

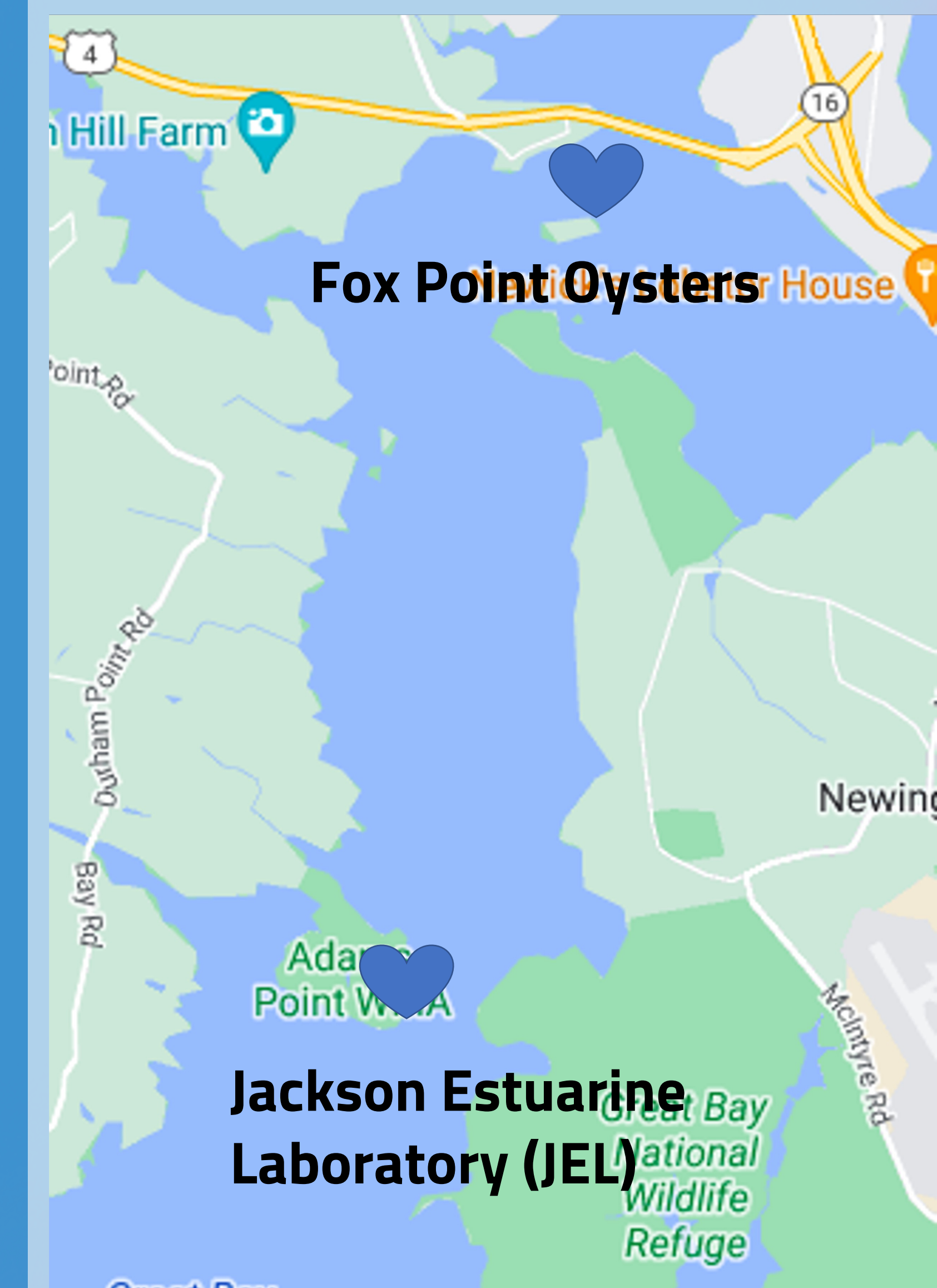
Readying the Clam Phone, an Offshore Hall Effect Biosensor, for Farm Deployment

