

Assessing the Effect of Human-Swan Interaction on Swan Behaviour

Introduction

Human-Animal Interaction (HAI) is a broad term that describes a wide spectrum of relationships and interactions between animals and humans. This study focusses on Human-swan interaction – in particular, interactions in which feeding Swans are often able to find enough food for survival even in winter- and may only find supplementary feeding beneficial within freezing temperatures.

In the wild, a swan's natural diet consists of pondweed and algae (Badzinski et al, 2008), However, it is a common activity in the UK to feed ducks and swans in local lakes and waterways. In 2019, posters were shared on social media encouraging the public to feed ducks and swans bread, as it was 'better than being hungry' (BBC, 2019). However, when the RSPB was contacted to respond to this encouragement, the RSPB stated that swans can digest bread, however too much can leave them feeling full without giving them any of the vitamins, minerals and nutrients they need. (BBC, 2019).

This research project aimed to investigate the relationship between Human-swan interaction and swan feeding behaviours, to see if there was a link between swans eating the correct foods for their diet, and human intervention.



Research questions:

- 1) Does Human-swan interaction affect the feeding behaviour of the Swans?
- 2) Is there a difference between the amount males or females participate in feeding swans?

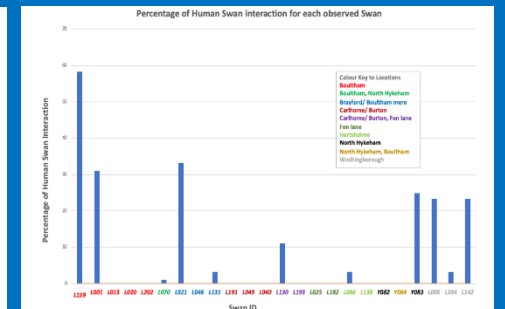
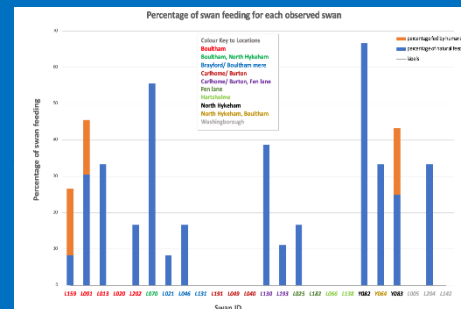
Participants:

The focus of this study was to observe swan behaviour, and their interactions with humans. The participants consisted of any swans spotted along the 7 transects, as well as any humans that may come within 5 metres of the swans being observed. As this was a field observation- participants were not asked for consent to participate as they were only being observed in their natural settings- and therefore were not made to do anything out of their normal behaviour- researchers were just recording this behaviour anonymously to examine the impact it had on swans.

Measures

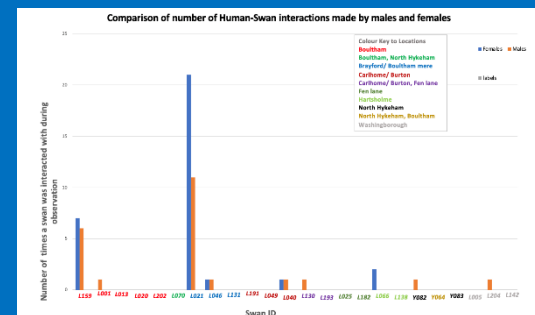
Both quantitative and qualitative data was gathered by the researchers. The former was collected via scan data and human-swan interaction (HSI) data. This excel spreadsheet relating to scan data consisted of date, time stamps, total number of swans in the focus group, focus bird ID, scan point and feeding activity. Feeding activity was also further analysed via qualitative means. The excel spreadsheet consisting of HSI data consisted of similar quantitative data as in the scan data sheets as well as demographic quantitative data such as estimated age and gender. Further, qualitative data was gathered regarding the ways in which HSI was carried out. Each of the corresponding data sheets were accompanied by a 30-minute video recording.

Results:



Results showed that Swans which experienced more Human-Swan interaction also were more frequently fed. For example, swan L159 sighted along the Boultham transect experienced human-swan interaction 76.66% of the time it was being observed.

