

Evaluation of trap use and debris in NMFS *Acropora* Protection Zones



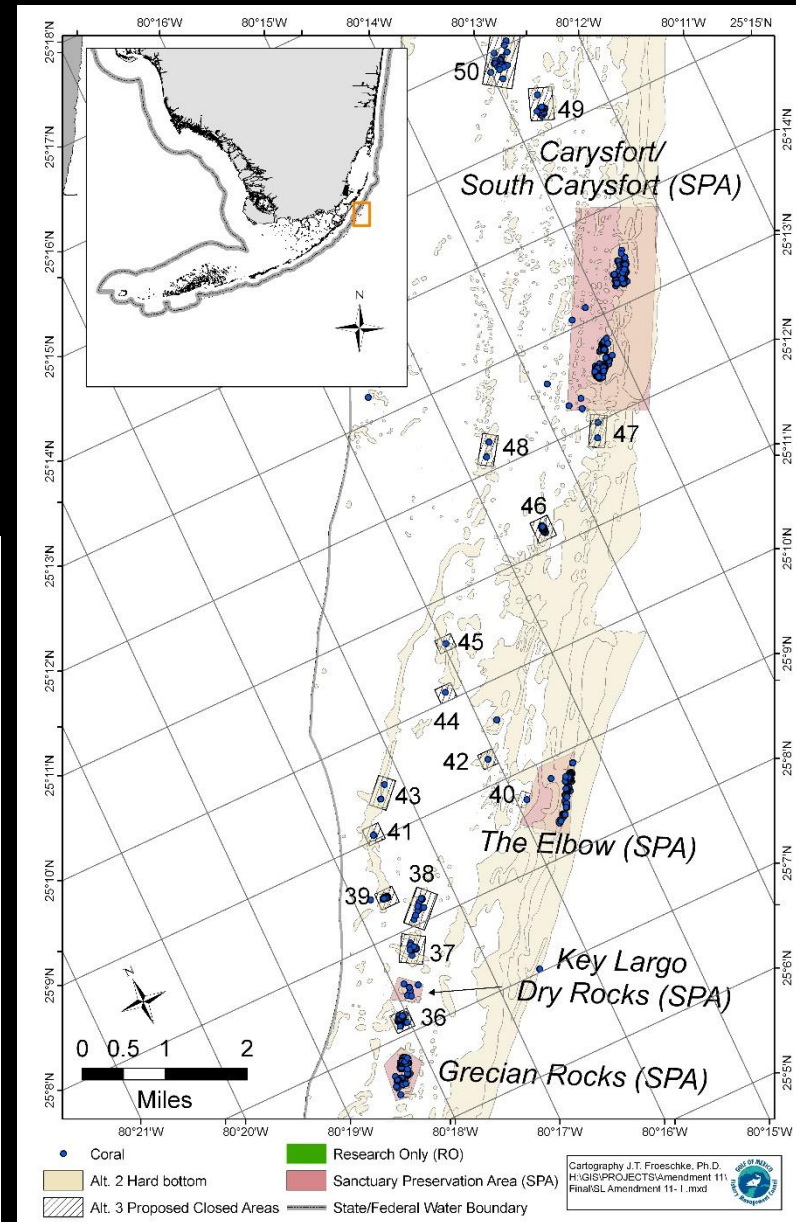
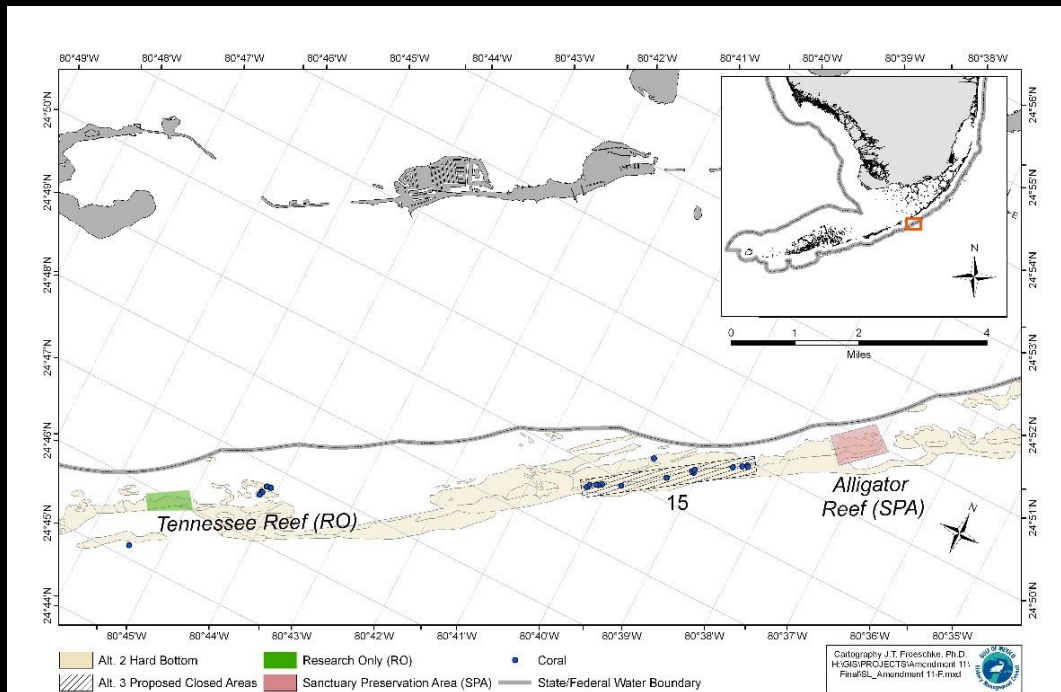
*South Atlantic Fisheries Management Council
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Cocoa Beach, FL*



