

Grappling Fixed Gear and RFID Line Marking Research



Grapple Project

Study conducted in Gulf of Maine and Mid-Atlantic
Project completed Fall 2011

Final Reports available January 2012

GOM

9 trawls of leadline, no buoy lines, approx. 270 hauls

9 trawls of traps with buoy lines, approx. 270 hauls

Mid-Atlantic

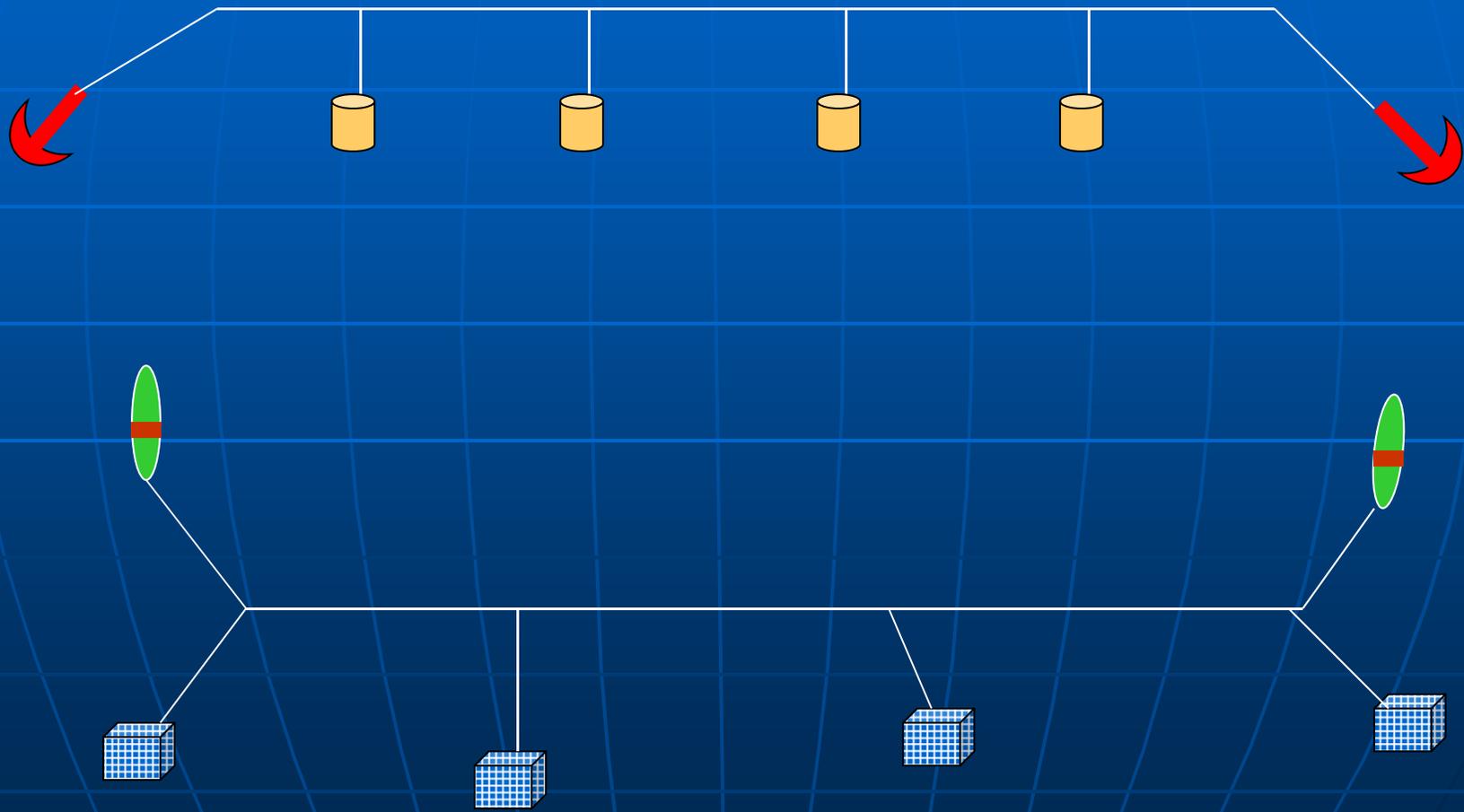
6 trawls of traps, no buoy lines, approx. 180 hauls

