

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

This guide takes you through the Raven 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

Ravens are found in areas where there is sufficient carrion and prey to sustain them. These include mountainous areas, along rugged coastlines and, increasingly, in lowland farmland, parkland and forests. Ravens tend to avoid mature, dense forests and areas of intensive farmland where carrion is usually in short supply. Most Raven nests are quite substantial structures built from sticks. In many upland areas, traditional Raven nest sites are mostly located on ledges on natural crags as well as in quarries. However, particularly in lowland areas, Ravens will build nests in trees. They have been found nesting in trees and buildings in towns. Ravens sometimes nest within colonies of other species such as Rooks or herons.

Ravens are generally site faithful, but pairs may have several alternative nest sites within their nesting range (up to 14 alternative nest sites has been recorded on occasion, though 2-3 is more usual). These may be located on the same crag, but can also be up to 1 km away. Distances between neighbouring pairs vary, but in Britain and Ireland the smallest recorded is 400 m.

Winter

Check out your *Raptor Patch* for Raven territories. Ravens occupy their home range throughout the year and will actively defend their nesting territory. They will also perform **territorial displays** throughout the year including the 'unison flight', in which the pair drift around together in synchronised flight, usually high in the sky, for around 15 minutes, with wings almost touching at times. Note down the locations of any such behaviours on your field map.

Please note that non-territorial pairs may display away from active territories or nest sites, so care should be taken when interpreting display behaviour as evidence of occupation.

In winter, Ravens often gather in large flocks, typically dominated by non-breeding birds, to forage and roost. Within these non-breeding flocks or small groups of non-breeders you may see behaviours (such as synchronised flights) indicating that some individuals may be 'pairing up' for the first time. Watch these likely 'paired birds' carefully to see if in they go off purposefully elsewhere - they may be a new pair and heading to a potential nest site. Sometimes established territorial adults can join such flocks if they nest nearby, but after a time these will usually head off towards their nest site and roost separately from the main roost. Breeding adults sometimes drive off groups of non-breeding Ravens in late winter-early spring which is also a sign of territoriality.

January to March

During visits between January and March **check for occupancy** of breeding territories. Early in the season adult pairs will **display** over the nests site and resident birds will **alarm** when a nesting range

is approached. Vantage Point watches of 30 minutes or longer can be useful for identifying territorial pairs. Look out for and record the following behaviours and calls on your field map:

- Alarm calling
- Territorial display
- Stick carrying and wool being added as lining to nests

Evidence for occupation – A nesting range is occupied if a single Raven or pair is seen on at least two occasions during the breeding season.

February - March

Time is best spent during this period **visiting known nesting ranges to check for signs of activity**.

From a suitable vantage point you should be able to detect **Ravens flying to and from their nests** and you might even observe them **nest building** in fine weather. A bird will usually alert its mate to an intruder by **alarming**. Traditional nest sites on crags can be located by looking for white or lime green patches beneath them, where droppings have splashed onto the rock face. Tree nests or nests on buildings will often have pellets and droppings at the base. Incubating birds can sometimes be seen sitting on cliff nests from a distance.

Incubation normally starts with the penultimate or last egg, although some Ravens may begin to incubate earlier. The adults sit on the eggs to cover them before full incubation starts. Most incubation is carried out by the female, and during this time the female is fed by the male.

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:

- Adults entering or leaving a probable nest site
- Nest building
- Incubation
- Adults passing or delivering food to their mate
- Adults defending the nesting area against other raptors (e.g. Peregrine & Buzzard)
- Adults defending the nesting area against intruding Ravens.

April and May

During April and May visits to your *Raptor Patch* you should visit all of your known nests to **check for Raven young**.

If you are lucky enough to have a vantage point down 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 (you may find the reference photos on <http://srms.piwigo.com/> helpful with this). However it is more likely that you will not be able to count nest contents accurately, if at all, until the chicks are larger and simultaneously visible over the nest edge. You should however be able to infer that eggs have hatched. Watch for adults carrying food to the nest or feeding young. Feeding of the young is most intense between dawn and 11 am and from 3 pm to dusk. It is possible for early breeding pairs that young might be fledged by early to mid-May.

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 a pair of Ravens occupies a nesting range but there is no signs of an active nest or fledged young are found during the appropriate visits, then this provides evidence of non-breeding.

May and early-June

During the May and June visits to your *Raptor Patch* you should visit all of your known nests to **check for fledged Raven young**. As in April & May, 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).

Fledged broods are easy to identify – the young show no moulted inner primaries, while the adults have started to moult and have a distinct notch in the outer wing. This difference allows easy ageing of any birds close to the nest site. However, broods often forage well away from the nest once fledged, so fledged broods in your patch late in the season may have come from elsewhere. Fledged broods return to roost on the nesting cliff (or near the tree nest) at dusk, allowing the number of fledged young to be correctly allocated to a site if they are not seen before they disperse.

Evidence for fledging – The number of fledged young can be best estimated by counting large fully-feathered young in the nest just before fledging or nearby the nest just after fledging, or roosting at the nest site post fledging.

Additional information

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

- *Raven*, from *Raptors: a Field Guide to Survey and Monitoring* by Hardey et al (2013). The Stationery Office. [Available online here](#).

