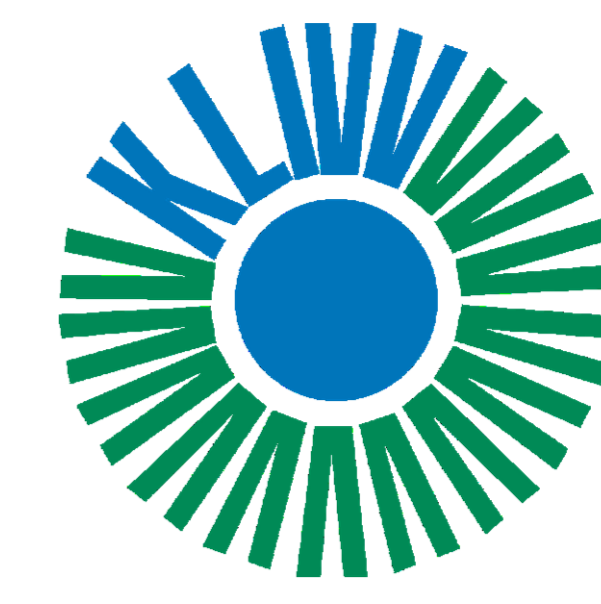


# Professional monitoring – A basis for Citizen Science projects with sustainable impact?

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## Background & aim of work

House Martins (*Delichon urbicum*) and Barn Swallows (*Hirundo rustica*) belong to the four swallow species native in Austria, which live in our immediate vicinity. They build their nests on facades and walls in courtyards and stables, which often elude public view. Both swallow species re-occupy their nests often over many years. Their stocks have been declining for the past few years in Austria, due to lack of food and nesting sites among other reasons.

