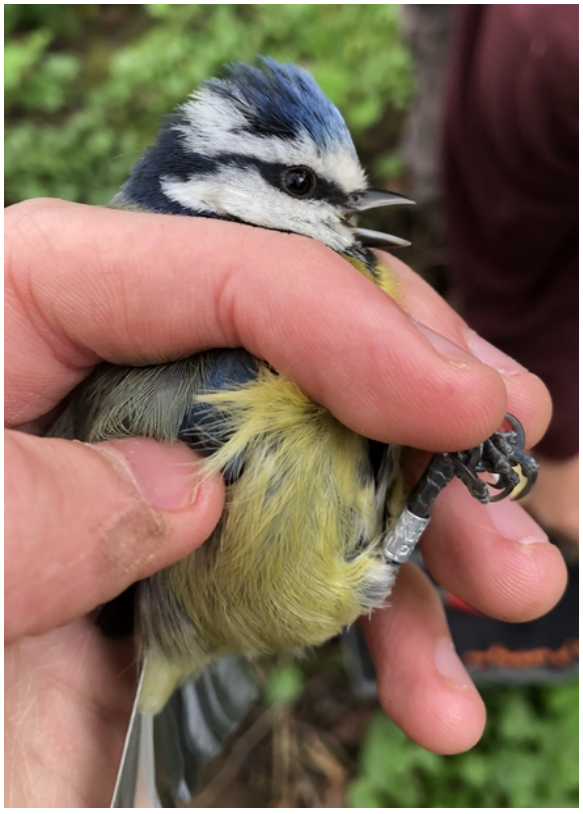
(Don't Underestimate) The Blue Tit

As I write, I'm scanning the garden through binoculars, and surprised to find several Blue Tits not wearing the small metal leg bands fitted under the British Trust for Ornithology Ringing Scheme. You may wonder why this is surprising since the majority of Buxton's Blue Tits are metal free, but given we have ringed over 50 Blue Tits in our garden since my eldest son received his Ringing License in October, isn't it amazing that new ones still flood in?

I have to admit to a bit of an obsession with Blue Tits. As a child I passed many hours studying garden birds from the kitchen window sill, fashioning feeders from Christmas pudding tubs and yoghurt pots, and designing ever more complicated ways for Blue Tits to extract peanuts. Blue Tits were my target; other species took no interest in my inventions beyond a brief angry peck, but Blue Tits persevered until the matchsticks were extracted in the correct order for the peanut prize to fall.

It seems the Blue Tit is ever ready to interact with our world, the first to explore a new feeder, readily raising their broods in a basic nest box, and usually first to arrive in a mist net erected to safely catch birds for ringing.

When I started training as a bird ringer, I was warned about Blue Tit attack. I thought it was a joke – how could 10g of bird pose a threat? I learned quickly it was no joking matter when reaching into a cotton bag (used to keep the bird safe and calm between extracting from net and processing) to be swiftly pincered by a Blue Tit bill rotating a small section of my palm. 4 years on, ringing Blue Tits can still be a painful experience, but I least I know what to expect!



Adult Blue Tit with BTO ring

So why do we ring such a common (and pain inducing) species? It is sometimes the commonest species that tell us the most. If a bird is easy to catch and monitor in the nest, there is plenty of data to collect – lifespan, nesting times, brood size, survival, movement – revealing changes to the fate of that species over time, the effects of climate change, and contrasts between different habitats. Take the House Sparrow, at one time so common that ringers released them from nets without processing, and now suffering a decline so severe that 70% of the population has been lost since the 1970s. Long term ringing data may have provided vital information to better understand reasons for decline.

As a woodland generalist, the Blue Tit is a successful species, adapting to urban environments from their favoured broadleaved woodlands, taking a wide range of natural food and supplementing with a range of seeds and suet provided in gardens. Blue Tits were recorded in 78% of gardens in the RSPB Big Garden Birdwatch 2022, and were the second most common species with a mean of 2.79 per garden. UK numbers increased until 2008, a period when many species declined, but data suggests a shallow decline in the UK in recent years. Typical lifespan is 3 years, so just one or two chances to breed, although the longest lived UK Blue Tit recorded from ringing was 9 years 8 months. In the short period of ringing in our own garden, we have recorded a Blue Tit at least 5.5 years old – what an honour to hold the tiny marvel that's survived all those tough winters and breeding seasons.

Of their resilience I have no doubt. 15 years ago I lived in the windswept wilds of Newhaven (eventually moving back to Buxton for its milder climate). Snow would blow half way up the back door, and dangerous icicles hung from the leaking gutter, so putting out a little bird food was quite a task. On one such outing I found a Blue Tit awkwardly suspended, its foot frozen to a branch. As it was hanging motionless, I thought it had died, but using my fingers to thaw its foot, and a gloved hand for shelter, I carefully released it. Cupped in my hands indoors, it slowly revived, and was placed in a box with a selection of food. Within minutes it had found an escape route, and flew to perch on the globe at the top of the bookshelf. Closing the blinds and opening the door helped it find its way back to the frozen garden to take its chances once more.