Florida Fish and Wildlife Conservation Commission

NMFS *Acropora* Protection Zones

- Designated in 2012
- No marker buoys
- Not on navigation charts
- 60 sites, various sizes
 - Some in close proximity
- 15.3 km² total area



Affected Community



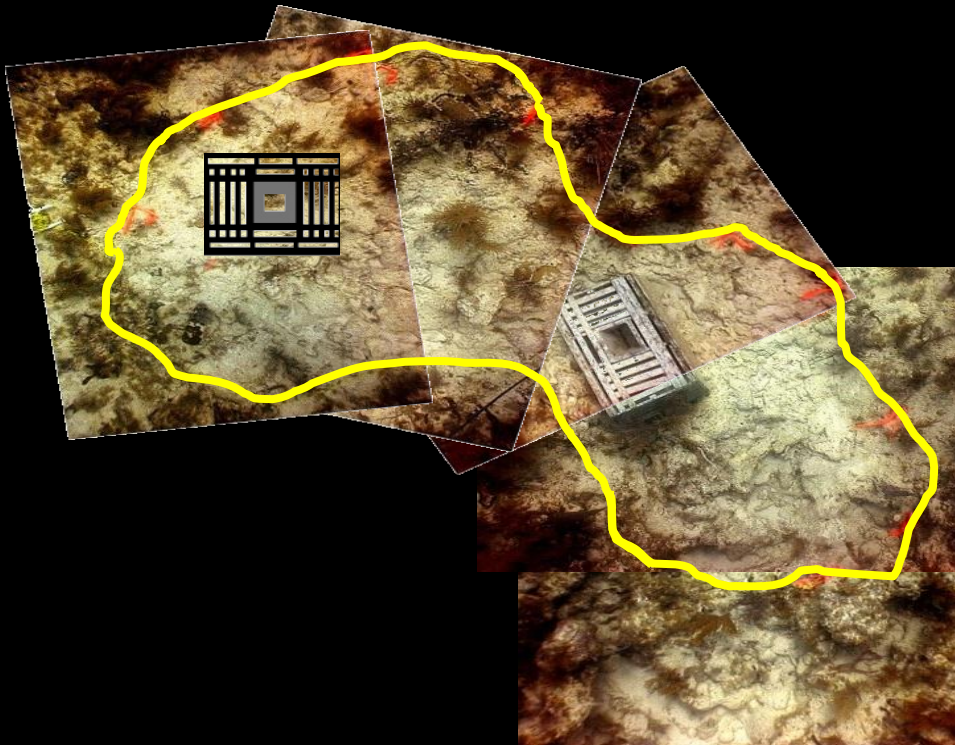
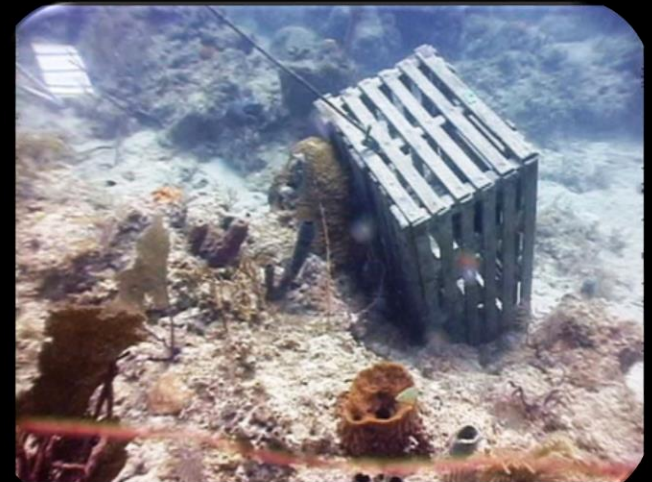
Florida Spiny Lobster Trap Fishery