The aim of the study, besides the finding of nesting sites of both swallow species, was divided into two main points:

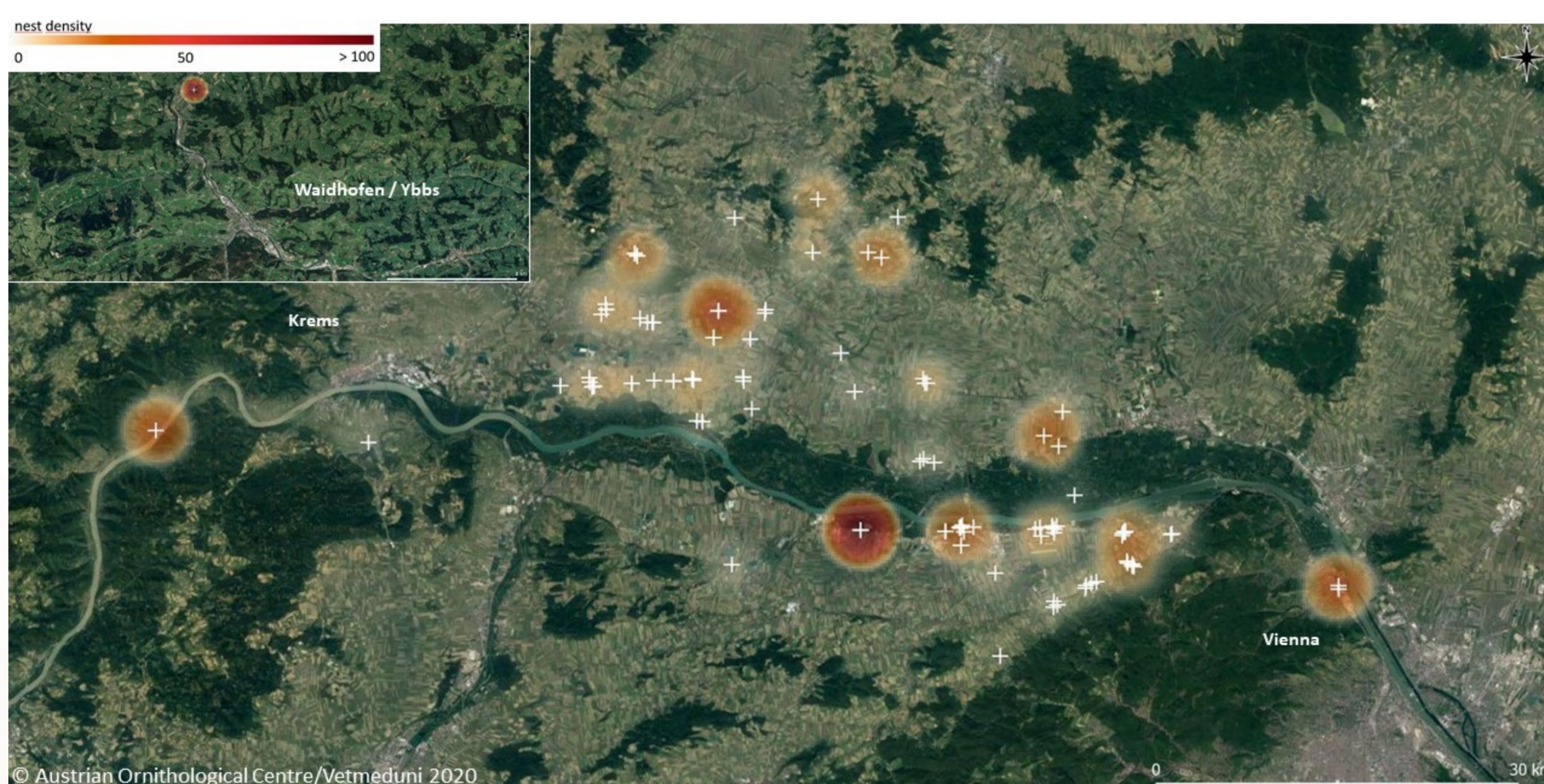
- 1) Determination of the overall awareness and acceptance of the local communities towards the two swallow species using a questionnaire-based field study, conducted by students of the Austrian Ornithological Centre – Seebarn Branch (AOC Seebarn).
- 2) Setting up a basis for long-term monitoring conducted by Citizen Scientists and comparison on the rate of feedback sent through paper data forms/project page.