But what about adaptability? Climate change is leading to earlier springs, and while the Blue Tit has demonstrated some adaptability in terms of the timing of nesting, BTO studies show that the shift has not kept pace with that of caterpillars, creating a phenological mismatch. There is an increase in extreme weather events - severe cold or heat or prolonged heavy rain can severely impact breeding success.

In France, researchers have linked a decrease in brightness and intensity of Blue Tit plumage to rising temperatures and decreasing rainfall, which is likely to affect mating patterns and therefore breeding success.

A University of Glasgow study shows that while adult Blue Tits have no trouble finding food and nest boxes in the city, the scarcity of caterpillars and a diet unsuited to nestlings leads to poor breeding success, with less than 1 chick per nest fledged in 2015.

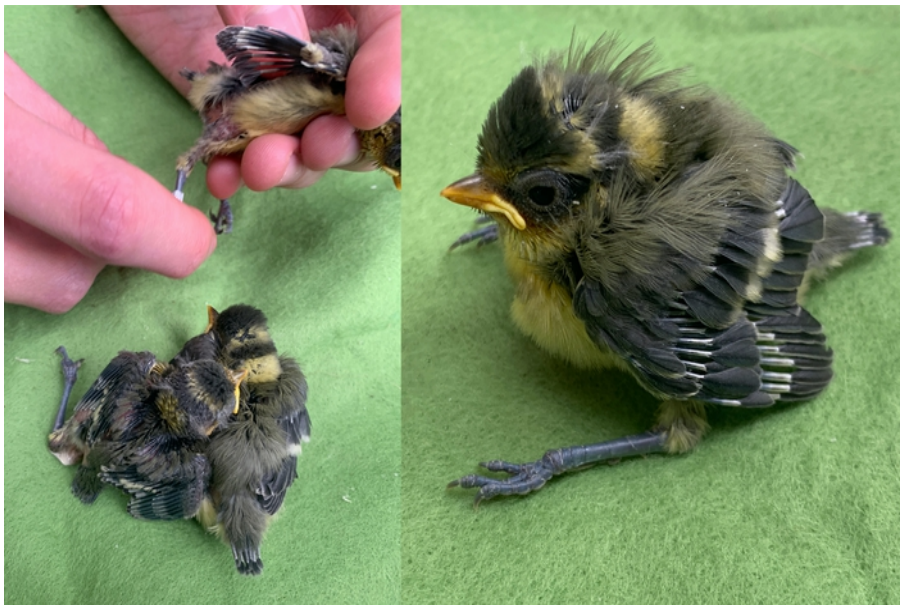
Recently fledged Blue Tit under Horse Chestnut umbrella

The demands of Blue Tit nestlings are great – each chick requires 100 caterpillars per day, so 2000 caterpillars to fledge, totalling 20,000 caterpillars for a brood of ten. To succeed, adults must respond to the timing of each spring in order to coincide the raising of chicks with peak caterpillar numbers. The most important food species is the Winter Moth. As it's name suggests, it is adapted to surviving the cold months, the flightless female laying eggs on twigs and in the cracks of bark, ready to hatch as the buds burst. (Males are most often seen weakly flying along a woodland edge, illuminated by car headlights.) Just like adult Blue Tits, Winter Moths caterpillars are generalists, feeding on a wide range of broadleaved species.

The Winter Moth is therefore vital for Blue Tits in Buxton's woods, and by increasing trees and hedges in our gardens and diversifying native species in our woods, we can better support not only Blue Tits, but the wide variety of birds that rely on caterpillars to feed their young.

A growing project in Grin Low & Sherbrook Woods monitored 30 nest boxes last year, 18 of which were occupied by Blue Tits, with chicks ringed in 11 boxes, 10 broods successfully fledging. Of the broods which successfully fledged, numbers ranged from 5-11 chicks. The previous year, the largest monitored Blue Tit brood was 7, with 5 broods successfully fledging from a total of 12 nests. Average numbers of chicks fledged per nest were 3.1 in 2021 and 4.7 in 2022. We're gradually building local data, and results

are submitted to BTO as part of the national Nest Record Scheme. A strict protocol is followed to ring chicks, ensuring the timing is optimum (chicks developed sufficiently to handle safely, but not too close to fledging). The hole of the box is blocked to prevent the adult birds returning, and the chicks placed in a cotton bag. The ringing of the whole brood takes just a few minutes, the chicks swiftly replaced, the hole unblocked, and a quick retreat to allow adults to return.



Ringing of Blue Tit chicks (around 13 days old) as part of Grin Low nest box scheme

Besides the event of ringing, regular visits to the boxes are required to monitor occupancy and progression, where an endoscope camera is used to inspect. There is an opportunity for volunteers to help this year with this part of the project – full simple training will be given, and a privileged few will get the chance to witness the happenings inside the nest boxes in our woods. With more volunteers, we can expand the nest box scheme, allowing comparisons of different woods, and parts of the woods, and building data over time.

Of course, it's not just Blue Tits that we monitor in our woods, but here is a species that we all encounter throughout the year, a species that usually doesn't stray far from its place of hatching, that we can take pleasure in studying throughout its lifecycle. And there is always more to learn – maybe I'll take a trip to the woods later, to find out if Blue Tits are roosting in boxes on a winter's night.....