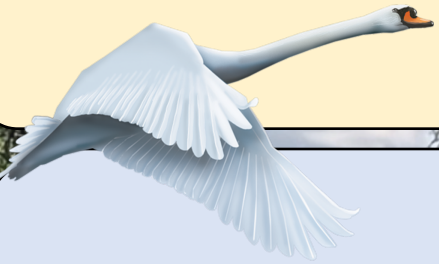


# Swan Track – A Software for Monitoring the Movements of Mute Swans (*Cygnus Olor*)

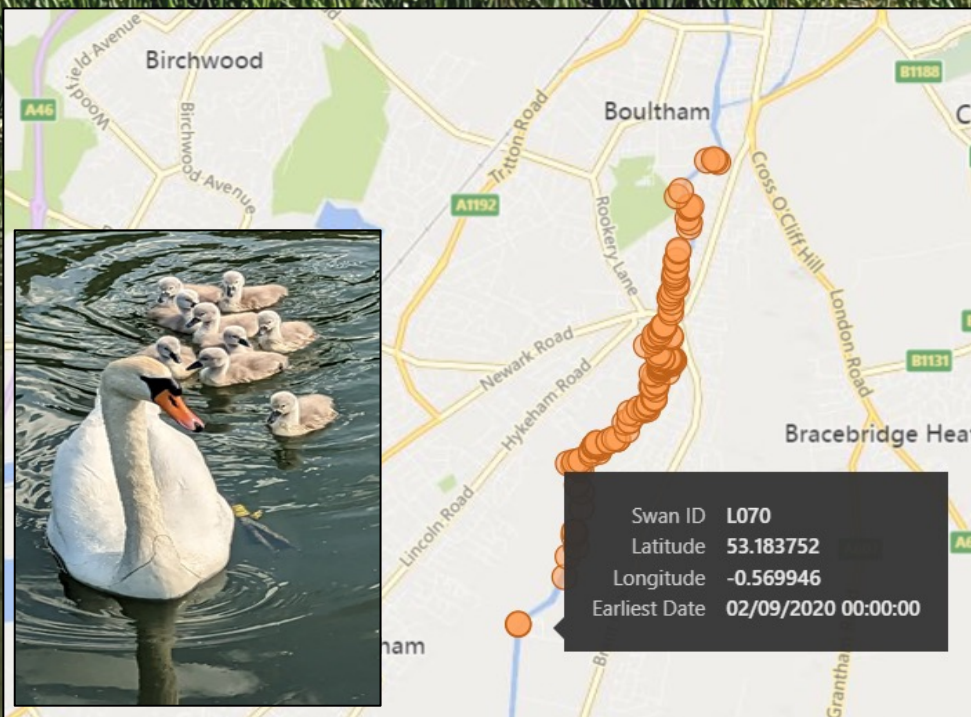


## Introduction

- The Lincoln Swan Project monitors the movements of Mute Swans (*Cygnus olor*) in and around Lincoln by receiving swan sightings by community scientists.
- Originally, the movements of swans were seen by manually searching through a spreadsheet of swan sightings.
- Swan Track was founded to map out the movements of the swans so the researchers and data collectors could visually see a swan's movements.

## Method

- Arrange swan sightings data into a format that Power BI can process.
- Upload data into Power BI Service.
  - This included Swan ID, sighting dates and location data (latitude & longitude).
- This data is then dragged to the appropriate sections in the visualisation panel of the map controls to result in the presentation of the swan's movements on a map.



**Figure 1:** Here is an example of the Swan Track Maps showing the movements of L070 (a territorial breeding female). Hovering over each dot displays a tab showing the Swan ID, the specific sighting location and the sighting date. With L070 being a territorial swan, she hasn't had much movement. The maps can determine the length of a swan's territory.

On the Lincoln Swan Project website, website users will have a filter feature where they can select the swan or swans of interest to see their movements.

**Results** – Under UROS, we built the foundation of Swan Track, mapping out 11 territorial and 10 non-territorial swans. Figure 1 shows an example of the maps we have produced. This foundation has been built on with Swan Track being extended to all other Lincoln ringed swans.

## Discussion

- Tracking animals is important in conservation research projects to monitor population size, disease control and other factors [1&2].
- Wildlife conservation efforts are increasing with the current environmental crisis, and understanding animal movements is essential for these efforts to succeed [3].
- Swan Track has contributed to achieving one of the main aims of the Lincoln Swan Project, which is to monitor where Lincoln Swans travel to.
- By monitoring where the swans travel too, we can learn, for example, where Lincoln swans are breeding. There is a Lincoln Swan (L147) who's had 5 cygnets in Sleaford.

## Acknowledgements

Thank you to all the Lincoln Swan Project data collectors who send in their sightings of Lincoln's Swans.



## References

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