

SHROPSHIRE WILLOW TIT SURVEY

Jonathan Groom

This is not a survey commissioned by the BTO (though they have given me their support to carry it out). The Survey Organiser, Jonathan Groom, is administering and participating purely as a volunteer, and has received support from the RSPB Species Recovery Group. This support is extremely gratefully received.

Unfortunately, this does mean that there is no funding available for expenses or equipment. It does also mean that opportunities for training may be limited, certainly during the initial year of 2016.

Please contact Jonathan Groom at bto.shropshire@gmail.com to ask any questions or to request to participate in the survey.

Introduction

The Willow Tit (*Poecile montanus*) is the fastest declining (widespread) resident breeding species of bird in the UK. It has been shown to have declined by 92% in the last 25 years by the UK Breeding Bird Survey and Bird Atlas projects organised by the British Trust for Ornithology.

It is a difficult species to study due to its extreme visual similarity to the closely related Marsh Tit (*Poecile palustris*) and little understanding of its habitat requirements. Recent studies have shown that it is very hard to reliably tell apart from the Marsh Tit without examination in the hand or with a clear photo, due to overlap in physical features between the two species. However, it does have a very different song and call to the Marsh Tit, and also different habitat requirements.

The RSPB has a Species Recovery Project set-up to increase our knowledge of the Willow Tit's distribution and habitat requirements, in order that we can put conservation measures in place. A survey method has been designed involving playback of the Willow Tit's song to provoke a response from territorial birds. This allows a reasonable estimation of the number of pairs in a given site and allows surveys to be carried out by volunteers who need not have any previous experience of this species. Surveys have been carried out in many sites across the UK during 2014/15 and records show that Shropshire is likely to have a number of sites where this species may be breeding.

Aims of this project

- Create an inventory of sites where Willow Tits are confirmed to be present during the breeding season, using playback method to eliminate any confusion between Willow and Marsh Tit
- Estimate number of breeding pairs at each site as best as possible.
- Provide data to all relevant agencies including RSPB, BTO, Wildlife Trusts and County Recorder.
- Inform landowners and advise on suitable conservation methods wherever possible.
- Possible follow-up with more intensive studies

The project commences in 2016, with a few trial sites and hopefully, if successful will continue with more sites and more recruitment of volunteers in future years.

Health & Safety

It must be made clear that by agreeing to participate in this survey as a volunteer, neither the survey organiser nor the BTO or RSPB can be held responsible for any injury or inconvenience that arises from carrying out the survey.

None of the actions required by the survey are deemed to be hazardous, and the participants must always use their own judgement to avoid placing themselves in any hazardous situation.

Please ensure that you notify someone of your whereabouts and do not enter any dangerous environments or private property.

No survey data is worth participants putting themselves in danger or breaking the law.

Thank you.

Survey Instructions

Summary

- Two surveys per site should be carried out between February and March. This can be continued into early April if necessary, but once the birds are serious about excavating and nesting they become very silent.
- Surveys should be undertaken on 'fine' days – relatively warmer days with no wind and rain are much more likely to detect willow tits if present.
- A pre-determined route is walked along/through the survey area. The route taken should be marked on an OS or similar map which shows habitat. A stop is made every 100-200 metres and co-ordinates of each stop recorded using a GPS and noted on a recording form. Stop points should be distributed so no suitable habitat is more than 100m from a point.
- At each stop the recording of willow tit call and song is played for two minutes.
- A further two minutes are then spent listening for a willow tit response.
- If a response is achieved during the play-back the recording is stopped and the next stop is located.
- Record location on map where recording was played with an indication of whether Willow tits responded or not.
- Details of any response (of lack thereof) received should be noted on a survey form. Grid references should be obtained to allow for accurate plotting on maps.
- If you see or hear a Willow Tit outside of a playback session, also record this and perhaps play a short burst of playback to elicit a response to confirm the ID.

