

Deliverable B: Needs Identification and Problem Statement

Group: Bat Preservation Society (BPS)

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1. Purpose: The purpose of this project is to develop a device that can track the number of bats that use a bat box to monitor the population of bats that are using bat boxes in Canada.

2. Client Needs: The client requires a device that can track the number of bats that use a bat box. The device must be able to store the data that is collected and must be accessible to the user. The project must be low cost and not exceed a budget of \$150. The client expressed that the device must be easily constructable and require minimal maintenance since bat boxes cannot be cleaned often, once a month is ideal. It must also be weatherproof and durable to withstand harsh winds or heavy rain during the April to October season. Below is a table that ranks the needs based on importance. (5 being the most important and 1 being the least)

Table 1. Ranking of Client Needs by Importance

Client Needs	Importance
Ability to track the population of bats using bat boxes	5
Data is collectable and accessible to the client	5
Low cost	3
Easily constructable	2
Minimal maintenance	2
Weatherproof and durable	4

3. Problem Statement:

Our goal is to develop a bat box as well as a device for the client, Tiree, that can track the number of bats that use a bat box. The device must then store this data, which can later be accessed by the user for further analysis to track bat populations and health.

4. Further Clarification

- Should the device specify between species?
- Should the data be accessible through an application?
- Should data gathered from devices be stored individually or stored together?

5. Conclusion

In conclusion, we have been tasked by the client, Tiree, to create a device that is able to gather data on the number of bats that use bat boxes to allow for analysis.