can often take place after only a week of pre-baiting. It is important to keep the bait topped up before a trapping event in order to keep birds visiting once they have found it. Regular visits to see if the bait is diminishing lets the ringer know if trapping will be worthwhile. An empty feeder will generally be busy again the day after re-filling, so it's usually necessary to fill the trap the day before you wish to trap, or at least the morning before an evening session.

   Some birds may take a while to discover how to enter the trap, while others prefer to feed underneath on dropped seeds. The ¼ inch mesh lining the floor (and moss layer, or a thin flat piece of wood) limits seed dropping through, forcing birds to enter the trap to get food, but on rare occasions a bird will simply not enter regardless. When this occurs, try placing the trap on the ground, pinned to the floor with small sticks or tent pegs, which may encourage ground-feeders to enter.

   Great Tits can sometimes hinder the capture of less dominant birds, chasing away those that approach the trap. In this case, the answer is simply to trap them. The aggressor can then be retained until the target is trapped, or released after handling – trapped birds rarely return within the hour. Similarly, a large flock of Great Tits filing in and out of the trap may prevent other species entering, and again the solution is to trap a few to reduce the 'traffic', or wait half an hour to see if the flock moves off. Squirrels or other rodents can sometimes deplete the feeder – a tell-tale sign is a pile of empty husks inside or directly under the trap (tits always carry the seed away to eat). Lacing the seed with cayenne pepper discourages rodents, but not the birds.

7. Tips

   Minimising slack in the monofilament line is important if birds are not to escape before the door drops. Wait until the bird has its head at the feeder before pulling the line, as its attention is distracted and the door has the maximum time to fall. It should take a bird two 'hops' from the door to reach the feeder – never try to trap on the first hop as the bird is only midway between the door and the feeder and can often turn around in time to escape. The pin holding open the door should not be braced so tightly that it cannot easily be pulled out with a gentle yank of the line, or so loosely that it slips out with the slightest disturbance – some tweaking and bending of the pin is often required.

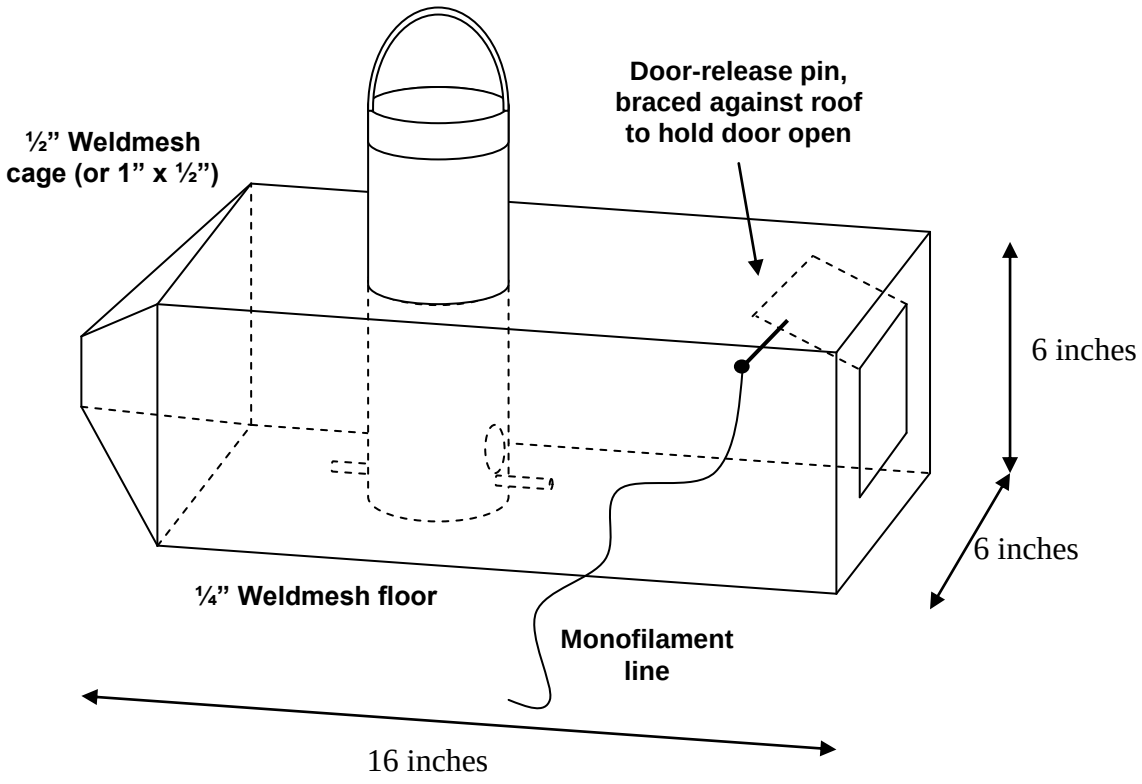
   The ringer should find somewhere comfortable and unobtrusive to sit, and movement/chat should be minimised. Having a series of traps pre-baited at the same time at 200-400 m intervals can reduce the time input and maximise site coverage. Target birds are often caught within an hour or so, but if not then try another trap for a while and come back later.