Equipment required

- Clipboard
- Survey Forms
- Pen or pencils
- Playback device (MP3 player, IPOD, most phones)
- Speakers (2-3 watt) if playback device does not have them built in
- Binoculars

Not essential but very useful

- GPS device (either dedicated GPS device or smartphones all have free apps that will provide grid references – see **Playback/GPS Devices** section below).
- Camera (not essential but you may get good photo opportunities)

Step-by-step guide to Survey Method

1. Preparing for the survey

- Read this document several times and make sure you are familiar with everything. Direct questions to the survey organiser if unsure.
- Look at examples of completed survey forms and maps for reference.
- Make sure your playback device has the MP3 sound file (provided by survey organiser) loaded into it and it works with any speakers you are using.
- Listen to the sound file as many times as you can and try to become familiar with the key sounds of the Willow Tit song (see [Willow Tit Song](#) section below for more details)
- **Prepare a survey map and form.** The data form will be provided by the survey organiser. Survey maps will be provided by the survey organiser and have a 100m grid to help you to plot your playback points.
- **You will need a new survey map for each visit.**
- Mark on your route with a highlighter pen (or something brightly coloured like red), ensuring as best as possible that it comes to 100m of all possible suitable habitat. If this isn't possible, don't worry as we will be able to see this from your map and take it into account. You can mark on additional routes taken if you divert from your planned route once in the field.
- Mark on your playback points approximately every 100m along your route in combination with landmarks as described in the next point. Each playback point should be marked with a box as such . You can add more playback points in the field if you need to. You may also not need to carry out a playback at each point depending on the habitat.
- **Mark your playback points using landmarks on the map wherever possible** such as path intersections or bends, edges of different woodland blocks, woodland clearings, pools, ditches, streams, field boundaries, old quarries, cliffs etc. This will help you to locate them in the field.
- Please look at the example survey map to ensure that your map is correctly prepared

2. Assessing the Site for suitability

- Without visiting the site in question, it is impossible to know whether the habitat is suitable or not. Sites have been determined using existing records but the extent of suitable habitat cannot be determined until a field survey is carried out.
- You may wish to make a preliminary visit to your site in order to look for suitable habitat areas to concentrate on. This is especially true if you are covering a large site.
- Please read the [Suitable Habitat](#) section of this document and consider taking habitat details on a copy of the survey map (see [Recording Habitat](#) section below).
- **Don't waste your time carrying out playback in areas which are clearly unsuitable such as large areas of dry mature woodland or dense plantation. But do look for wet/scrubby areas within large woodland/plantation blocks as this may hold suitable nesting habitat.**
- Please be aware of features such as watercourses or pools which may not be visible from your survey route but still within 100m and hence worth carrying out a playback, as birds may respond from that area.
- If you judge a site to be completely unsuitable, please inform the survey organiser and please consider recording the habitat to support this.

IMPORTANT: Don't trespass on to land that isn't public access unless you obtain landowner permission first. This survey does not give you any right to enter private land unless on a public right of way.

3. Carrying out your survey

Timing and Conditions

- Make two survey visits **at least a week apart** during **February and March**. This can be continued into early April if necessary, but once the birds are serious about excavating and nesting they become very silent. If you can make more visits during this period this would be very valuable – but always ensure they are at least a week apart.
- The survey can be carried out at any time of day but mornings and early evening is best.
- Only carry out the survey in reasonable weather. Do not carry it out in persistent or heavy rain or strong winds.

Walking Your Route

- Walk your route and stop at every playback point in potentially suitable habitat (see Section 2 above) to conduct a playback. Walk the same route and use the same playback sites during each survey, unless you have time for extra playback sites or are not including sites that looked unsuitable in the previous survey.
- You may need a GPS to help you find your next playback point, but if you do not possess this capability or do not know how to use a GPS, please use map landmarks as described in Step 1 to help you. You may struggle to find your playback points in uniform habitat without using a GPS.
- Make sure your route is the same as you previously marked. If you venture into other areas, please make sure that you mark this too. If you can't cover all the area make sure to indicate this.

