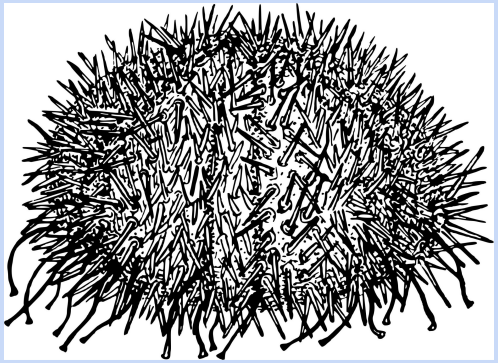
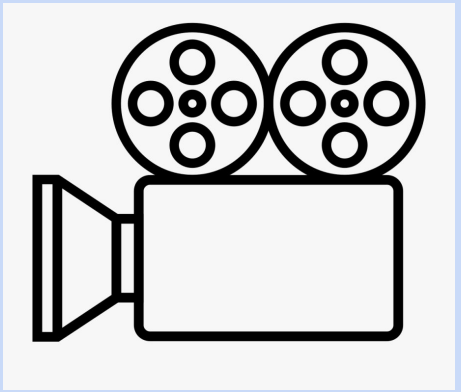
Low-Cost Multi-Day Underwater Camera for Urchin Monitoring



Maya Olin



Project Overview - Thesis

Healthy Urchin Population —>

Urchins eat macroalgae —>

Less competition on reef surface —>

Room for coral to grow!

DAR outplants collector urchins in Kane'ohe Bay

Which organisms are eating them and at what rate?

Objective

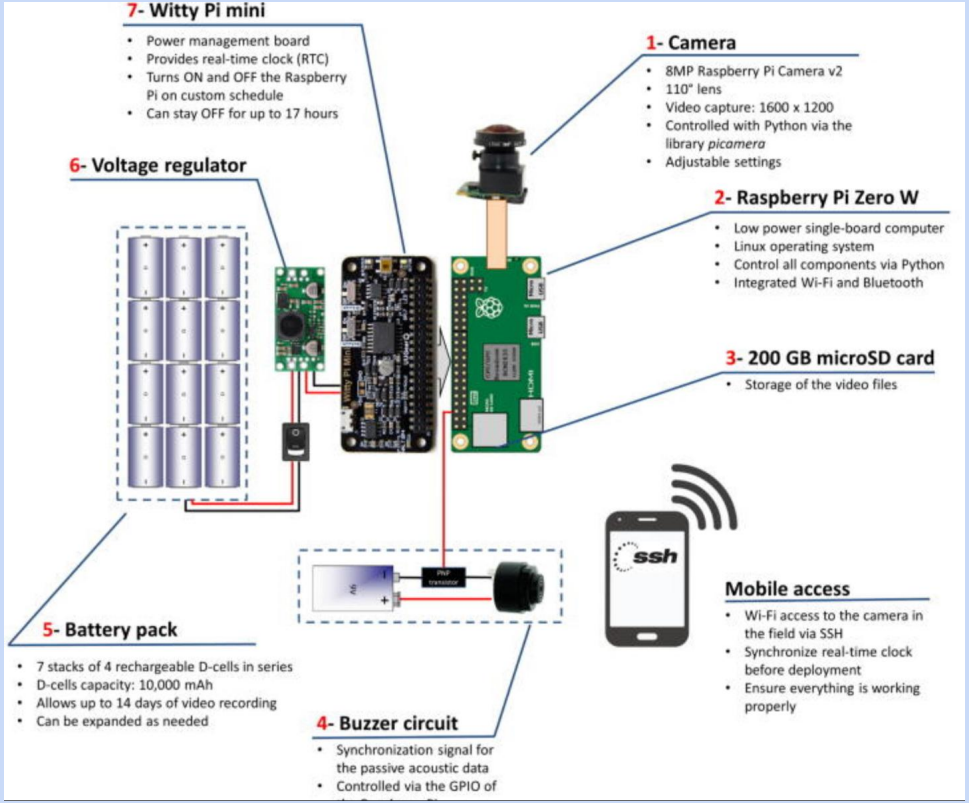
Deploy underwater cameras onto the reef alongside tethered urchins for multiple days to record video of predation events.

Considerations:

- Battery capacity - up to ~72 hours
- Low-light conditions - if video quality declines at night, turn camera off overnight
- Easy to replicate
- Low-cost

Components

- Arducam IR CUT High Quality Camera
- Raspberry Pi Zero
- Pi Zero Camera Cable
- Witty Pi Mini
- Step Up/Down Voltage Regulator
- Battery holder
- Batteries
- MicroSD card
- Underwater housing



Muoy et al. 2020

Components

Muoy et al. 2020