6 trawls of traps with buoy lines, approx. 180 hauls

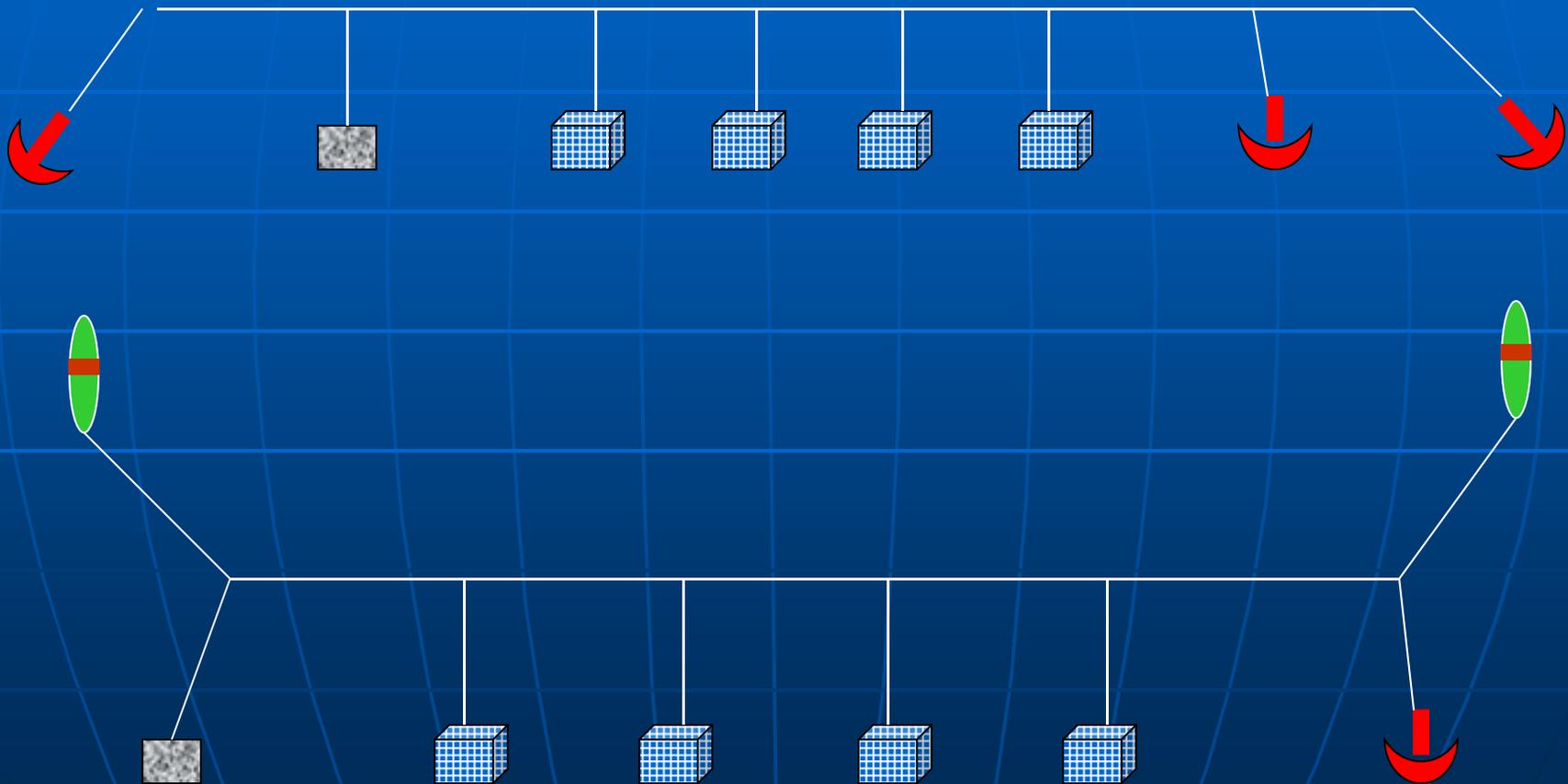
Information Collected:

- Date
- Haul number
- Lat/Long
- Time start – grapple overboard/buoy gaffed
- Time stop – first trap on rail
- Wind direction & speed
- Wave height
- Water depth
- Bottom type
- Comments

Gulf of Maine Gear Set-up



Mid-Atlantic Gear Set-up



Depth of Water Set

- GOM 15 - 40 Fathom
- Mid-Atlantic 20 - 25 Fathom

Bottom Type

- GOM Mud to Rocky
- Mid-Atlantic Sand to Mud



Grapple & Haul Times

GOM average times:	First 1/3 hauls	Final avg.
to land 1 st coil at rail grappling	17 min	11.3 min
to land 1 st trap hauling traditional gear	1 min	1.1 min

Mid-Atlantic average times:	First 1/3 hauls	Final avg.
to land 1 st trap at rail grappling	27 min	15.4 min
to land 1 st trap hauling traditional gear	3 min	2.8 min

- Does not account for days unable to retrieve gear due to weather
- Does not account for time lining vessel up on Long/Lat
- Does not account for time dealing with set-overs
- 32 set over in GOM grapple gear
- 1 set over in GOM Buoy gear

Issues impacting Grappling

- Safety at block and hauler
- Fed & State Regs
- Tide conditions : 11' in GOM
- Sea conditions : 4 to 5' seas
- Wind speed : 20 -25 knots
- Set overs by other gear (32 times in GOM)
- Gear conflict with fixed, mobile, recreational gear
- Time lost (time = money)

Radio Frequency Identification (RFID) incorporated into line marking system



Funded Projects to Date

IFAW funded:

- UNH completed
- CCS completed

Both Projects are available on the website created for the TRT materials.

Funded project with Randy Stigall, began October-2010; final report received December 2011

- Super tape was designed & built by UA
- Tape was tested at sea & failed after 25 hauls

Current NMFS Testing: RFID tags

Several RFID Tags being evaluated at sea (Frick brand):

- Still operational after 4 months
- Signs of fatigue : extreme wear
- Continue to monitor

NMFS Gear Team Investigating combination of RFID technology with visible line marking

Goals:

- visible by the eye and readable by NMFS Gear Team
- easily attachable to wet or dry line
- longevity at sea for at least one year
- economically feasible