From observation- it was found that when feeding swans- Humans were offering bread to the Swans, which has been found to not be beneficial for a swan's diet.



It was also found that females interacted and fed the swans more frequently than males over the course of the six weeks, with Males interacting with the swans 41.8% of the time, and females interacting with the swans 58.2% of the time.

Conclusion:

In conclusion, Swans that live along transects in which more human-swan interaction takes place (such as the Boultham transect and the Brayford/ Boultham mere transect) are also fed by humans more than swans living along transects that do not experience a lot of human swan interaction (such as the fen lane transect). It was observed that when feeding on natural foods, swans consume nutrients in the form of algae and pondweed- which are suited to a Swans dietary needs.

When Humans were observed feeding the swans- it was most commonly bread that was being given to the Swans. When it's fed in large quantities, it can cause dietary problems for the swans, as it does not contain the nutrients that is beneficial for a swan. An issue with swans being fed bread is that if swans are filling up on bread, they are then not seeking to eat foods within their natural diet meaning they may not be getting the nutrients that is vital to maintain health (Lawrence-Jones, 2021).

Bread that doesn't get eaten by the swans and other wildlife is also left to go mouldy within the waterways- polluting the swan's habitat, as Uneaten bread can turn mouldy, increasing bacteria levels in the water and leading to the spread of disease to swans and other wildlife. It can also attract mice and rats which can carry disease. (City wildlife, 2018).

The results showed that females interacted with the swans observed most and fed the swans more frequently than males did- often with young children. Therefore, it may be beneficial to start educating the public on what should be fed to swans and other birds along the waterways in schools, as this information can then be passed on to the parents by the children who are taking the children to local lakes and waterways to feed the ducks. The RSPB recommended feeding the swans oats and seeds as a more appropriate source of nutrients compared to bread (BBC, 2019).

Methods:

Researchers either driving, cycling or walking along one of the 7 transects to obtain data on swans from Lincoln and surrounding areas.

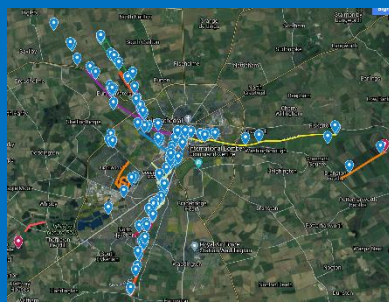
Across the 6 weeks, each transect was completed at least once on each day of the week. It was also ensured that the transect were not always completed at the same time of day, to ensure swan behaviour was observed across all times of day.

Once the researchers arrived at the transect, the location was recorded on an app called Epicollect5, in which the coordinates of where the researcher was standing was recorded. The researchers then followed the transect that had been mapped out beforehand by the lead researchers until the researchers came across a single, pair, or group of swans. The researchers then recorded the sighting on the Epicollect5 app- documenting the coordinates of the location of the swans, the Tag ID of the swans found, as well as information such as whether they were on a nest, if there was cygnets located with the swans, if the researcher had fed the swans and how many minutes were spent interacting with the swans.

The video camera would then be set up on a tripod to carry out focal sampling and record the swan(s) for 30 minutes. Whilst one of the researchers was responsible for ensuring the focal swan remained in view of the camera for the duration of the video, the other prepared to fill out the scan and HSI data on excel. The scan data sheet (Appendix 1) allowed for researchers to record the swan's feeding behaviour in 5 minute intervals within the 30 minute observation period, The Human-swan interaction data sheet (Appendix 2) allowed for researchers to document any interaction that was made between swan and human within 5 metres of each other, and record details of what occurred during the interaction. After the 30 minutes was up, the researchers would end the recording and log in the Epicollect5 app to record the ending of the observation. The researcher would then continue along the transect and repeat this process at any other swan sightings.

During the observations, researchers stayed at minimum of 10 metres away from the swans at all times, to ensure their presence did not affect the swan's behaviour. Researchers were also instructed to answer any questions the general public may ask, but to make it clear that the focus of recording and observation was on the behaviour that the swans were displaying, and not on the humans.

Once the field work had been completed the data collected was transferred into a meta-analysis data sheet so that the data could be compared.



References:

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