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Study Locations



Methods

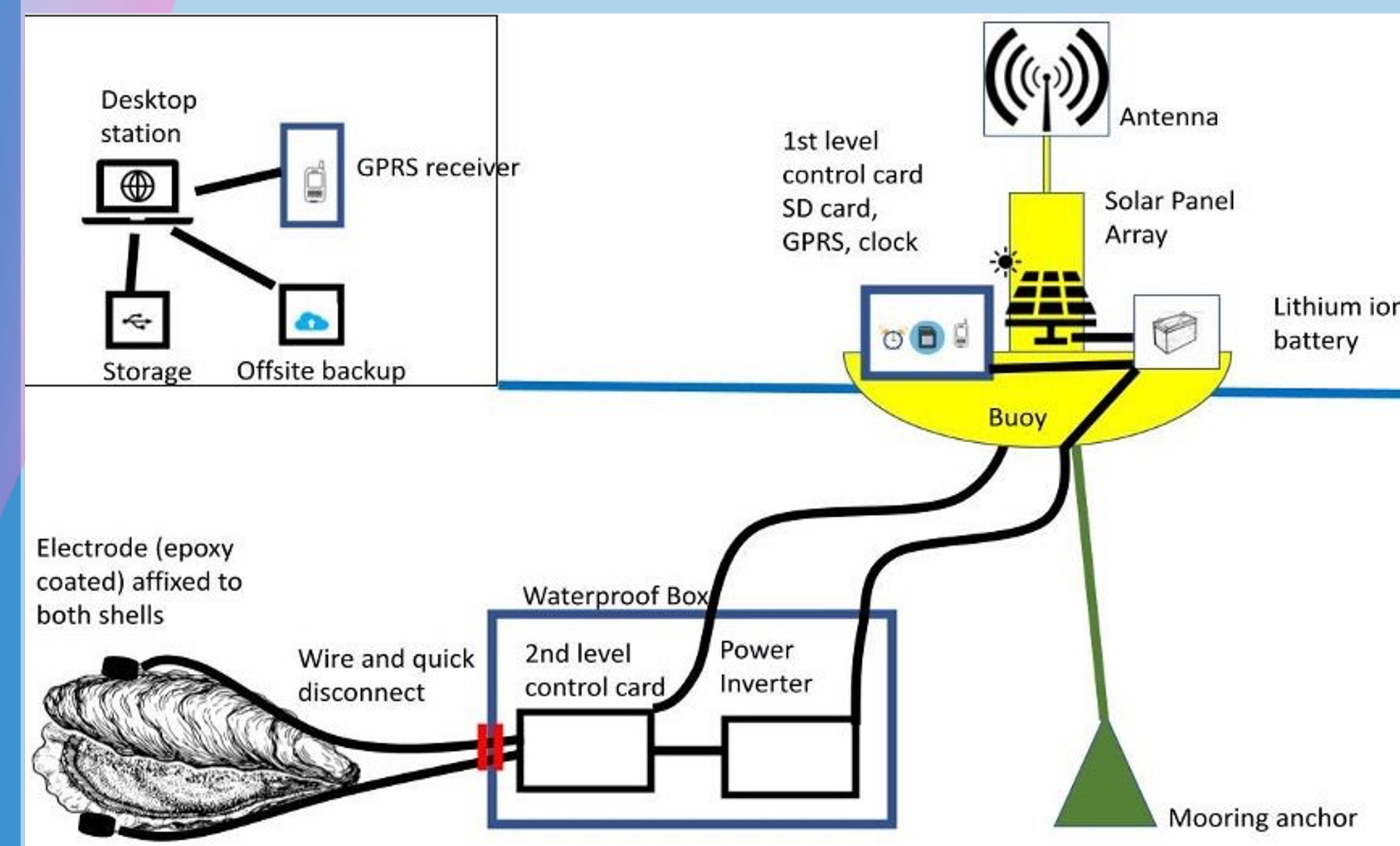


Figure 1 (above): The offshore Clam Phone set up. Courtesy of the QMEL Lab.



Image 1 (above): the main 3 parts to the Clam Phone.

Image 2 (right): Oysters connected to the sensors.