- Trap fishermen: ~470
- Traps: ~475,000
- ~120 trap fishermen affected
- ~ 2400 traps in zones

Evaluating Trap Impacts to Corals

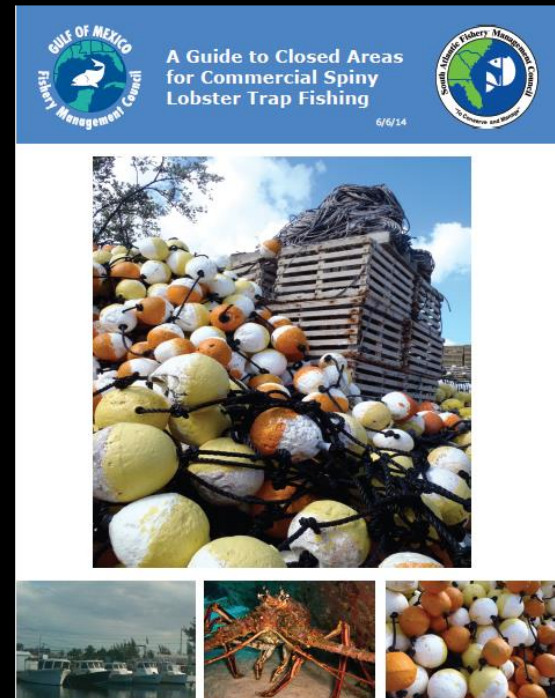
The effectiveness of relatively small areas closed to trap use was evaluated to address 3 sources of coral loss

- Trap placement and retrieval
- Trap movement during storms
- Trap debris accumulation