Carrying out a Playback

- At each stop, the recording of willow tit call and song is played for **two minutes**. This means playing the sound file supplied, **three times** in succession.
- A further **two minutes** are then spent listening for a willow tit response.
- If a response is achieved during the play-back the recording is stopped and the result marked on the map and details recorded on the survey form (See below for how to record the data).
- See **FAQ** below for what to do when you encounter a bird outside of a playback session

NOTE: Other bird species may respond to your playback, including the Marsh Tit which could cause confusion. Please try to ensure that any birds seen in mature wooded areas are definitely responding with Willow Tit song and call (see WILLOW TIT SONG section below for more detail on this).

4. Recording your results onto Survey Map

Number each point where you carry out a playback or see/hear a bird on the map. You do not have to number playback points which you end up ignoring in unsuitable areas.

For each playback point/sighting please mark on map results as follows:



Playback carried out with No response (cross).



Positive response and direction from which response came from. Try to draw arrow from where the bird was heard or appeared from as best you can. Draw multiple arrows if you get response from more than one bird at the same time (please try to make sure it is not the same bird moving around)



No playback carried out (left blank)



Sighting only – no playback used



Heard song/call with no sighting – no playback used

Please make all of your markers large and visible. Consider going over them with a highlighter and/or making a 'neat' copy at home after the survey.

You can also mark Marsh Tit sightings in the same way but mark each dot with the initials MT clearly'

5. Recording your results on survey form

Please record the following data on your survey form for each point where you carry out a playback or see/hear a bird.

- Number of playback point/sighting (correspond it with map)
- Grid Reference of each playback point/sighting (10 figure Grid Reference if possible. See section below for smartphone apps to get this if you do not have a GPS).
- Response received (Y/N)
- Bird seen (Y/N)
- Comments. Any notes or description of habitat where positive responses occur. Please continue with notes on a separate sheet if necessary. The more notes the better!

Please make sure all of your notes are legible. Please consider typing them up in Microsoft Word at home after the survey in the blank forms provided.

Any records of nest-building or occupation are extremely valuable and should be noted and passed onto the project organiser as soon as possible.

6. Habitat Recording (OPTIONAL)

Please take as many notes on habitat as possible on a separate habitat form. If you can make a separate copy of the survey map and mark on areas of different woodland types and number them, you can describe each. For small areas that are not easy to define on the map or individual features (i.e. boggy patches, significant trees, possible nest sites etc.) please mark a dot in red pen with a number and write a note on the habitat form. Please read the **SUITABLE HABITAT** section following for an idea of what to be looking out for.

Send completed survey forms and maps to survey organiser (bto.shropshire@gmail.com) or **Jonathan Groom, 18 Rea Street, Shrewsbury, SY3 7PR.**

FAQs

CAN I ADD/IGNORE PLAYBACK POINTS DURING THE SURVEY

Yes. You may wish to alter the locations of your playback points to better survey areas that look very suitable or ignore areas that are unsuitable (if in doubt carry out the playback to be sure).

If you do additional playback points, you must mark on the new playback site as normal. It will not affect the results so do not be afraid to do this as long as you make sure to mark it on the map.

If you ignore unsuitable areas, just leave the box blank.

Please see **Suitable Habitat** section below for more details.

WHAT HAPPENS IF I HEAR/SEE A MARSH/WILLOW TIT WHILST WALKING BETWEEN PLAYBACK POINTS?

This is very important to note. See Section 4 for how to mark these on your map.

If you are confident in your ability to distinguish them visually then please mark the sighting on the map with a large dot but no box. Please take the grid reference and mark on survey form as per a playback making sure to number the sighting on the map to correspond with your survey form. Note as a sighting only in comments, and please provide a description of how you identified it.