Results

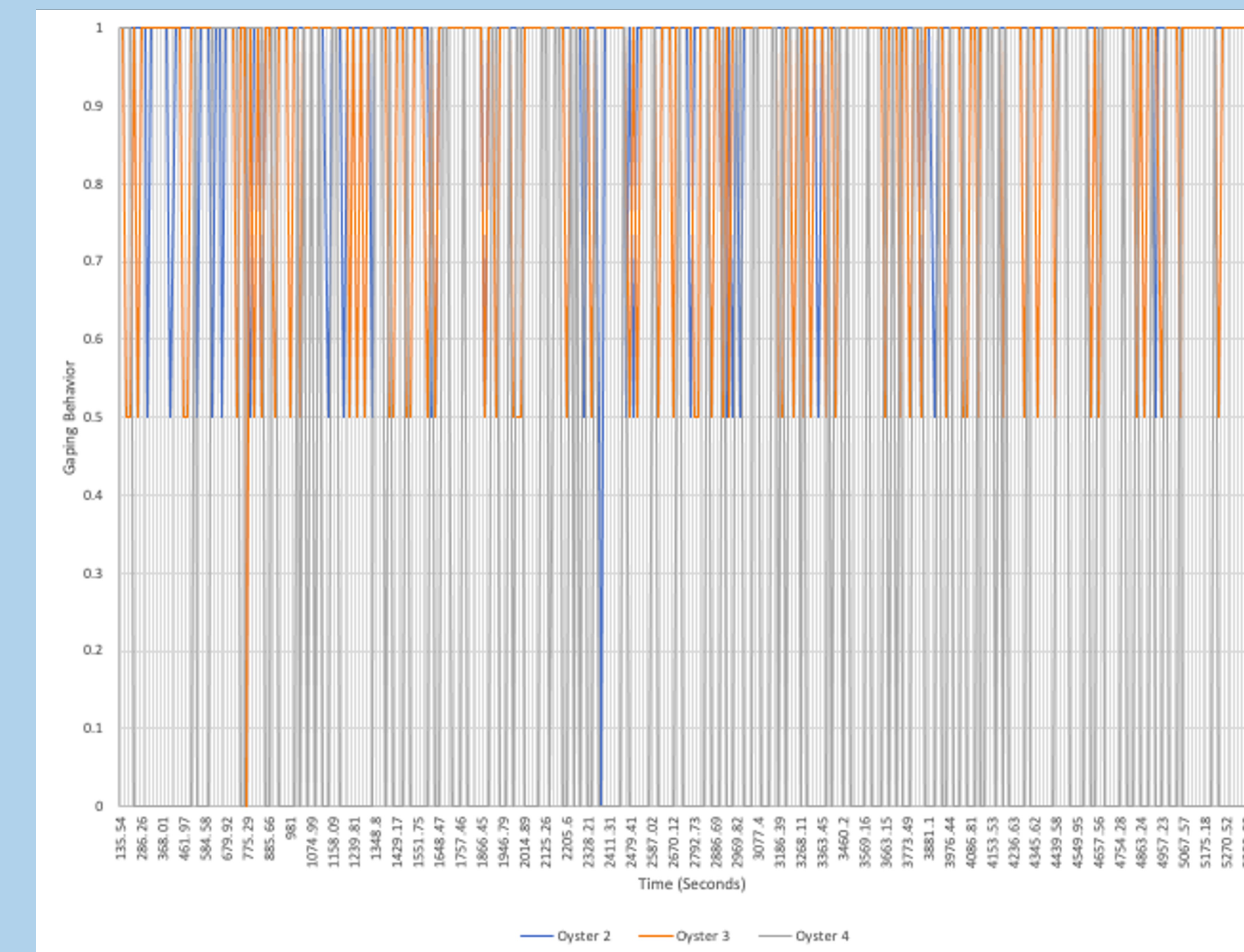
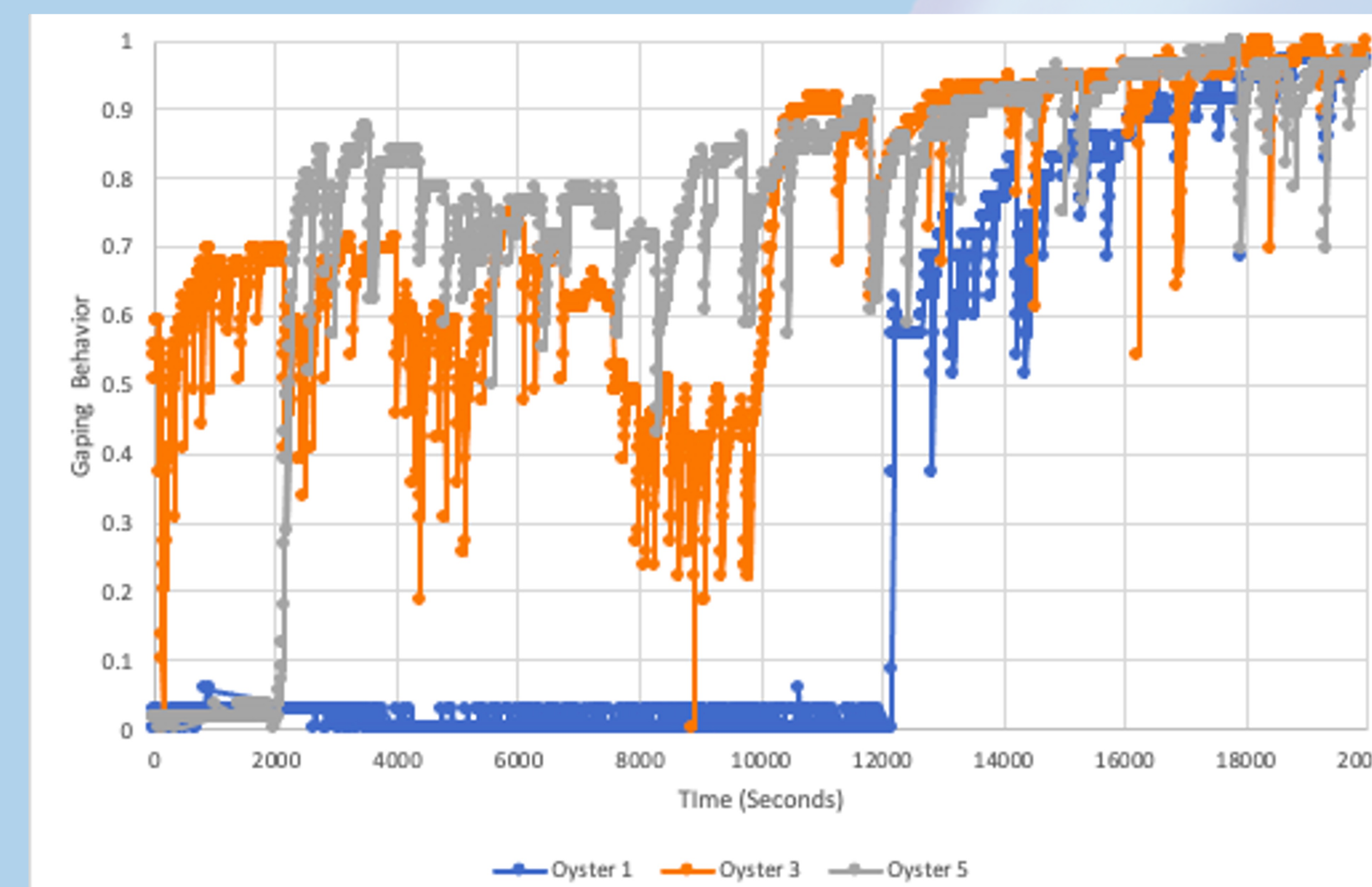
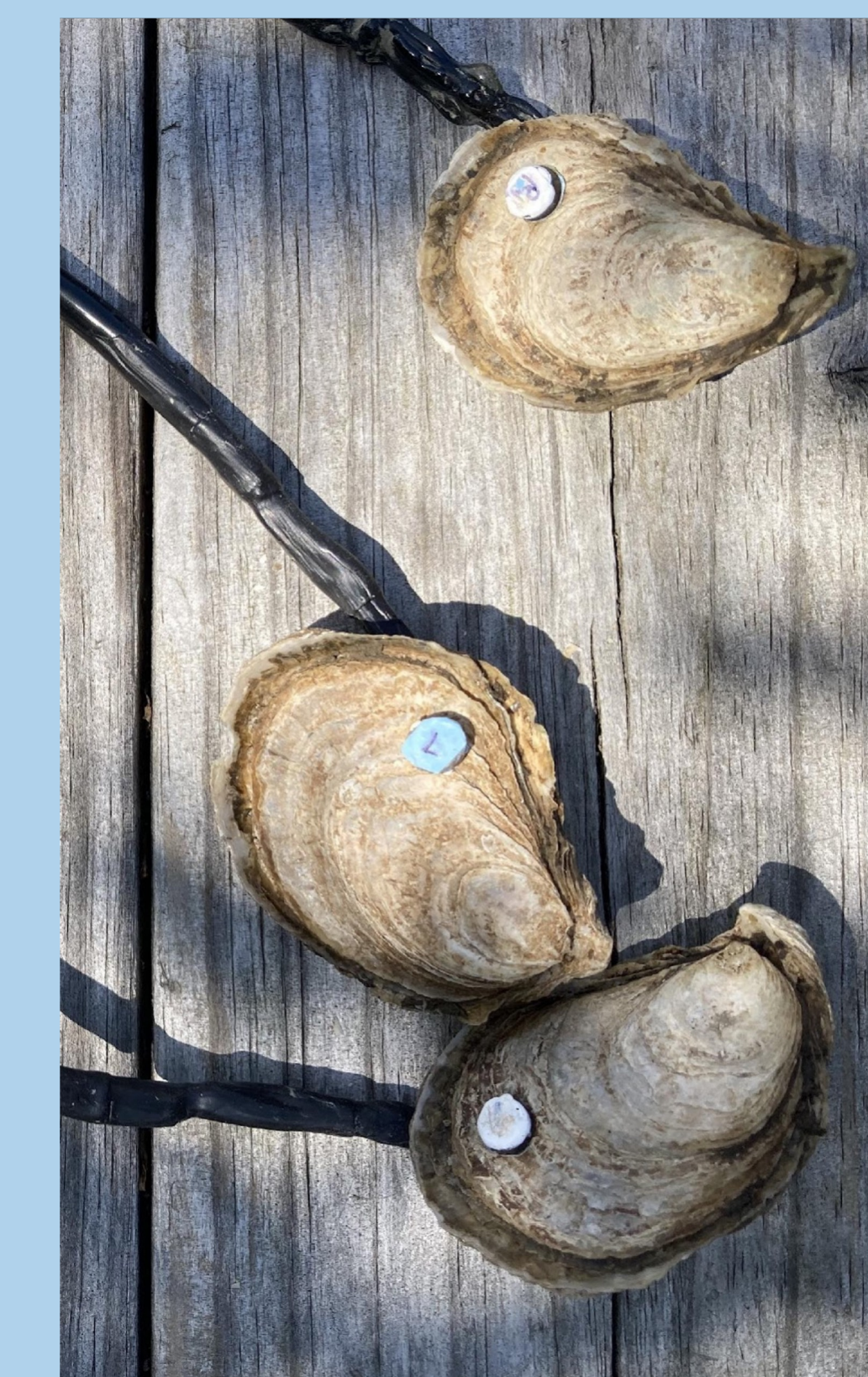


Figure 2 (above): Oyster gaping behavior over time from 7/21/2023. Due to a connection error the data looks off.

Figure 3 (below): Oyster gaping behavior over time from 7/24/2023. The value of 1 indicates the oyster is open and the value of 0 indicates the oyster is shut.



Problems

- Connection errors between sensor and magnet
- Adhesive type for sensors and magnets
- Data gaps and outliers

Conclusions

- Adhesive and magnet type make a difference
- There may be an issue with the SD card
- More testing should be done at Jackson Estuarine Lab (JEL)

What's Next

- Test run at JEL for all 6 sensors
- Test run at Fox Point Oysters

Acknowledgements

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Literature Cited

Pitkin, N. M., & Henke, C. (2023). (rep.). *Data-Collection for Using Oysters as Bioindicators* (pp. 1–19). System

Introduction

- Oysters are filter feeders
- Under stressful conditions oysters close to protect themselves
- The Clam Phone is a new offshore, wireless biosensor that will help researchers and oyster farmers monitor oysters in their natural habitat

- Set up methods of deployment for the Clam Phone
- Analyze data from the sensors

Initial Testing 6/26-7/12

UNH, Jackson Estuarine Lab Testing 7/13 – 7/28

Farm Deployment 7/31 – 8/4