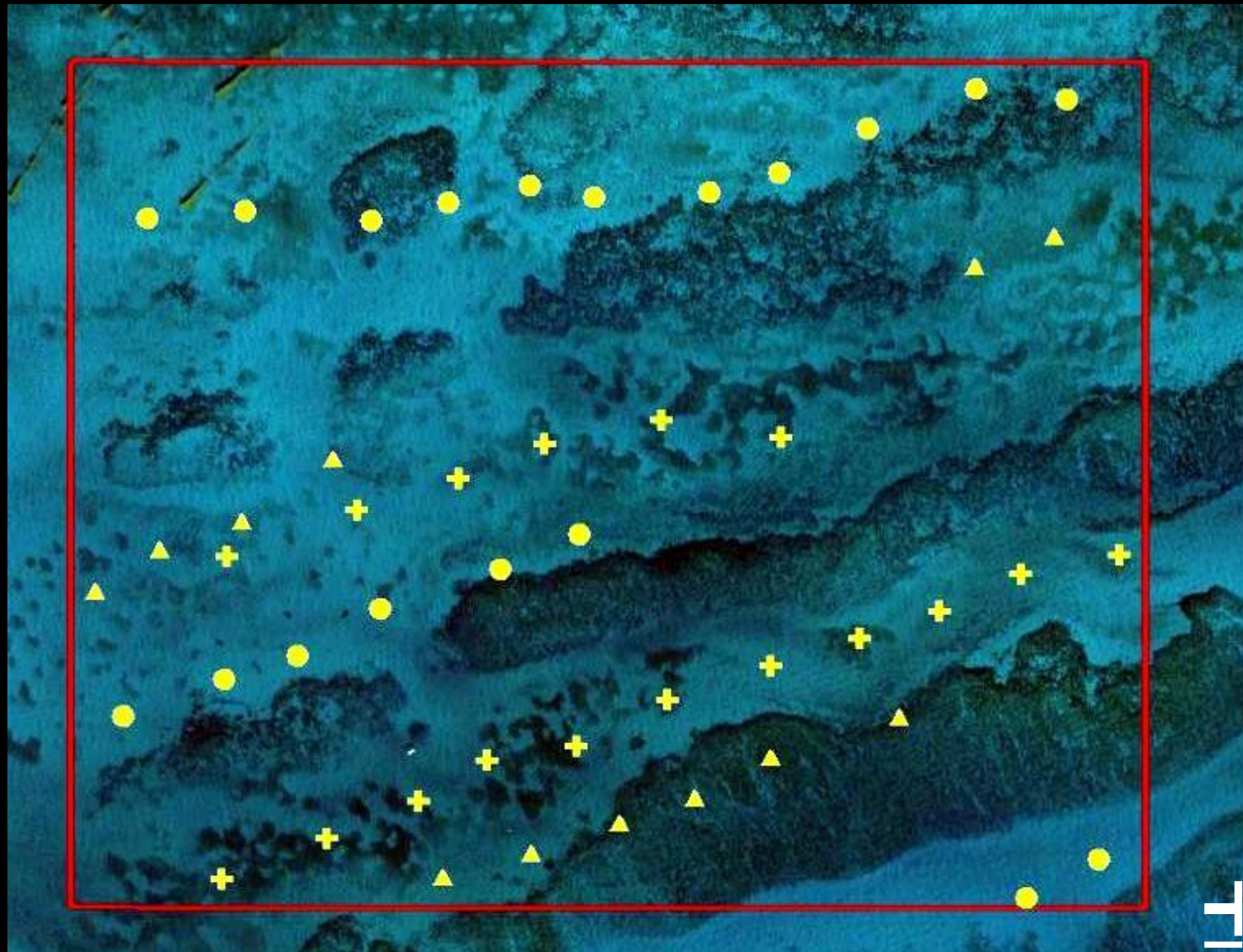


Methods

- Counted the number of traps and trap owners in Sept 2014
 - 18 of 60 NMFS zones
 - All FKNMS SPAs and Pennekamp Park closed areas
- GMFMC and FWC mailed NMFS zone information to all trap fishermen
- Attached courtesy notice to buoys in zones
- Recounted the number of traps and trap owners in same zones 1-year later

