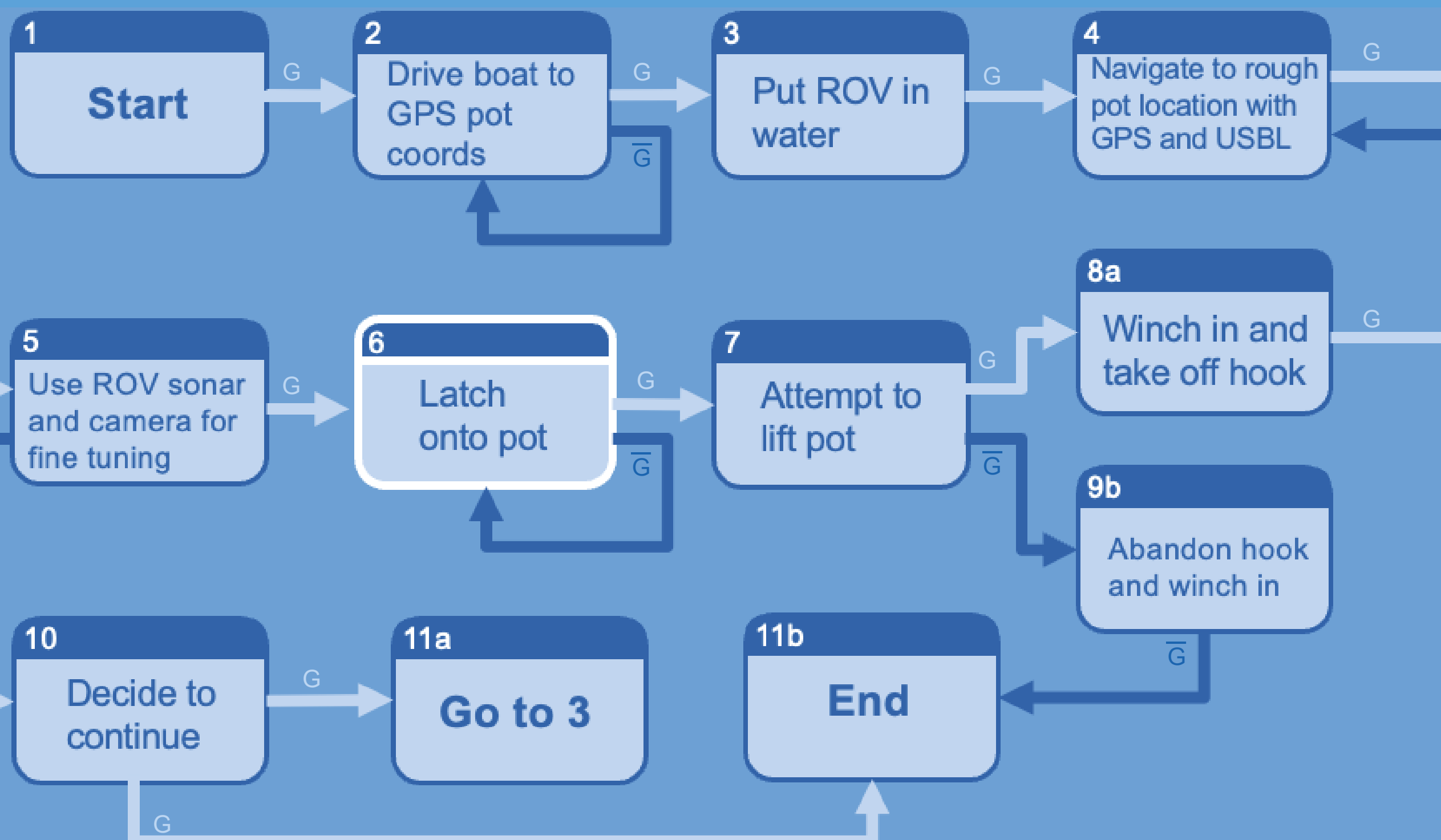
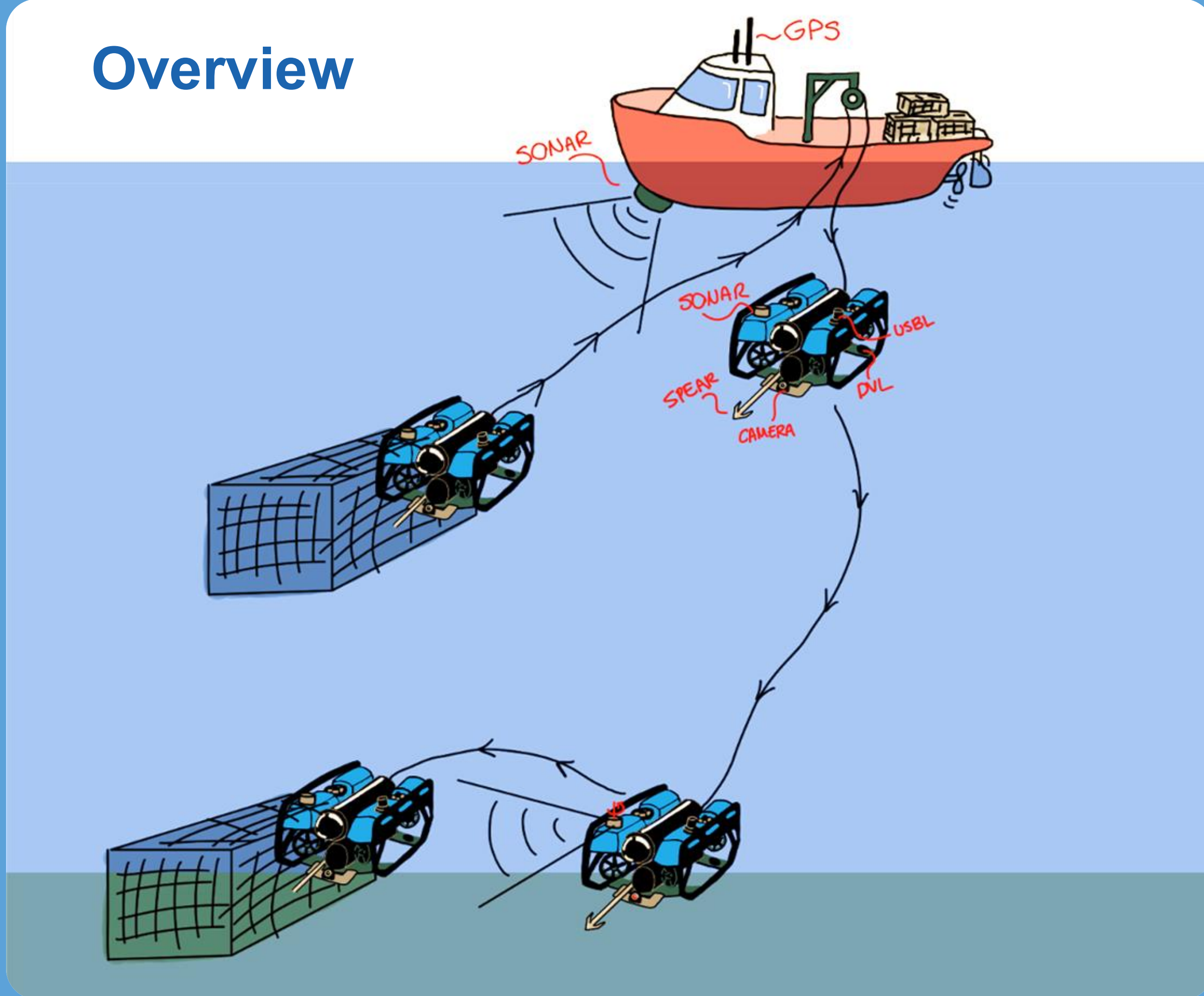
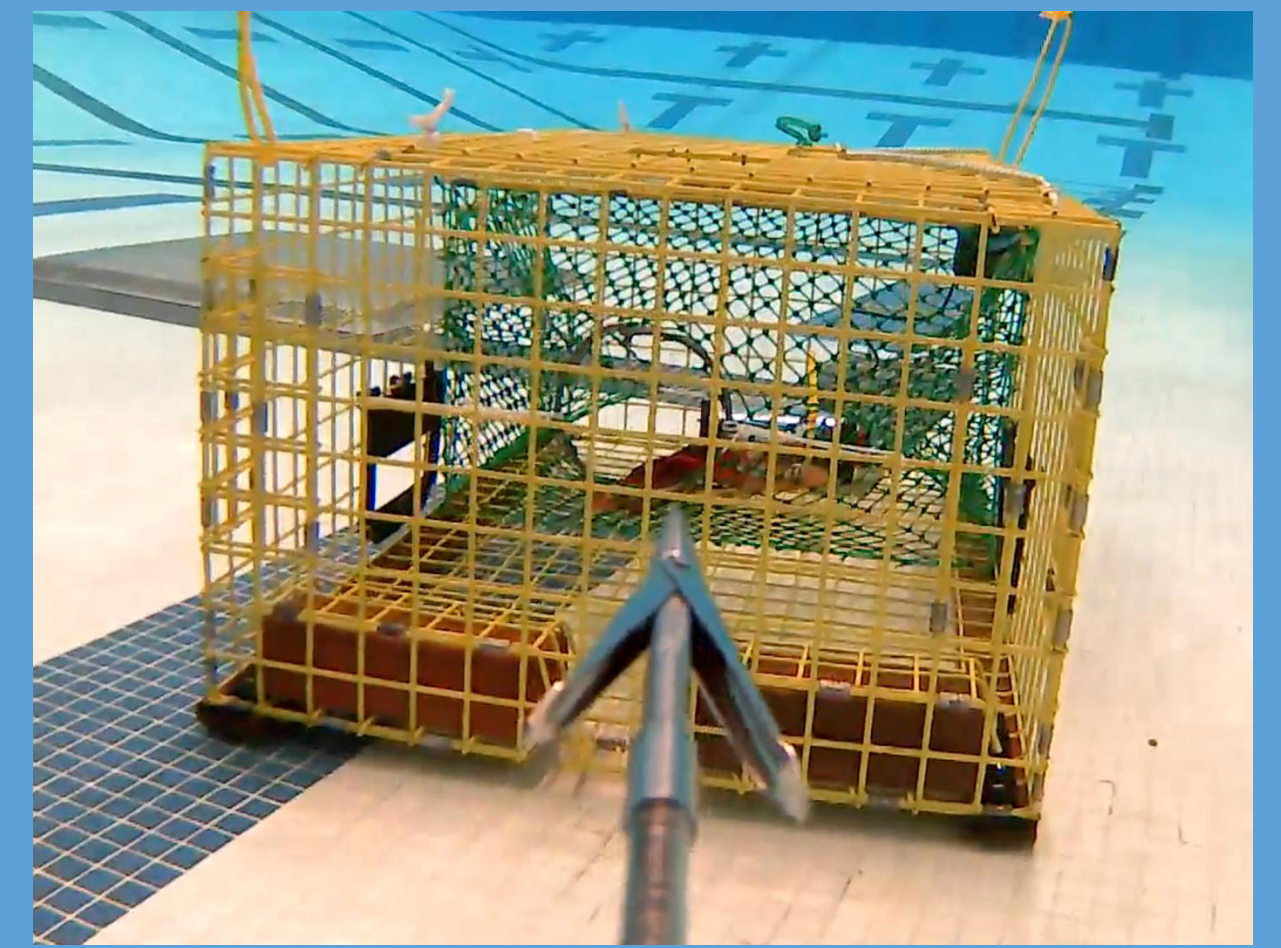


There are an estimated **175,000 lobster pots lost and abandoned** in the Gulf of Maine annually [1]. These “ghost pots” continue to trap and kill lobster long after abandonment, **damaging both the lobster industry and ecosystem**. New technology can locate and tag pots, but retrieving them is **time consuming, costly, and labor intensive**. To improve ghost pot retrieval, we have developed a semi-autonomous ROV that is able to navigate to tagged pot locations and latch onto pots, removing them from the seafloor.

Overview



Latch onto Pot



1 Approach pot from side



2 Hook compresses and enters pot



3 Hook engages on pot surface to prevent slipping

Conclusions

When combined with a winching system common to commercial lobster vessels, our ROV provides a **long term cost effective** solution to retrieving lobster pots, and **locates and latches onto lobster pots quicker** than previous methods.

Future work

- Enhance localization accuracy
- Reduce system cost and complexity
- Improve mechanical components
- Additional automated control functions

[1] “Gear Grab – GOMLF.” [Online]. Available: <https://www.gomlf.org/gear-grab/>. [Accessed: 07-May-2025].