   Placing a trap on one side of a net ride and a standard feeder on the other can be a good tactic in some situations. The additional feeder keeps bait at the site for longer, and creates traffic between the trap and feeder where a short net can be placed if conditions allow. Simply close the trap and block off the feeder ports (using a plug of moss or a tissue) when you erect a net, and the birds will move

between them and across the ride. If conditions are too poor for netting then catching can still take place using the trap.

For large sites, pre-baiting trapping locations with standard feeders for a week in advance will get birds visiting while traps are deployed elsewhere. Rapid coverage can be achieved this way, by replacing each set of feeders with traps a few days before trying to catch, and simultaneously priming the next locations with the feeders. Using this strategy, a single ringer caught 102 individual Marsh Tits using five traps and feeders over 16 visits in one large wood in 2010, and 55 birds in 11 visits in 2011. In another wood, a group of ringers operating two traps simultaneously caught 57 Marsh Tits, 22 Willow Tits and 16 Nuthatches using eight traps and feeders over 12 mornings. In Scotland, the trap has been modified to take an internal mesh peanut feeder to catch Crested Tits. Trapping is most successful between August and March, as tits generally show little interest in seeds at other times.

Trap schematic



Front

Rear

Door secured open with wire (when not trapping)

Inside: ¼” mesh floor, feeder secured to floor with cable-tie or wire.

Trap in position, secured in a hazel bush using plastic-coated gardener's wire. Two twigs are fixed at the front to help birds to find the entrance. Moss is used to line the floor, with seed placed upon it to initially encourage birds to use the trap during pre-baiting. Marker tape attached to the top of the feeder aids location of the trap in subsequent visits.

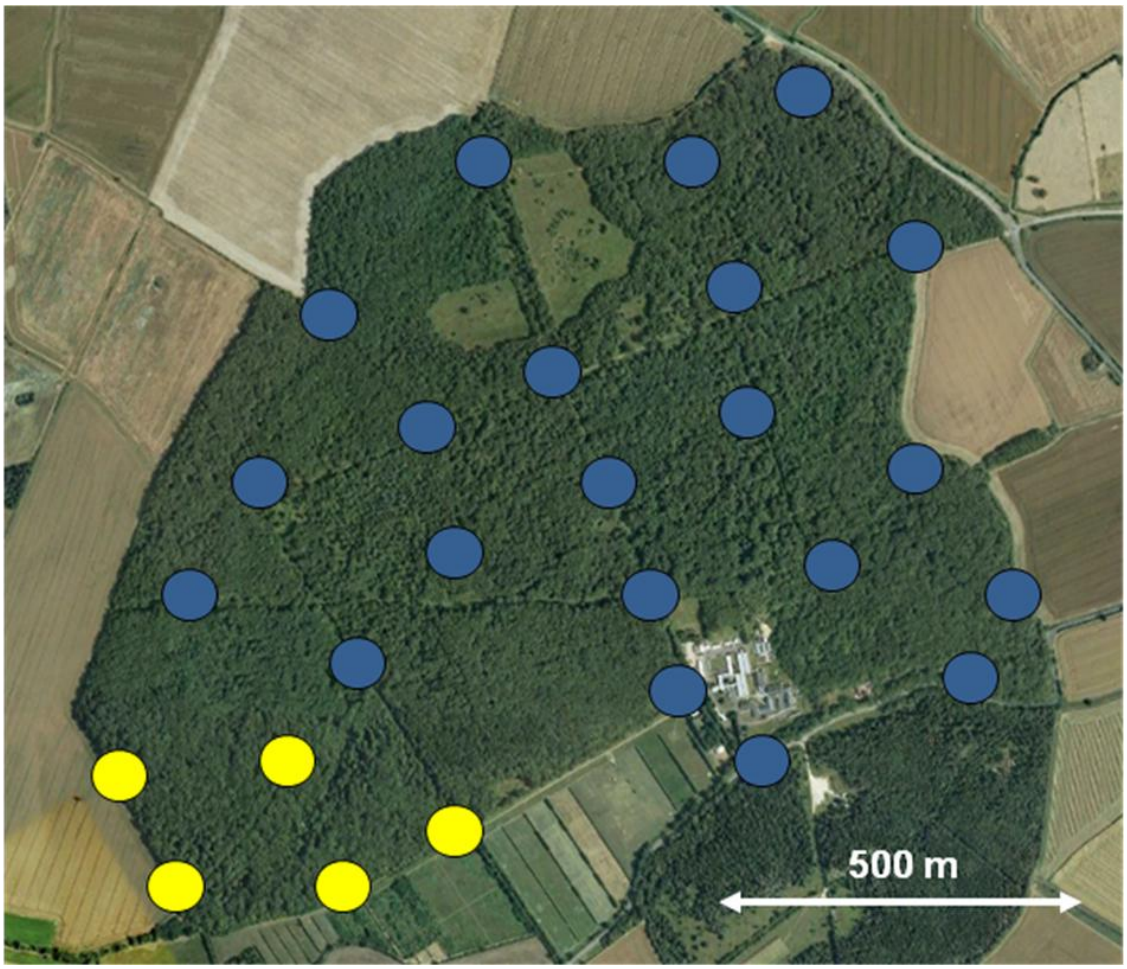
Trap modified to take a mesh peanut feeder, targeting Crested Tits in the Scottish Highlands. Crested Tits are dominant over the common Coal Tits here (Great and Blue Tits are scarce), so will spend longer in the trap pecking at peanuts, giving more time to pull the wire and drop the door. Photo: Pete Stronach.

