Development of Mitigation Strategies: Inshore Fisheries

Vita Maris

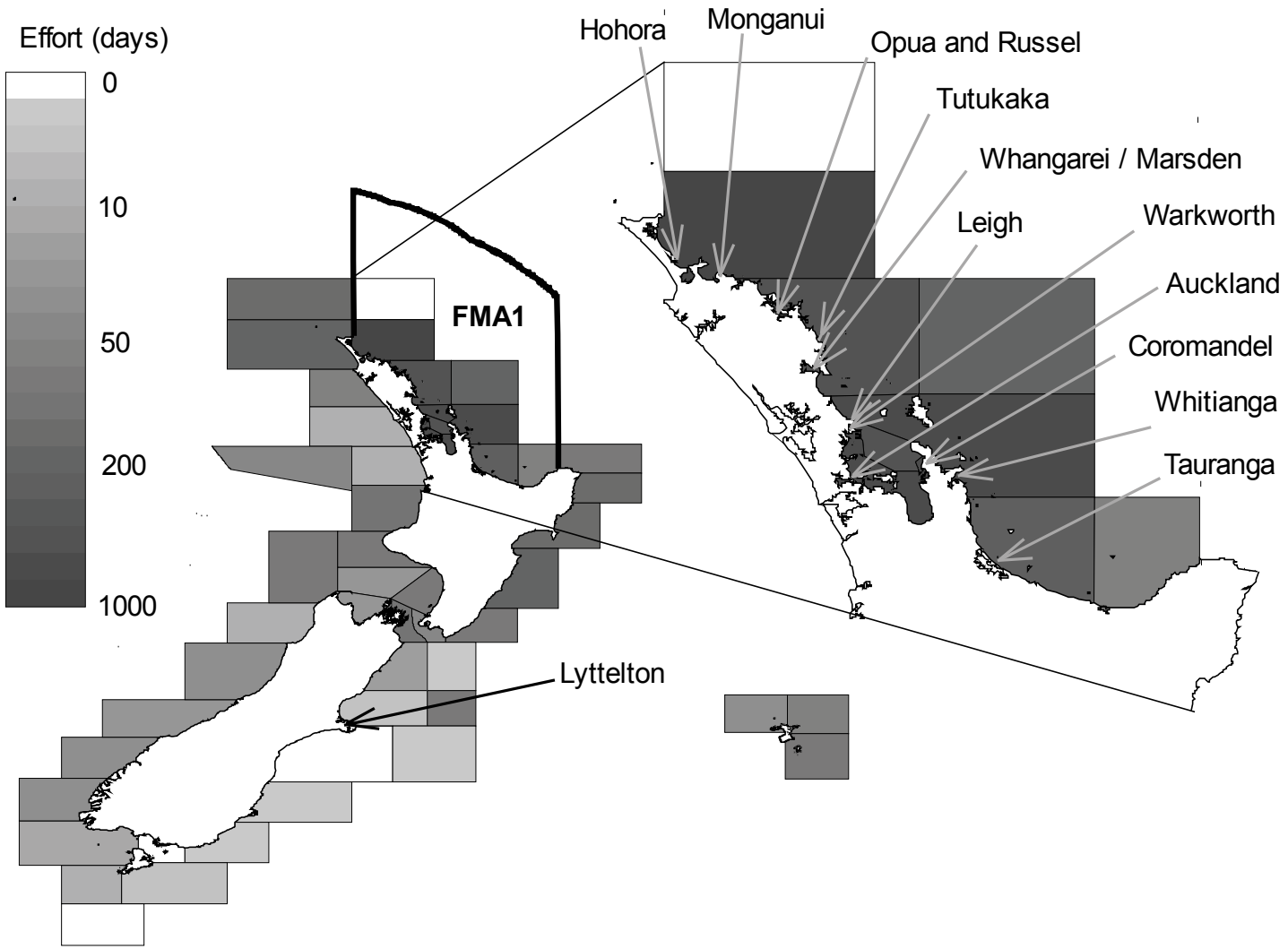
Objectives

To work with inshore fishers to improve awareness and understanding of protected species interactions with inshore fisheries.

To identify characteristics of inshore fisheries that may influence the likelihood of protected species interactions.

To assess current use of mitigation measures, and work with fishers to develop, test, and implement measures for mitigating protected species interactions

Focus on Bottom lining - Ports Visited



Meeting Skippers

Participation

Recorded gear variables

Notes on: attitude, mitigation, offal / bycatch / old baits, birds observed, skipper experience, other

Handed out bird guides – explained different species, their different behaviour and threat classification

