



How to study osprey behaviour

Introduction

The study of behaviour is called **Ethology**.

Ospreys have behaviour which is related to feeding, establishing and defending their territory, courtship, breeding and migration. This behaviour usually has “survival value”.

Behaviour can be instinctive .This is known as “innate” behaviour and the animal is born with it.

The migration of ospreys is believed to be innate as the young osprey flies south without following other ospreys or being taught by its parents.

Behaviour can be learned. Trying to catch fish may be innate, but to be successful ospreys will improve their success in catching fish with more practise.

Flapping wings is common in young ospreys but learning to fly needs a lot of control. Flying is learned, and we see young ospreys get better at flying with practise after their first flights around the nest!

Behaviour and the Osprey Year

Ospreys are resident in the UK from March to September. A breeding pair or male and female osprey set up and defend a nest site in March.

Following mating two or three eggs are laid in the nest in early April by the female. The male does most of the fishing and the female most of the incubation over the 40 days or so. Eventually the eggs hatch and the young are fed on fish caught by the adults. The young take their first flights in July and continue to be fed by the parents until early September.

Usually the adult female migrates first, taking around two weeks for her 3000 mile southerly flight from Rutland to West Africa. The male who has continued to feed the young offspring for one or two additional weeks then migrates to West Africa.

Finally the young ospreys make their own first journey to West Africa, where they will remain for three or four years. Meanwhile the parent ospreys will return to the UK to nest with their breeding partner.

Mature young ospreys will eventually migrate to the UK to find a mate and establish their own breeding territory. Young males return to their “natal” site but females are more flexible in setting up a breeding partnership at another location.

Watching Ospreys

A lot has been learned about ospreys by carefully watching and recording their behaviour. In the UK observations of osprey behaviour at Rutland water are recorded by the reserve volunteers at the nest sites. Additional observations are made using the nest cameras at Rutland Water, and this is streamed live on their website www.lrw.org.uk/rutland-ospreys/. These cameras also work in the dark so you can see what is happening at the nest site at night! Many other osprey nest sites around the world have live camera views, so you can observe these too, as long as you take account of the time differences.



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Doing an osprey behaviour study.

The reserve volunteers monitor the osprey behaviour at Rutland Water. To make the observations more useful the behaviour is defined.

- Which ospreys are at the nest
- When did the osprey leave
- When did the osprey return
- When a fish was brought back (species of fish is possible)
- When a stick was brought back to the nest
- Time intruders were present
- (eg other birds such as buzzards - the osprey will hold its wings out and down called "mantling")
- Young being fed
- Young wing flapping
- Young flapping and taking off (but not flying away) called "helicoptering"

Time this happens and duration are usually recorded in a results table.

If you watch the nest camera it is possible to see some of this behaviour, but you need behaviour that can be seen at the nest on the camera as you cannot see the area around the nest like the volunteers can.

Measuring

Science is about **measuring**.

We can count "**how many**", usually in a length of **time**. How many is called "**FREQUENCY**"

- **How many times** does the osprey bring sticks to the nest?
- **How many** fish does the osprey bring to the nest?
- **How many** times does the osprey feed each chick?

Another way to measure is "**how long**"? How long is called "**DURATION**"

- **How long** does the osprey spend in the nest?
- **How long** does the osprey spend feeding its young?

It is better to do measuring more than once. This makes the results more reliable.



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Sampling

It is difficult to watch the nest camera all the time. Scientists can get around this by doing their observations at set times (eg once every day or every hour) for a set length of time (eg for 15 minutes.)

If you do more samples your results become more **reliable**.

For example

Aim; How many ospreys are present on the nest during the day?

You could look at the nest camera **every hour** and record the number of ospreys on the nest.
To make it more **reliable** you should repeat this experiment on **more than one day**

Record your results

If you are measuring **how many** or **how long**, you can make a suitable **results table**.

Display your results

To make it easier to see the next step is to turn the results into a chart or graph

A **pie chart**, a **bar chart** or a **graph** helps us to see patterns in the results.

When you display behaviour in a graphical way it is called an “ETHOGRAM”

Making a conclusion

What do the results show? Write down what your results show.

Evaluation

How could you make your study better?

Did you have enough results to make it “reliable”

Is the way you recorded “accurate”?

Could you do the study in a different way to improve the study?