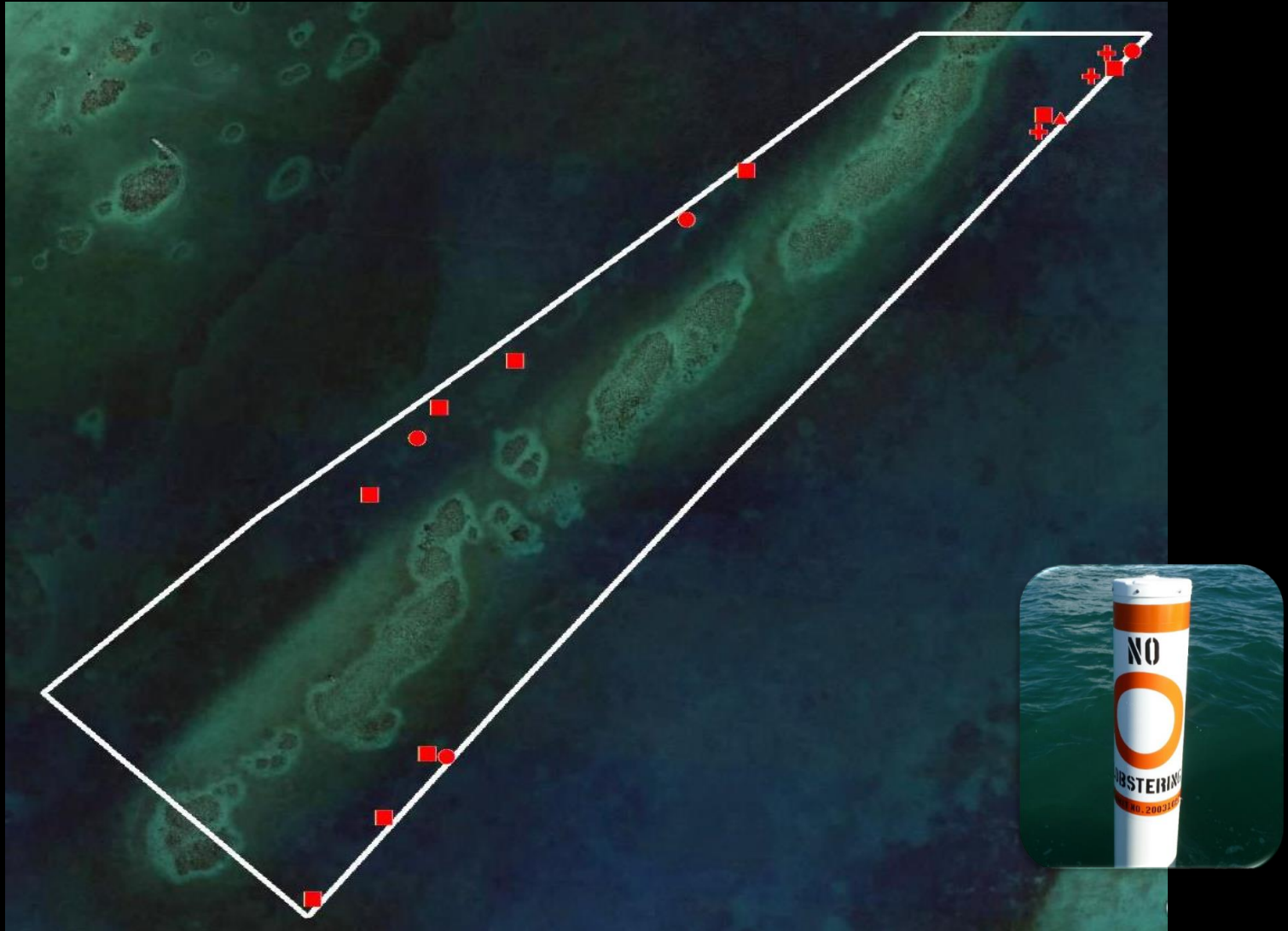


Trap Locations in NMFS MPAs



NMFS 12 (Big Pine Shoal) Size: 0.76 km²

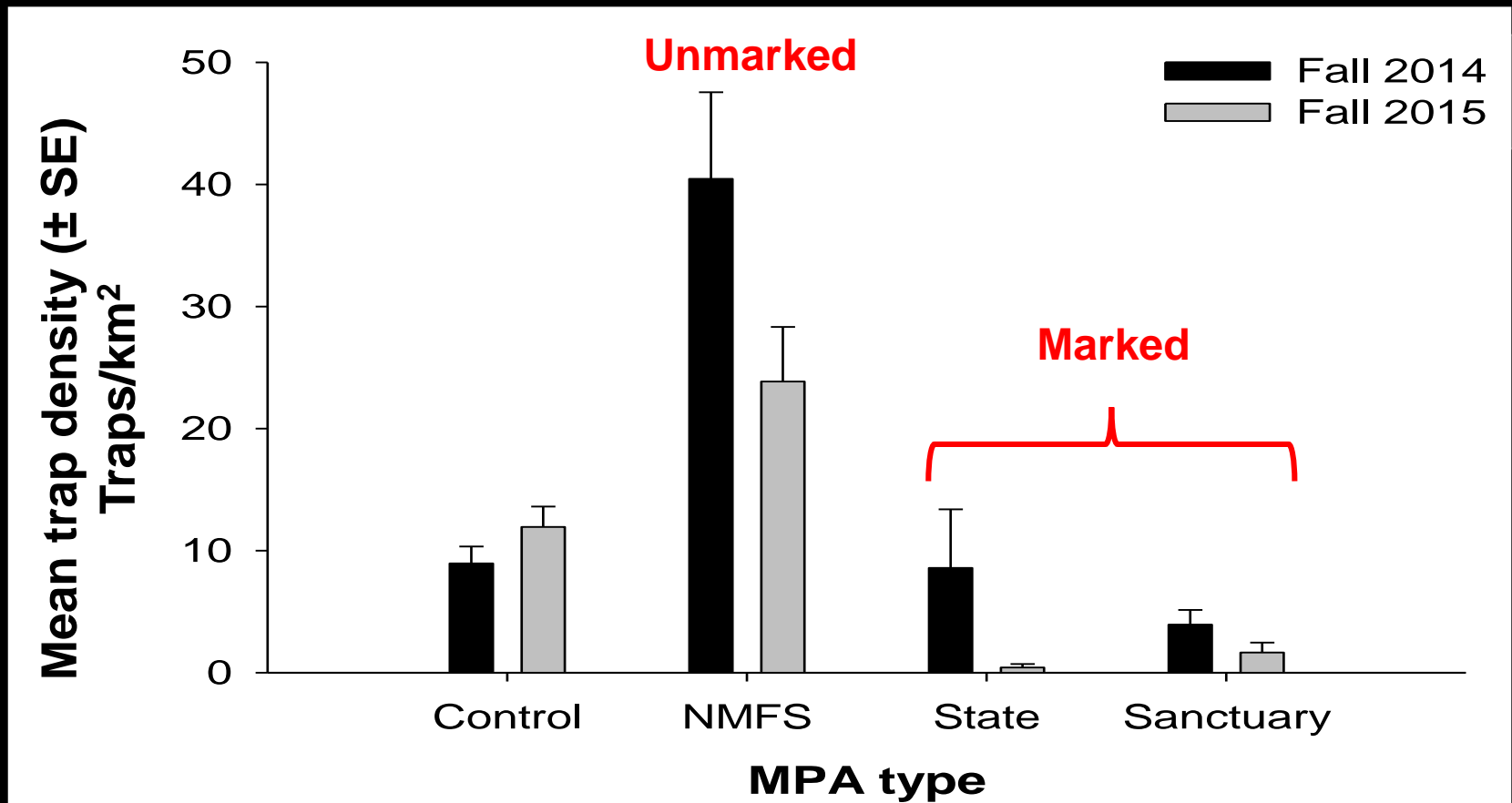
Typical trap Locations in Marked MPAs