## Methods

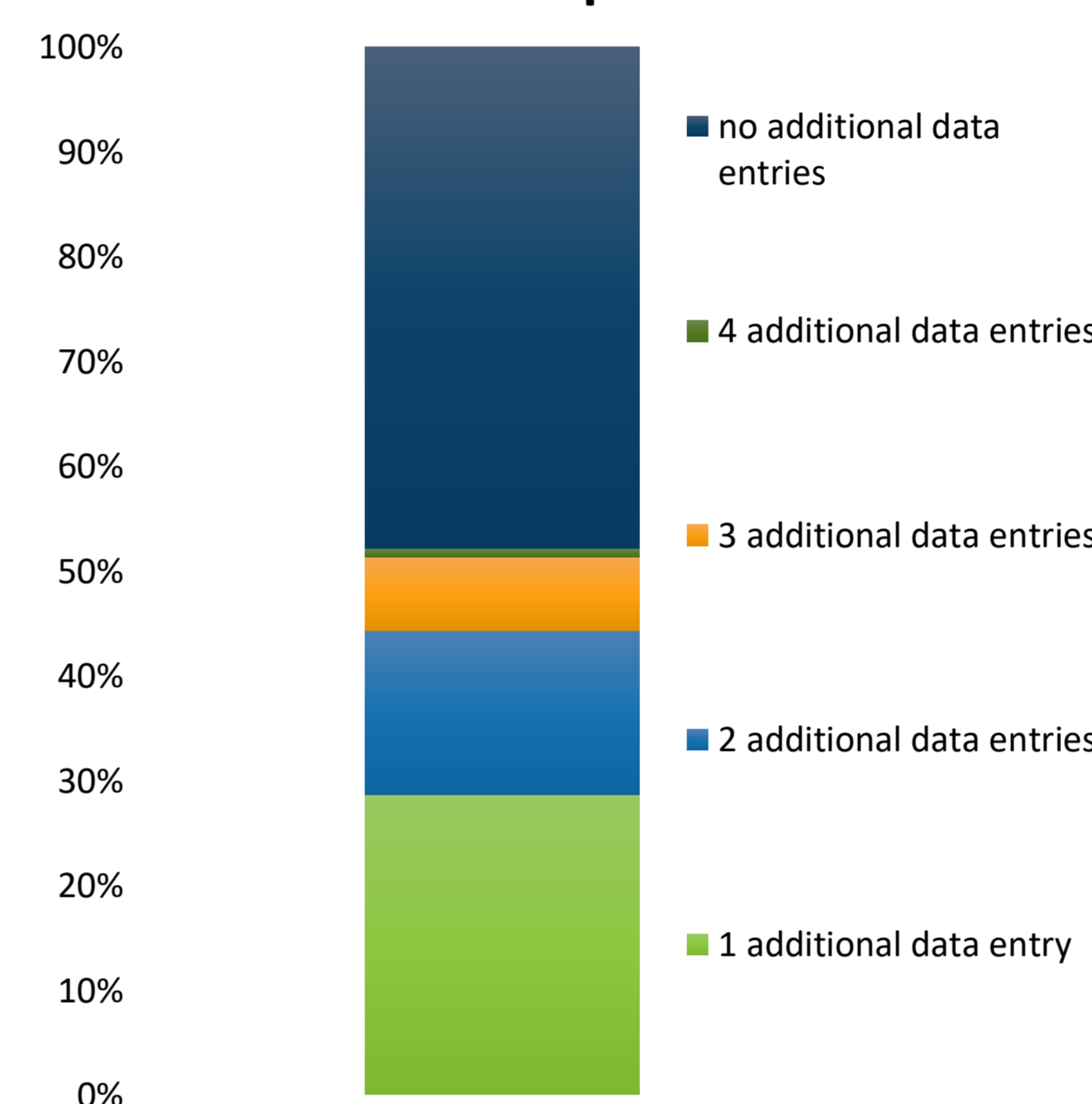
- The local people of the district of Tulln were invited to report the presence of swallow nests between April - September 2019 using a specific project page ([www.wildenachbarn.at](http://www.wildenachbarn.at)) or a paper data form through an online newsletter, social media, project page, newspaper (district and communal level) and regular post.
- Additional information on the aim of the study as well as species fact sheets were provided through the project page and a paper data form, sent by regular post.
- At the same time trainees of the AOC Seebarn conducted a comprehensive questionnaire-based mapping of the nesting sites of both swallow species including an information campaign in the villages of Seebarn (district of Tulln) and Schiltern (district of Krems-Land) visiting each three times at intervals of four weeks in the period April - June 2019.
- Pre-set data fields for particular details (nest location, number of fledglings, etc.) were offered by the paper data form; this was contrasted by an optional free input of additional information via project page.

