# INFO ENTRY - QUESTION INFO

ENTRY NOTES:

* green = does not need to be editted
* yellow = info for the inputter
* ref\_id = “refs\_glossary\_2024-08-09.xls > “references” tab
  + if the reference not present, either add it (if you’re confident that you can follow the format), or add a comment in this doc with the info and I will adjust
* **images – file name in** “refs\_glossary\_2024-08-09.xls > “references” tab
* Ignore everything in the “POPULATE MARKDOWN” section
* Size of columns in tables and text format do not matter; see note on bold and italize below
* Any content with “glue}`` prefix or surrounded by “{{ “ / “ }}” indicates where text will be inserted from the keys
* You may see “<br>” throughout, you can ignore these
* additional formatting notes (optional)
  + \*\***bold**\*\*
  + \**italics*\*
* **Topic Info**
  + If the topic is NOT related to a question, you can leave “question” as NULL
  + “question” here is more for your reference
* **Assumptions, Pros, Cons**
  + Only for modelling approaches; can ignore otherwise (leave table here)
  + [WILL BE HERE, BUT INSERTED DIRECTLY FROM CSV FILE (THUS NO INPUT NEEDED)]
* **Advanced**
  + If the topic doesn’t warrant inclusion, you can leave as NULL
* **Figures**
  + Placeholders here as “filename” can leave in if not <5 images
* **Video**
  + no “<” before the URL text and a “>” after URL in this case
  + ref\_id in this example is not correct, just for illustrative purposes
* **Analytical tools & resources**
  + The ref\_id should be included in the reference column (and the full text reference in the master reference file). If you aren’t sure if the reference is in the master doc, add the full text ref as a comment.
  + Please add a “<” before the URL text and a “>” after (e.g., <http://www.somesitelink.com>)
  + Type can be something similar to: Article, App/Program, R package
* **References / Glossary** 
  + items in-text above (IGNORE FOR NOW)
* **Notes**
  + (future ref / not included in markdown conversion)

## Topic Info

|  |  |
| --- | --- |
| **info\_id** | sp\_hr\_size |
| **question** | **Question:** Is home range size information available for your Target Species (can be taken from the literature)? If so, enter the home range diameter (in metres)  Home range data - importance for site selection |

## Overview

Check the linked table from "HomeRange: A global database of mammalian home ranges" ({{ ref\_in\_text\_broekman\_et\_al\_2022 }}) or see if you can find similar information on home range sizes online or elsewhere.

\*\*Why does this matter?\*\*

Home range size information should, ideally, be chosen to reflect the conditions of your study (as closely as possible). For example, using data on home range size from a study that only reported home range size for one season (e.g., summer home range size) might bias placement if your study aims to evaluate occupancy over the entire year of a species whose movement highly varies between seasons (e.g., moves more in summer).

::: {note}

The size of species’ home has implicatons for many modelling approaches.

For example, home range size “has implications for the interpretation of occupancy. If animals range over a much larger area than a single site, then a) they may conceivably be unavailable for capture during a sampling occasion, and b) the “occupancy” of a site is more related to the ranging patterns and habitat preferences of an individual, rather than the coarse-scale distribution of a species” (Wearn & Glover-Kapfer, 2017).

::: {note}

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## Advanced

Add some info here

## Figures

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| **Image** | **file\_name** | **Caption (if applicable)** | **ref\_id** |
|  | figure1\_filename.png | figure1\_caption | figure1\_ref\_id |
|  | figure2\_filename.png | figure2\_caption | figure2\_ref\_id |
|  | figure3\_filename.png | figure4\_caption | figure3\_ref\_id |
|  | figure4\_filename.png | figure4\_caption | figure4\_ref\_id |
|  | figure5\_filename.png | figure5\_caption | figure5\_ref\_id |
|  | figure6\_filename.png | figure6\_caption | figure6\_ref\_id |

## Video

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| vid3\_caption | vid3\_url | vid3\_ref\_id |
| vid4\_caption | vid4\_url | vid4\_ref\_id |
| vid5\_caption | vid5\_url | vid5\_ref\_id |
| vid6\_caption | vid6\_url | vid6\_ref\_id |

## Analytical tools & resources

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| --- | --- | --- | --- | --- |
| **Type** | **Name** | **Note** | **URL** | **ref\_id** |
| Database | HomeRange: A global database of mammalian home range | HomeRange, a global database with 75,611 home- range values across 960 different species of mammals, including terrestrial, aquatic and aerial species | Article - <<https://onlinelibrary.wiley.com/doi/epdf/10.1111/geb.13625> >  <<https://github.com/SHoeks/HomeRange>>  <<https://shoeks.github.io/HomeRange/>> | resource1\_ref\_id |
| resource2\_type | resource2\_name | resource2\_note | resource2\_url | resource2\_ref\_id |
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## References / Glossary

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| **ref\_id** | **glossary\_keys** |
| Refs | keys\_here |

## Notes

* “Home range size is used as a means to control spacing between detectors when point sampling, but it is not related to the occupancy-abundance relationship and the potential for bias in estimates of occupancy. Rather, the importance of home range size to control spacing is related to bias in the standard errors if the independence of occupancy status assumption (e.g., sites are closed to changes in the state of occupancy for the duration of sampling) is violated. Investigators choose grain size, yet many studies fail to report justification for the selected grain size (Devarajan et al., 2020), and frequently use grid cell size to space traps/detectors under aerial sampling in discrete space and point sampling in continuous space. A final concern related to the site grainsize and assumptionthat the occupancy states across sites are independent relates to spatial correlation in the occupancy process. If individual home ranges overlap more than one point detector (e.g., point sampling of use), there is potential for spatial correlation in neighboring site occupancy states that could lead to false positives in testing hypotheses about ψ, as for example,in incorrectly concluding that occupancy changed (increased or decreased) over time. The outcome of spatial correlation in the occupancy process is that measures of precision will be overestimated (MacKenzie et al., 2017). To our knowledge, these types of false positive errors have not been formally investigated in occupancy models. The choice of grain is therefore an important consideration in occupancy studies since that choice will affect model assumptions and interpretation and is dependent on whether the study involves areal or point sampling (Efford and Dawson, 2012). Finally, point sampling in continuous space may result in unmodeled site-level heterogeneity in detection, resulting in underestimates in both ψ in occupancy models and site-level abundance in Royle-Nichols models (Efford and Dawson, 2012). This form of heterogeneity may arise because the probability of detecting an individual should increase with increasing overlap of its home range and a detector, and the number of individuals varies among occupied sites; the probability of detecting the species given presence may therefore be heterogeneous due to both variation in home-range overlap with sites and abundance at sites, while Royle-Nichols models only account for variation in abundance across sites..” ([Fuller et al., 2022, p. 4](about:blank)) ([pdf](about:blank))

Species with higher dispersal ability (i.e., able to travel further distances) are more likely to be absent during the survey