Mosquito Bank South Size: 0.52 km²

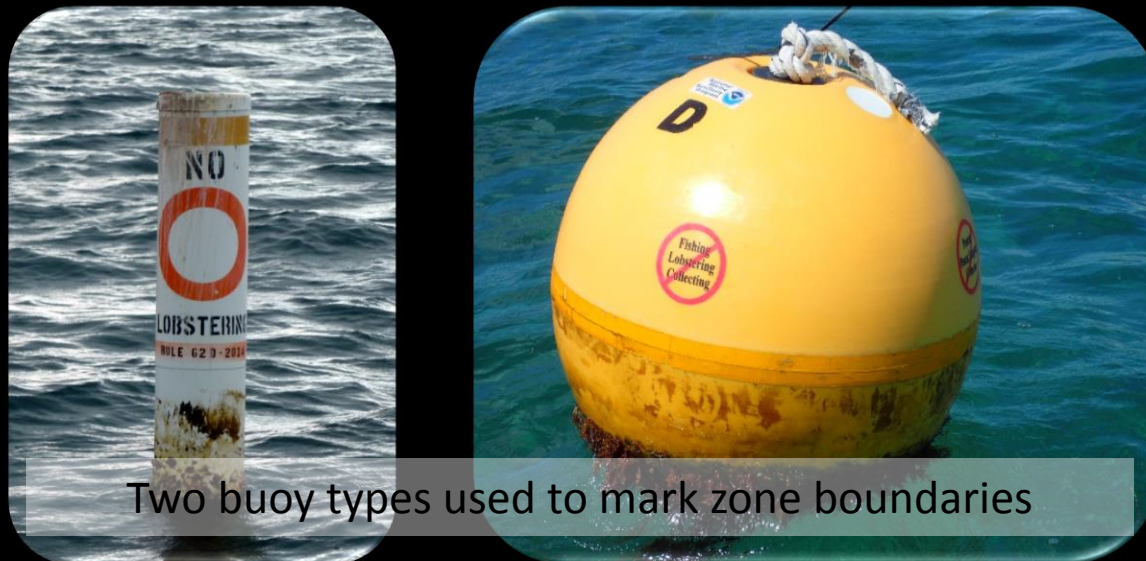
Density of Traps in MPAs

- Unmarked MPAs had highest density of traps
- Density of traps in MPAs decreased after education