## Results

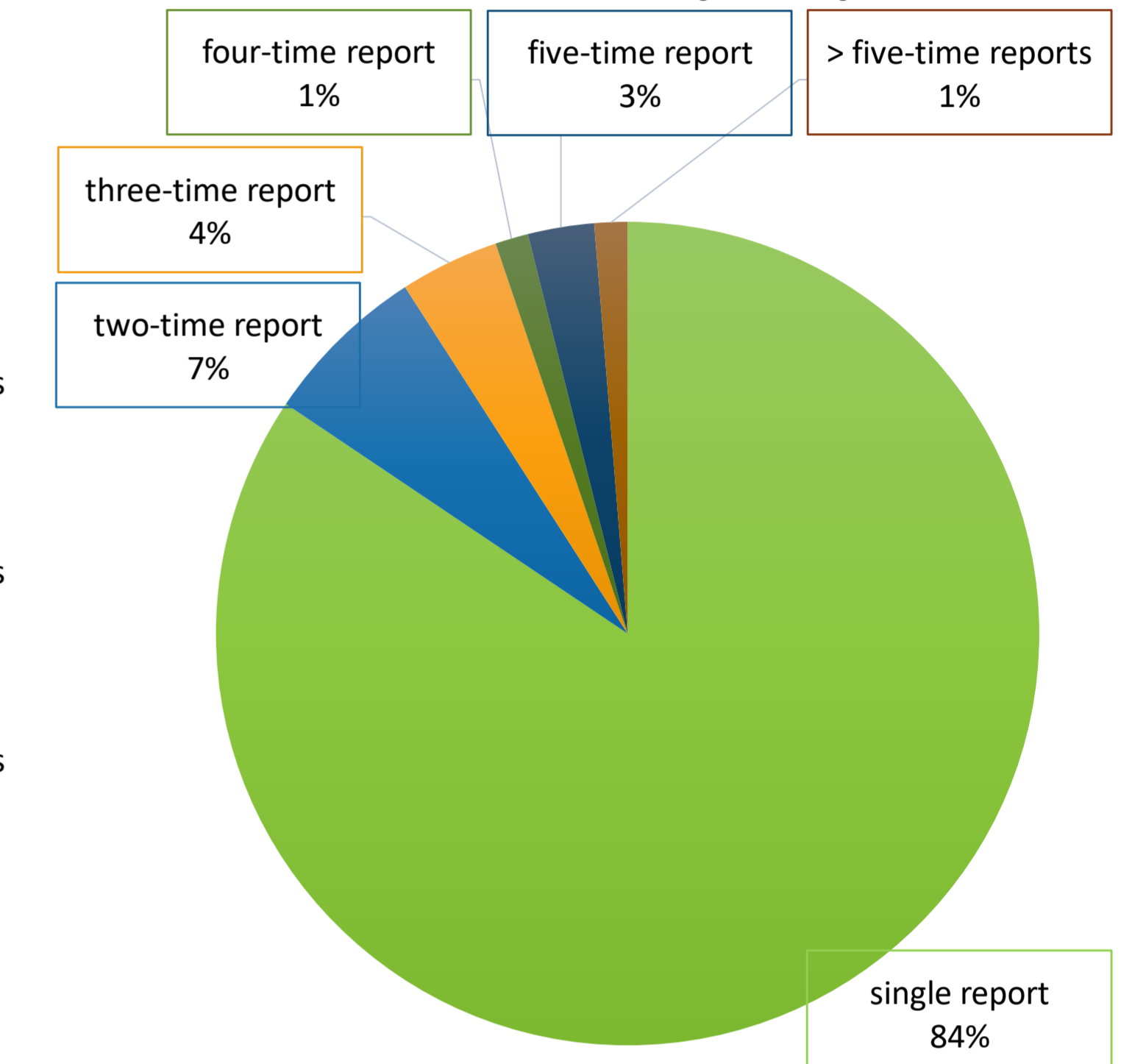


**Figure 1.** Heatmap of nests reported by Citizen Scientists via post or project page. (number of respondents = 115, + = nest reports)