If the bird is singing or calling and you are confident that you are correct in ID (i.e. you hear the distinctive Willow Tit song), please mark (and number) on the map with a dot in a circle and fill out the survey form with comments that it was heard only. Mark the dot as close to where you think the bird actually is as possible.

If you are unsure, please consider doing a playback to see if a response is obtained. Make sure to stop playback as soon as a response occurs. Mark this on the map and survey form as a playback point as normal.

Mark Marsh Tit sightings the same as Willow Tit but use the initials MT next to the dot

DO I STILL NEED TO DO ANOTHER PLAYBACK WITHIN 100M OF A POINT WHERE I HAD A SUCCESSFUL RESPONSE?

Yes! Although the same bird may respond (make sure to draw the arrows to indicate direction of response), this will help us to establish the limits of its territory.

If you can still hear or see the bird at the next playback point (100m on) after a successful response, you can mark as a sighting or hearing as per the section above. There is no need to carry out another playback.

It is especially important to make sure you stop the playback as soon as the bird responds if you have already had a response from it previously. This will minimise any effect on the birds.

WHAT IF I DON'T HAVE A GPS OR DON'T KNOW HOW TO USE A GPS

You can use a smartphone for this (see final section of document).

If you do not have a smartphone or a GPS then you may struggle in uniform habitat and you will have to use the 100m gridlines and landmarks on your map as best you can. We can estimate grid references afterwards from where you have marked the map – but it is always good to take a field GPS reading if possible.

I DON'T KNOW HOW TO TAKE A GPS READING

This is a subject which would take too long to go into in this document.

This webpage will help to explain the basics but there must be more online resources available if you look:

<https://www.ordnancesurvey.co.uk/blog/2015/11/map-reading-skills-how-to-read-a-grid-reference/>

HOW LONG WILL THE SURVEY TAKE?

This will depend on how large your site is.

I am currently estimating 10 minutes per playback point including time to walk between them and time taken to do the playback.

This will alter if you don't need to do the playback at any given point or if you get a quick response (or if you spend time watching any birds that you find!)

SUITABLE HABITAT

Willow Tit studies have shown this species to favour damp woodland and scrub with a dense lower layer of vegetation below 5m (This is known as the 'shrub layer'). High levels of soil moisture have been shown to be a requirement and as such often occur along watercourses or water features. They are less likely to occur in mature woodland, especially where there is little shrub layer and dry conditions.

They also use areas of conifer plantations, particularly young plantations or clear-felled areas, or where watercourses or pools are present and presumably where there is damp ground that cannot be planted up. There may be large areas within conifer plantations that are poor, but it is definitely worth looking throughout for pockets of suitable habitat.

Like all tit species, they nest in cavities, but unlike other species they excavate their own holes in decaying standing wood. Their preferred tree/shrub species to excavate nests in are Birch, Willow and Elder (these account for around 80% of recorded nest sites). Other trees that have been recorded as used include Hazel, Alder, Hawthorn and conifers. Woodland with permanent damp conditions will favour these species and also ensure that there is a continuous supply of dead and decaying wood.

Marsh Tit have been shown to favour mature broadleaf woodland, with Ash as preferred tree species for nesting, also with a well-developed shrub layer. The degree to which these species overlap is little known but it has been found to occur.

Summary of Willow Tit habitat requirements

- Permanent damp soil conditions
- Significant amounts of standing dead-wood
- Well-developed shrub layer (woody species under 5m). Key species for nesting are Birch, Willow and Elder
- Overall habitat can be large areas of damp low-lying woodland, edges of mature woodlands and conifer plantations, former industrial sites/spoil heaps, and the edges of waterways and pools/lakes, ditches, and streams.

Habitat that is not suitable includes:

- Mature broadleaf woodland especially Sycamore and Beech dominated
- The middle of dense conifer plantations, especially Spruce where there is little other vegetative growth
- Woodland with no standing deadwood
- Woodland with very dry conditions
- Woodland with no shrub layer (possibly due to overgrazing).