AN EFFICIENT TRAPPING STRATEGY: for population monitoring

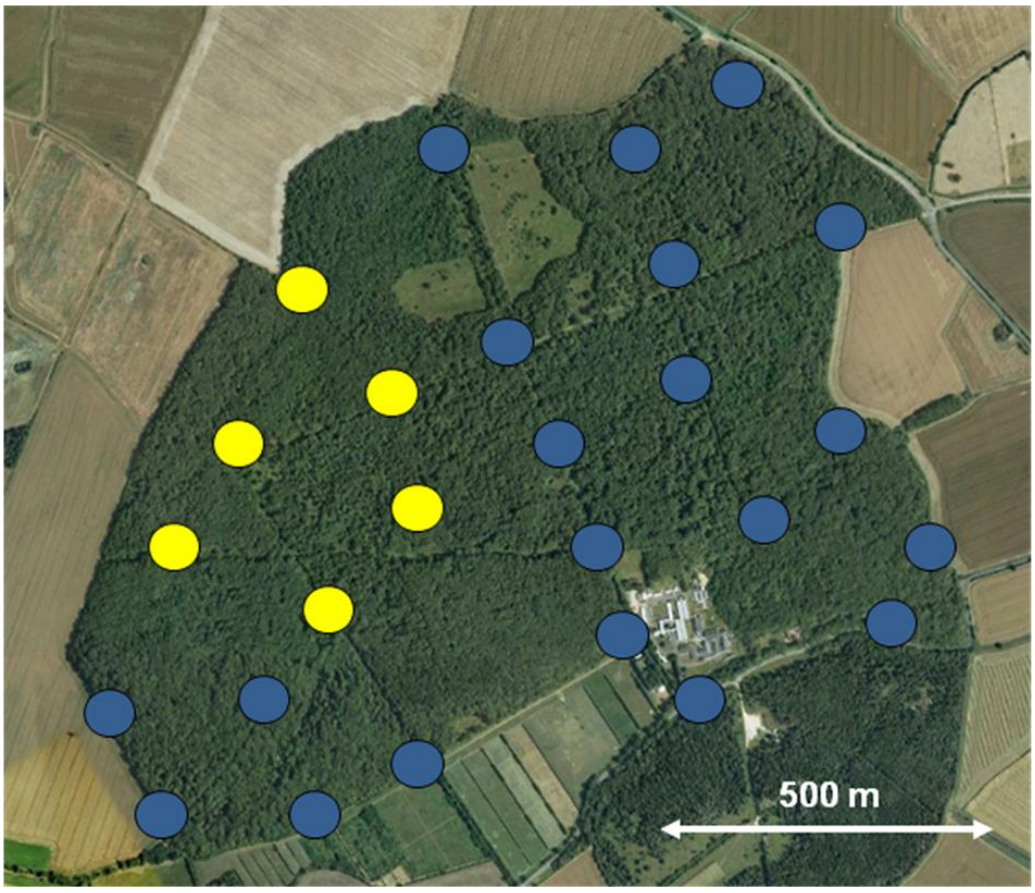
Trapping birds in a systematic way is important if reliable survival and population estimates are to be calculated. Effort has to be similar between years, but you also want to make sure that you're catching and ringing as many available birds as possible.