### How often was additional information provided?



### Submission of multiple reports

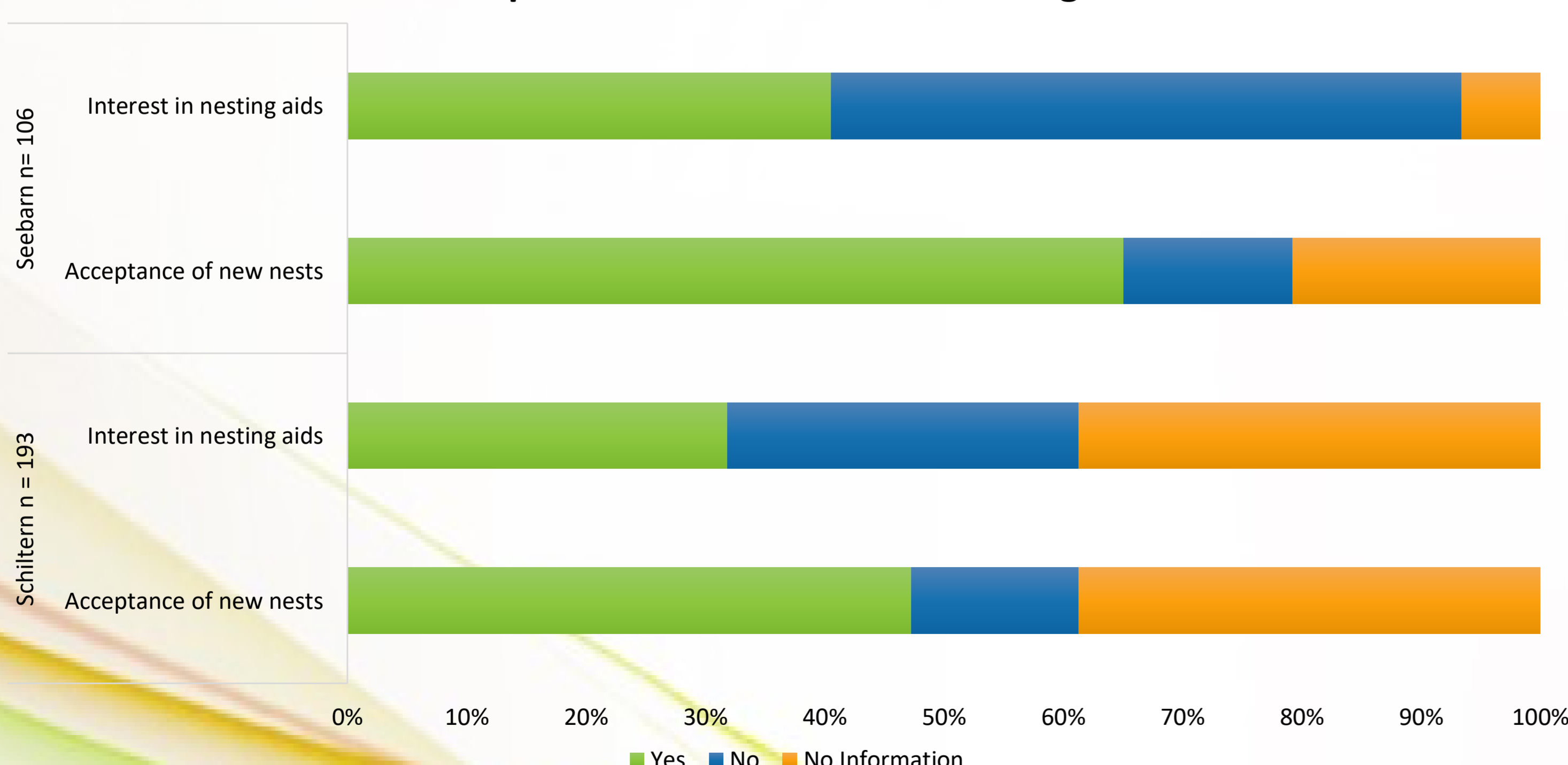


A total of 115 filled questionnaires were received and processed by post and online in 2019, reporting a total population of > 650 nests of the two studied swallow species. The majority of all nest reports (68 %) were received online via the project homepage, followed by paper data forms (32 %). The majority of the Citizen Scientists (84 %) reported nest locations only once. Additional information was provided primarily by the respondents who used the paper data forms (89 % of all data forms). A survey done by trainees of the AOC Seebarn showed that House Martins and Barn Swallows are both well-known, but 71 % (Seebarn) and 44 % (Schiltern) of the local people could not reliably distinguish between the two swallow species. The respondents in both locations showed predominantly positive attitude and acceptance towards new nests and nesting aids.

**Table 1.** Provision of additional information. (number of respondents = 115)

	Paper data forms	Project page
nest report with additional data entry	89 %	32 %
nest report without additional data entry	11 %	68 %

### Acceptance of new nests and nesting aids



## Conclusions

- Most respondents reported only individual nest locations, yet through some of the reports large swallow colonies and concentrations were discovered.
- People generally prefer online participation as opposed to posting back paper forms, whereby the provision of specific given response options resulted in nest reports with a higher information content.
- Identified knowledge gaps in the differentiation of the species suggest a level of uncertainty in the quality of the nest reports submitted by Citizen Scientists.
- The current results are to be seen as a snapshot of the year 2019 with regard to the willingness of Citizen Scientists to participate in the study, for example by counting and reporting nests independently in the following years.
- **The continuation and expansion of the monitoring based on Citizen Science aims to evaluate the sustainable impact of Citizen Science projects on the local people.**