You can avoid playback surveys in unsuitable habitat but please be aware that there may be pockets of suitable habitat within them. Examine your maps (and an OS map if you have one) for features such as low-lying hollows, the bottom of slopes and waterways/ditches/pools where suitable habitat may occur within 100m of your route, even if it is out of sight when in the field.

NEST SITES

Any records of nest-building or occupation are extremely valuable and should be noted and passed onto the project organiser as soon as possible.

IDENTIFICATION NOTES

VISUAL ID OF WILLOW TIT vs MARSH TIT



Photos taken locally and supplied with kind permission by Tim Preston.

These are the most reliable identification features as per the article by R.K. Broughton in British Birds (<https://britishbirds.co.uk/wp-content/uploads/2014/07/Willow-Marsh-Tits.pdf>). Many of the traditional features still used in Field Guides, such as dull/glossy cap, pale wing panel, bib size, extent of cap etc, have been now shown to be unreliable.

Juveniles of both species are also virtually identical and the features above do not apply. Beware of making ID from sightings in late Summer.

WILLOW TIT SONG

Marsh Tit have been known to respond to playback of Willow Tit song so it is essential to know a little bit about the features that clearly distinguish the two species. This has been paraphrased from an article on Birdwatch.co.uk (see here for the full article

<http://www.birdwatch.co.uk/categories/articleitem.asp?cate=23&topic=119&item=486>)

Please listen to the supplied sound file to hear examples of the songs discussed.

Willow Tits have a very nasal *djur-djur-djur* call. Marsh Tit use a *pi-tchou* call similar in style to the more familiar Great and Coal Tits. **IMPORTANT: Willow Tit NEVER use a *pi-tchou* call so this is an important diagnostic.**

Willow Tit song is quite a distinctive *pew-pew-pew* sound (the first section of the sound file) similar to part of the song of the Wood Warbler. Marsh Tit have a tremendous amount of variation, much like the Great Tit in their song but **never use the *pew-pew-pew*** and hence this should be used as the diagnostic song.

A BTO video to help tell these species apart is available to watch here:

<http://www.bto.org/about-birds/bird-id/telling-apart-marsh-and-willow-tits>

PLAYBACK DEVICES/GPS

PLAYBACK

The best method of playback is using a phone. Most phones will have the capacity for this by uploading the MP3 sound file and playing it back through the phone speaker.

You will have to research how to do this. Most smartphones can receive it via an email. iPhone users may need to use iTunes or download a file manager app to get the file from email (you can download a free File Manager app from the Apple App Store).

You can also use an MP3 player and a small set of speakers such as (I cannot vouch for the quality of these):

MP3 player (cheapest on amazon): http://www.amazon.co.uk/Electronics-LG-MF-FM11E2K-Player-Black-Product/dp/B001JTIBAM/ref=sr_1_1?s=network-media&ie=UTF8&qid=1453915807&sr=1-1&keywords=mp3+player

Speakers: http://www.amazon.co.uk/XMI-Generation-Capsule-Compatible-Smartphones/dp/B001UEBN42/ref=sr_1_9?s=electronics&ie=UTF8&qid=1453915836&sr=1-9&keywords=mp3+player+speakers+portable

Speakers should be 2-3 watts.

GPS

GPS devices are reasonably pricey (Garmin are the main brand) and you are not likely to have one without a good reason.

Thankfully smartphones have free Apps that can double as a GPS in a pinch. Certainly in terms of getting a Grid Reference anyway.

For each type of phone here is the name of a free App that offers grid reference as a facility:

Android: Maverick lite

iOS: Outdoors Great Britain

Windows: Not sure. You'll have to look around .

You will have to explore the apps to find out how to get the grid reference. They don't normally need signal or internet connection as phones have an inbuilt GPS.