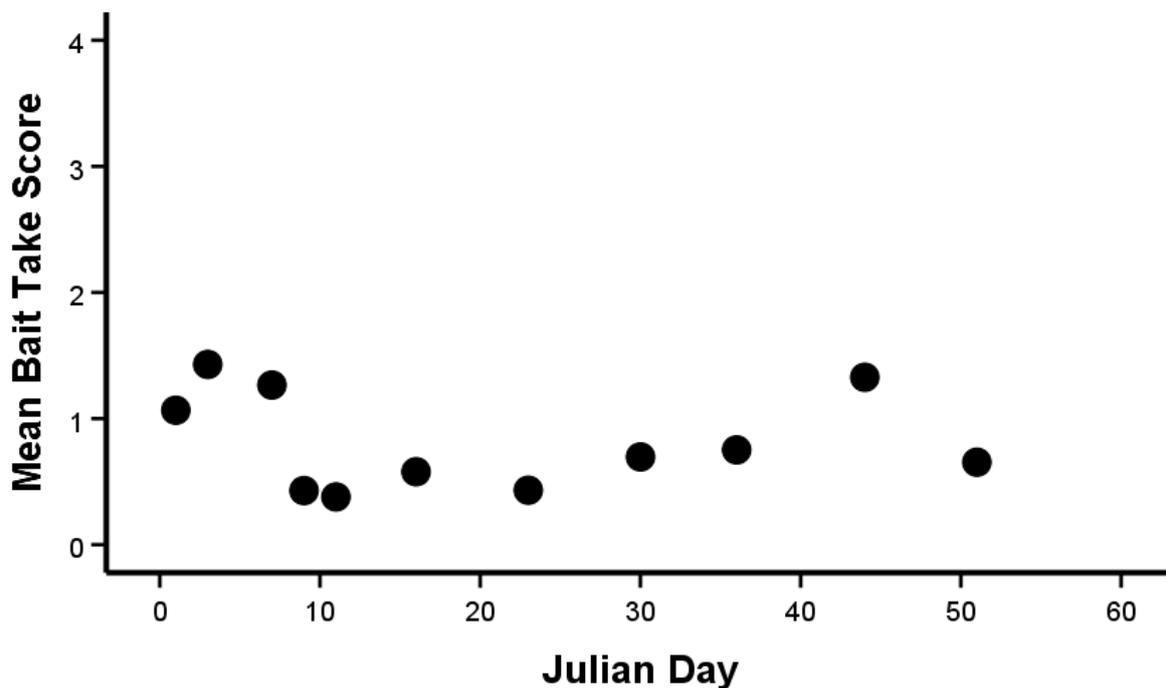


## Summary of bait take patterns during rat control programme on Bird Island - Greg Johnston

- On each visit to Bird Island 142 bait stations were visited and the amount of bait removed since the previous visit was scored on a five point scale indicating that between none (0) and all (4) of the bait was taken.
- During each visit not all stations were visited for a variety of reasons, e.g. some stations could not be visited without undue disturbance of nesting birds. Complete data were available for 72/142 (= 51%) of bait stations. The following graph shows the mean bait take score for the 72 stations with complete data on each of the twelve visits to Bird Island between 26 October and 19 December 2017. The 95% confidence intervals are not shown, but they confirmed there is no statistically significant change over time in the bait take scores.



- The time period between visits varied, meaning that bait take scores did not indicate bait consumption over a fixed period of time. This reduced our ability to interpret bait take as an index of rat activity.
- Baits that had been partly consumed by rodents were not always replaced. This resulted in an accumulation of increasing scores over time. This occurred because a bait station scored as 1 on visit x where the bait was not replaced could only be scored as 1 (in the absence of being further consumed by rodents) or above (if rodents consumed part or all of the bait between visit x and subsequent visits. This means that the bait take score does not reflect rodent activity, and may explain why the average bait take increased during five of the final seven sampling periods. This might occur, for example, if volunteers were less inclined over time to replace baits that were partly consumed by rodents.
- In summary, ***the bait take data do not provide a reliable index of rodent activity or population density***; rather they reflect some combination of rodent activity and changes in the way the data were collected over time.
- Should this activity be repeated, standardising times between visits and strict adherence to replacement of any baits that have been partly consumed are recommended.