

# Sparrowhawk monitoring in your *Raptor Patch* – a guide to the essentials

This guide takes you through the Sparrowhawk monitoring year, highlighting some of the things to be doing and to be looking out for. It assumes little prior knowledge and links to (or references) more detailed resources for those that wish to learn more.

## Introduction

Sparrowhawks prefer to breed in mature woodland, preferring large woods and conifers rather than deciduous trees and they tend to choose dense stands of trees (2-4 m apart). Sparrowhawks will use less favoured habitats, especially when ideal nest sites are not available. These include smaller woods or clumps of trees including shelterbelts, more widely spaced trees, deciduous trees and scattered trees in city parks and other urban areas. Sparrowhawks principally prey on small-medium sized birds, but mammals and reptiles may also be taken. Males can kill prey up to their own weight such as thrushes and starlings, whereas females (which can be double the weight of males) are able to kill much larger prey such as well-grown Pheasant chicks or full-grown Woodpigeons.

The breeding territory of a Sparrowhawk pair may contain a cluster of nest sites but both the male and the female will hunt over a much wider area, with the foraging range of the female typically being larger and including more open country than that of the male. These wider home ranges typically overlap with each other and, often, with the ranges of other Sparrowhawks. The spacing of breeding pairs varies between 0.5 and 2 km.

## Winter

One of the most productive uses of your time during the winter months is to systematically check woodlands in your *Raptor Patch* for clusters of old Sparrowhawk nests and accurately record their grid references to 100 m resolution (i.e. 6-figures). If you have access to a GPS device you should be able to record these nests even more accurately to a 10 m resolution i.e. 8-figures (though sometimes this can be challenging in dense woodland and in some areas it may be necessary to move to a nearby woodland edge to get a GPS fix). Sparrowhawks often build a new nest in a different tree every year and this new nest is usually placed close to clusters of old nests within the nesting range. From the ground, old nests typically look solid and drooping and fallen leaves prevent the light shining through. These nesting ranges should be checked first on searches for occupied Sparrowhawk home ranges in the breeding season. Sparrowhawk nests are usually built in the lower canopy, at a height of 1.5-25 m above the ground, though most are between 6 and 12 m. The nest is placed in a fork in a tree or next to the trunk, where two or more branches emerge at the same level. Sparrowhawk nests are usually flat and bulky, about 40-80 cm across and 10-30 cm deep, with a cup about 15-20 cm across and 5-10 cm deep, usually made from small branches up to 60 cm in length and is lined with bark fragments or small twigs. Larch twigs are among the most commonly used nest materials. You may find the reference photos on <http://srms.piwigo.com/> helpful for distinguishing tree nests of different raptor species.

As you are walking through woodlands keep an eye out for field signs such as plucking posts. Sparrowhawks will often sit on a prominent features such as an old stump or log to pluck their prey before eating it. Plucking posts will be revealed by concentrations of feathers and other less

digestible parts. On occasion birds may use nearby old nests as plucking sites so sometimes there can be little evidence on the ground.

## April to early-May

Early in the breeding season is the time to **check for occupancy** of nesting ranges. Particularly in areas where it wasn't possible to thoroughly check for the presence of old nests (such as in dense conifer forests, where old nests may be obscured by branches and needles), it is possible to identify territories by carrying out watches for displaying birds. Vantage point watches over areas of suitable habitat during April and early-May may yield sightings of displaying Sparrowhawks. Such displays may include high-circling (often by the female) and sky-dancing (undulating flight) by the male, often over a large area around the nest site. To have a good chance of observing birds in and around occupied territories, carry out watches for 30 minutes or more during periods of relatively fine (dry and not too windy) weather. Note down the locations of any Sparrowhawks, along with their behaviour, on your field map. Such observations will give you an indication of the general area where Sparrowhawks may be breeding, but confirmed occupancy typically requires further supporting evidence.

Almost certainly the more productive use of your time will be to visit any nesting ranges that you may have identified during the winter months and to look for field signs, and once you have visited these re-visit all other woodland habitat too. If you did not have the opportunity to find nesting ranges during the winter months then you should do this now (see the Winter section for information on how to do this). As you are walking through woodlands keep an eye out for field signs such as fresh plucks and 'splash' (fresh faecal droppings). The 'splash' of accipiters (Sparrowhawks and Goshawks) is very distinctive – it is pure white and usually shows up as a straight line of up to 0.5m in length.

Feathers from such plucks are sometimes scattered throughout the nesting range. Fresh plucks can be far more obvious in certain woodland structures. For example, in plantations where there is little structural diversity/understory plucks and indeed moulted feather can be really obvious. This is not the case in mixed or broadleaved woodland where there is an understory, partly because feathers and prey remains may be obscured by vegetation, and partly because Sparrowhawks in such situations may more likely to pluck their prey in the canopy. It can also be difficult to distinguish between the plucks of Sparrowhawks and Goshawks; Sparrowhawks generally take smaller birds. Mark any field signs on your maps.

*Evidence for occupation* – A nesting range is occupied if there is clear evidence from signs or observations of resident birds that Sparrowhawks are present. Signs may be found in many woodland areas but you should have a high concentration of them in a relatively discreet area to be able to conclude likely occupancy.