Research Results

- More traps in unmarked MPAs
- Most traps in marked zones within 50m of boundary
- Preliminary results indicate equal amounts of trap debris in marked and unmarked areas
- Improved compliance after education
 - 19 out of 32 fishermen removed traps from zones (~60%)
 - but 7 additional fishermen in zones in Year 2



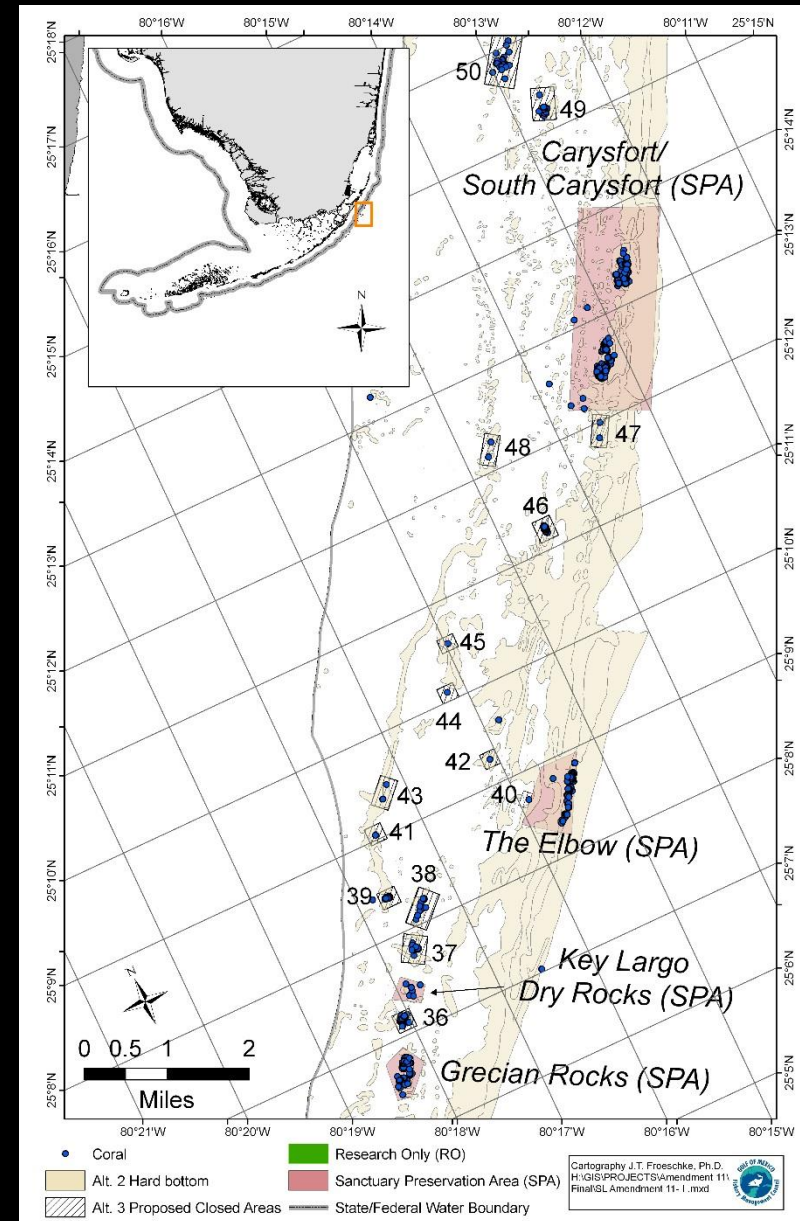
Two buoy types used to mark zone boundaries

Conclusions


- Education efforts reduced the number of fishermen and traps in both buoyed and unbuoyed closed trap zones
- Marked MPAs had fewer traps and fishermen
- Incursions of traps near the zone boundaries are relevant for the size of any potential buffer zone
- Trap debris throughout all closed trap areas indicated that one source of trap damage, trap debris was not reduced by small closed trap areas.

Additional Zone Identification Issues

- Publishers of nautical charts are resistant to include zones that affect few people.
- Approximately 400 buoys would be needed to mark the NMFS zones.
 - Cost of installation and maintenance of buoys
 - Buoys can be a hazards to navigation
 - Buoy location may appear confusing on the water due to proximity of some NMFS zones



Acknowledgements

- GMFMC mailed the NMFS closed trap area guide to fishermen
- Partially funding was provided by through  NFWF