This is how I do it at Monks Wood, targeting Marsh Tits (the same method has been applied to Marsh and Willow Tits in Berks and Suffolk):

At Monks Wood (160 ha, about 22 Marsh Tit breeding territories), I set up a network of 26 trapping locations across the wood. For about 50 weeks of the year, there is nothing at any of these sites – no trapping and no feeding. But in late summer (August) I set up traps at 5 of the locations (coloured yellow). These are left open and baited until they are getting lots of use (usually a week or so). I will then top up the feeders and the next day start trapping at each location in turn for an hour or two, and repeating again on a second day, until I am satisfied that I have caught all visiting Marsh Tits. Usually it takes no more than an hour on one or two days to catch all visiting birds at each trap.

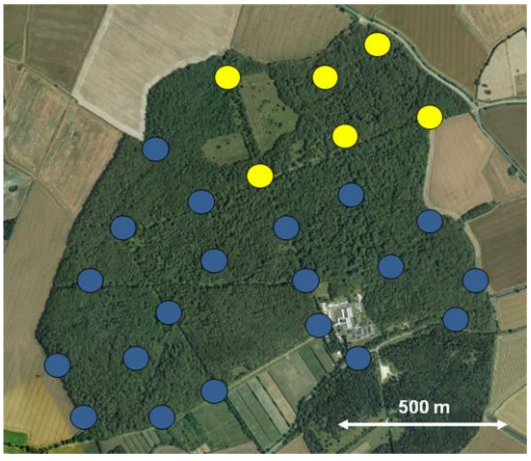


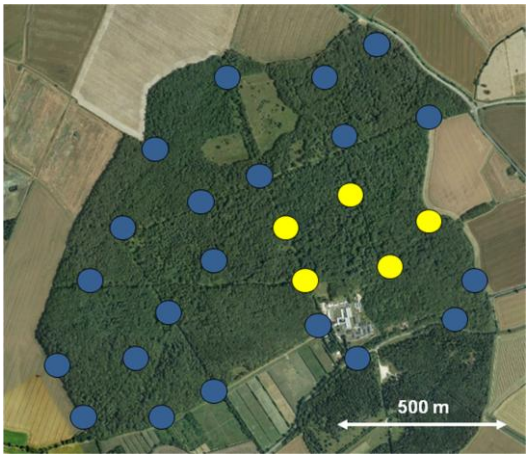
On the second day, when I'm confident that all target birds have been trapped and ringed (i.e. I'm only seeing known ringed birds), before I leave the wood I move the traps to second set of locations:



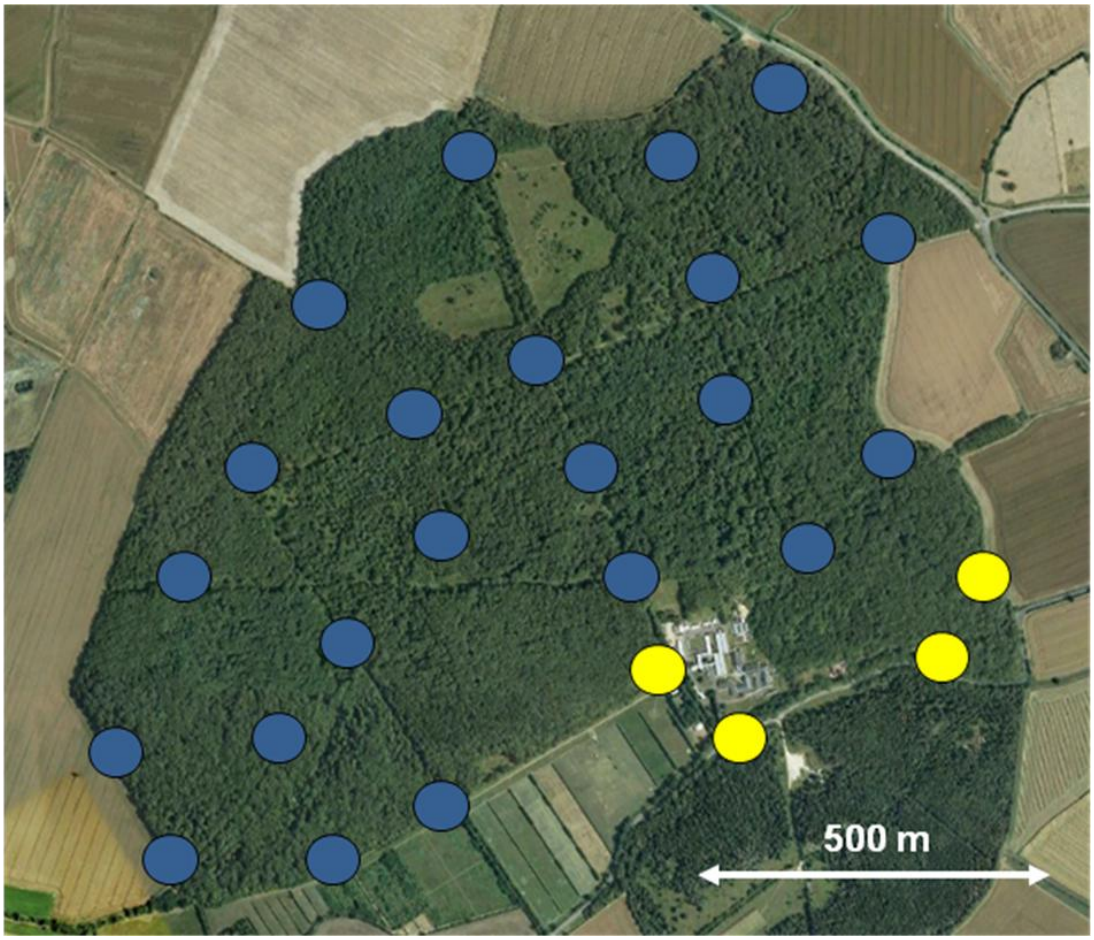
I will then leave these for a week or so (often less time is needed) before repeating the trapping. This fits nicely into a weekly trapping routine based on weekends, by moving the traps on a Sunday, making sure they're topped up the following Friday, and then trapping again over Saturday/Sunday before moving them again for the next week.