## May

Time is best spent during this period **visiting known nesting ranges to check for signs of activity**. Re-visit those sites where you found fresh field signs on your earlier visit. An active nest will usually be located within 50 m of any fresh plucks and, if the terrain is sloping, a nest will usually be downhill from plucking posts as it requires less energy to carry plucked prey downslope to a nest, compared to upslope.

Active nests can show fresh white down around the rim or near-by surrounding branches.

Incubation lasts for 33-35 days per egg, beginning with the laying of the third or a later egg. Try to view from a distance to avoid flushing the incubating bird from the nest. The female incubates and is fed by the male approximately every four hours. Once incubation has commenced the female undergoes part of her annual moult so moulted flight and tail feathers are usually present nearby. Care must be taken to avoid excessive disturbance during egg laying and early incubation. Nest visits during incubation should be kept as brief as possible. When entering a nesting wood it is actually helpful to forewarn the Sparrowhawk of your arrival by deliberately making a noise, perhaps talking or breaking a stick. This will ensure that she does not flush off the nest suddenly dislodging the nest contents. If you adopt this approach she is more likely to sit tight on the nest than if you take her by surprise from close by.

In addition to the behaviours, calls and field signs that you were looking out for on your earlier visits also look out for and record the following:

- Incubating females sitting on nests (try to avoid flushing them), but if they leave the nest will give alarm calls
- Adults passing or delivering food to their mate. A food pass is a good opportunity to locate the nest as often the male will call the female off the nest, pass over the prey and then the female will fly back to the nest.
- Faecal droppings/whitewash around or under the nest

## June

During the June visit to your *Raptor Patch* you should visit all of your known Sparrowhawk nests to **check for young**.

If you are lucky enough to have a vantage point from which you have a view into the nest then try to count the nest contents (number of eggs and/or small chicks) and estimate the ages of any chicks that you see (you may find the reference photos on <http://srms.piwigo.com/> helpful with this). However, the contents of most nests cannot be counted accurately, if at all, from a distance until the chicks are larger and simultaneously visible over the nest edge. You should however be able to infer that eggs have hatched. Although young Sparrowhawks are silent in the nest even when being fed, the ground and vegetation below nests containing young become covered with droppings and the female may be heard [alarm calling](#) nearby. Watch for adults carrying food to the nest or feeding young. When the chicks have hatched food is brought anywhere between every 20 minutes and two hours.

June is also a good time to find new nests which you have not located on previous visits. In addition to the field signs described above, alarm-calling adults can help you to home in on the right area, and 'splash' underneath the tree and a large number of relatively fresh plucks can help to confirm that you have found an active site.

*Evidence for breeding* – Active nests are an indication of breeding. Whether or not a nesting attempt is considered successful is determined by whether or not chicks successfully fledge.

*Evidence for non-breeding* – If an occupied nesting range is located but no signs of an active nest or fledged young are found during the appropriate visits, then this provides evidence of non-breeding.

## July and early-August

During the July and August visits to your *Raptor Patch* you should visit all of your known nests to **check for fledged Sparrowhawk young**. Nests from which young have fledged successfully are generally covered with down; droppings will be splattered over a wide area below the nest and there will be a large number of plucks nearby. Sparrowhawk young become increasingly vocal once they are capable of flight so fledged young can be readily located by their [calls](#). As in June, if young are still present in the nest and you are able to see them from a suitable vantage point, try to estimate their age (you may find the reference photos on <http://srms.piwigo.com/> helpful with this).

*Evidence for fledging* – The number of fledged young can be best estimated by counting large young (more than 24 days old), either standing on the nest or on nearby branches.

## Additional information

You may find the following resources useful if you wish to learn more about Sparrowhawks:

- Newton, I (1986) *The Sparrowhawk*. T. & A.D. Poyser, Berkhamsted.
- *Sparrowhawk*, from *Raptors: a Field Guide to Survey and Monitoring* by Hardey *et al* (2013). The Stationery Office. [Available online here](#).

## Monitoring Sparrowhawks – at a glance

We recommend that you undertake six breeding season visits, one per month, to your *Raptor Patch* between February and July. During the winter we would recommend that you also visit your *Raptor Patch* to identify potentially suitable nest sites.

The table below shows the optimum timing for visits to your *Raptor Patch* during (red) and outwith (blue) the breeding season and how these visits are timed to coincide with when Sparrowhawks are likely to be undertaking key activities in their annual cycle (grey). Cells marked with an “X” indicate peak periods for particular Sparrowhawk activity within the wider range.

Aim of monitoring visit and key breeding activities of Buzzards	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Visit: To search for potential nest sites</b>												
Occupation of home range												
Territorial display			X X X	X X X								
<b>Visit: To check for occupancy</b>												
Occupation of home range												
Territorial display			X X X	X X X								
<b>Visit: To check activity at known nests</b>												
Nest building			X X X									
Courtship			X X X	X X X								
Egg laying						X						
Incubation						X X X	X X					
<b>Visit: To check for young</b>												
Hatching						X X X						
Young in nest						X X X	X X					
<b>Visit: To check for fledged young</b>												
Fledging												
Juvenile dispersal												