Whole, Cubed, Fresh, Frozen, Aged- How does bait preparation affect lobster foraging responses?

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Introduction

- American lobster, *Homarus americanus,* has significant economic importance to the East Coast
- Harvesters use a wide variety of baits and preparations to attract *H. americanus*

Methods

Bait Preparations

- Chopped Redfish (*S. fasciatus*) preparation: **fresh, frozen, aged**
- Redfish racks preparation: **fresh, frozen**
- Redfish whole preparation: **fresh**

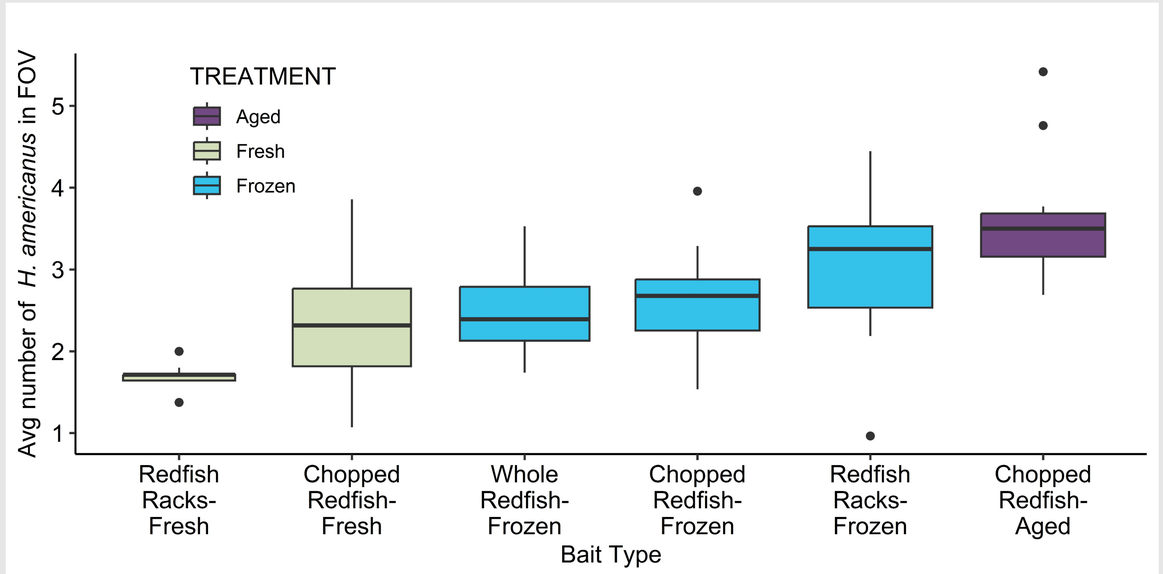
Baited Remote Underwater Video

- Deployed in lobster habitat
- Bait in bait bags under cameras on tripods
- Continuous video of substrate captured interactions with bait bags and number of lobsters

Hypothesis

Differences in bait preparation cause differences in the number of lobsters

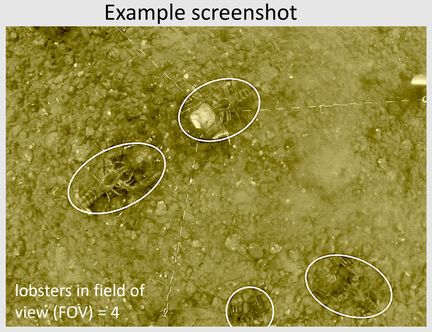
Results



Statistics: ANOVAs/t-test

- **Chopped**: aged > frozen > fresh
- **Racks**: frozen > fresh
- **Frozen**: racks = chopped = whole

Example screenshot



Discussion

- Portion (whole, cubed, racks) showed no statistical differences
- Preparation (fresh, frozen, aged) did show statistical differences

Possible explanation

- The level of degradation of meat from treatments frozen and aged increases the odour plume of bait

Implications

- Degrading bait could reduce the amount of trap bait
- using byproducts such as racks implements sustainability.

Further Investigation

- Test a wide variety of bait to see if the same results are observed in other bait species (e.g. Herring)
- Test other portions of meat