Using this method, I can rotate 4-6 traps around all locations in the wood over a period of 5-6 weeks spread over August-October (it's ok to miss weeks and then pick it up again, just top up the traps and give the birds a few days to start coming again):





So after about half a dozen site visits (of 2 days each), I can cover the whole 160 ha wood and visit every territory, catching virtually every Marsh Tit present:



By doing this in late summer/autumn, you catch all of the new juveniles that have settled in the site, as well as most of the adults (either trapped or re-sighted if they have learnt to be more cautious at the traps). It's a very efficient method that can be undertaken by a single fieldworker, although it's easier/quicker if two or more people are trapping simultaneously, and if someone is available to check/top up traps before trapping visits (local volunteer?).

By using the same trap locations each year, and similar effort at each location (2 visits of 1-2 hours, or until all new target birds have been caught), over a similar time of year, you have a standardised method that can be used to ring the entire population and work out survival and the number of recruits each year (e.g. productivity/immigration/survival of locally-ringed pulli).

Monks Wood is visited again for a few days in March, visiting each territory and using playback to find all territorial pairs (at least 2 visits to each territory in good sunny or still weather). This acts as a second census that tells you how many of the autumn-trapped birds have survived, and where they have settled (usually very close to where they were caught!), and has a detection rate of effectively 100% (i.e. you find virtually every bird/pair). By combining a trapping census with a playback census, you can work out *seasonal* survival, as the next autumn trapping period will tell you how many territorial birds survived the breeding season.

The ringers who trap in autumn do not have to be the same people who do the playback survey in spring – the latter is suitable for volunteers with a modicum of training.

The most difficult year is the first one, as birds may not be used to feeders at a new site and so it may take them time to start using the traps. But in following years, survivors of all tit species (e.g. Great and Blue, as well as Marsh/Willow) will remember how to use traps, and will 'train' new juveniles – this has taken as little as 15 minutes at Monks Wood, for a new juvenile seeing a trap for the first time ever to being caught by the ringer.

Having a colour-ringed population (from autumn), and also an idea of the location of breeding pairs (spring survey) means that you can target nest-finding to specific areas/territories and look for individual birds (e.g. known females) to lead you to the nest. It's often possible to sex them during the spring survey, based on behaviour (e.g. paired with a bird of known sex, singing behaviour), as well as Marsh Tits during the autumn trapping based on biometrics.

An optional extra is to do another playback survey in the second half of June or early July, to find juveniles just after they have dispersed – they are extremely responsive to playback at this time, as they set up their own home-ranges and pair up. This gives you dispersal data for more individuals (as many will have died by the time of the August trapping period). This survey can include all local woods, to see how far any ringed pulli have dispersed from the natal territory, and can generate very useful information (and it's quick and easy to do).

Get in touch if you have any questions.

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