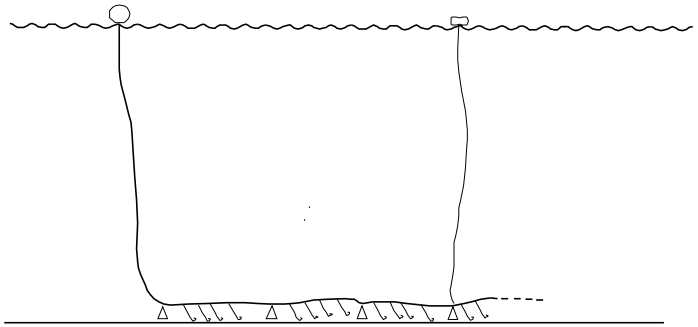
Gear types

Three groups

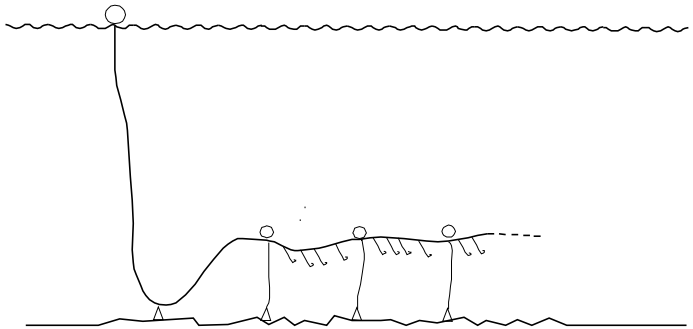
- **Clip on snapper**
- **Clip on bluenose / ling**
- **Autoliners**

Line set ups

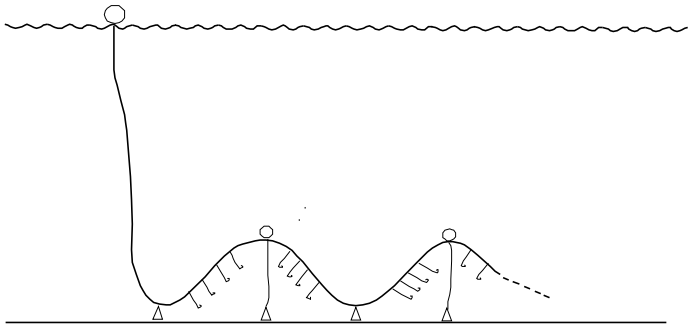
Weights only
Line hard on the sea bed



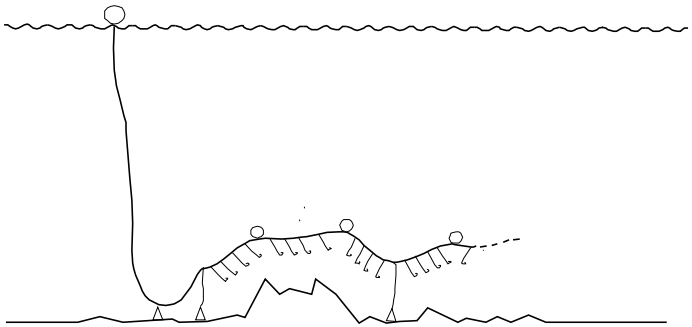
Weights with suspender ropes and floats
Line above sea bed



Alternate weights and suspenders
Line covering a range of depths



Weights and suspenders with separate floats
Line covering a range of depths above sea bed



surface marker float

intermediate float

weight

sub-surface float

snood and hook
on backbone

Characteristics influencing interactions

How they fish

- **Line set up (sink rate = availability of baited hooks)**
- **Bait type**
- **Hook type**

Where and when they are fishing

Mitigation

Mitigation currently in use

- Night setting (with reduced lighting)
- Avoiding birds
- Tori lines
- Oil
- Line weighting

Line sink rate testing

- **Measure the availability of hooks for the type of gear used by inshore fleet**
- **Provides definite results from minimal sea time – no need to look at interactions / captures or a proxy for captures**
- **Employ Time Depth Recorders (TDRs)**

Methods

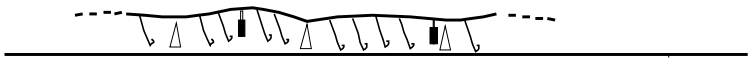
Testing TDR performance

Measuring sink rate of longlines

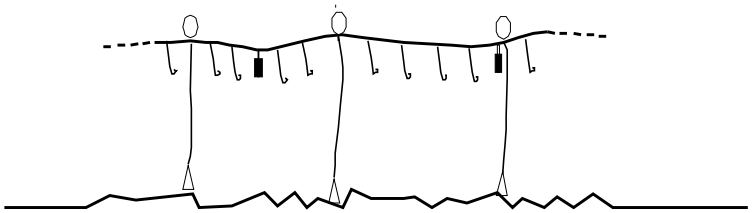
- **Pre program TDRs**
- **Clip on to line during shot**
- **Record clip on time and water entry time**
- **Retrieve TDR and download data**

Positioning TDRs on line

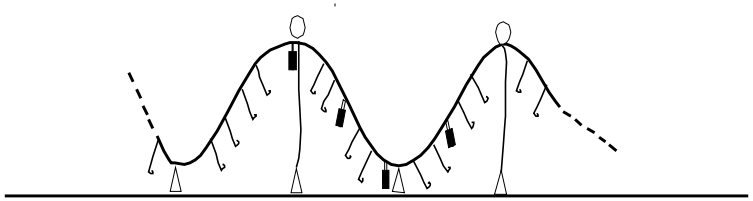
Weights only
Line hard on the sea bed



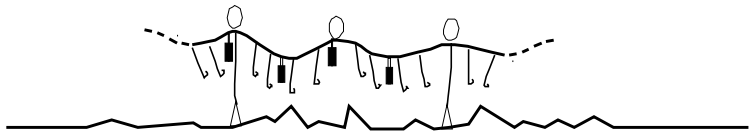
Weights with suspender ropes and floats
Line above sea bed



Alternate weights and suspenders
Line covering a range of depths



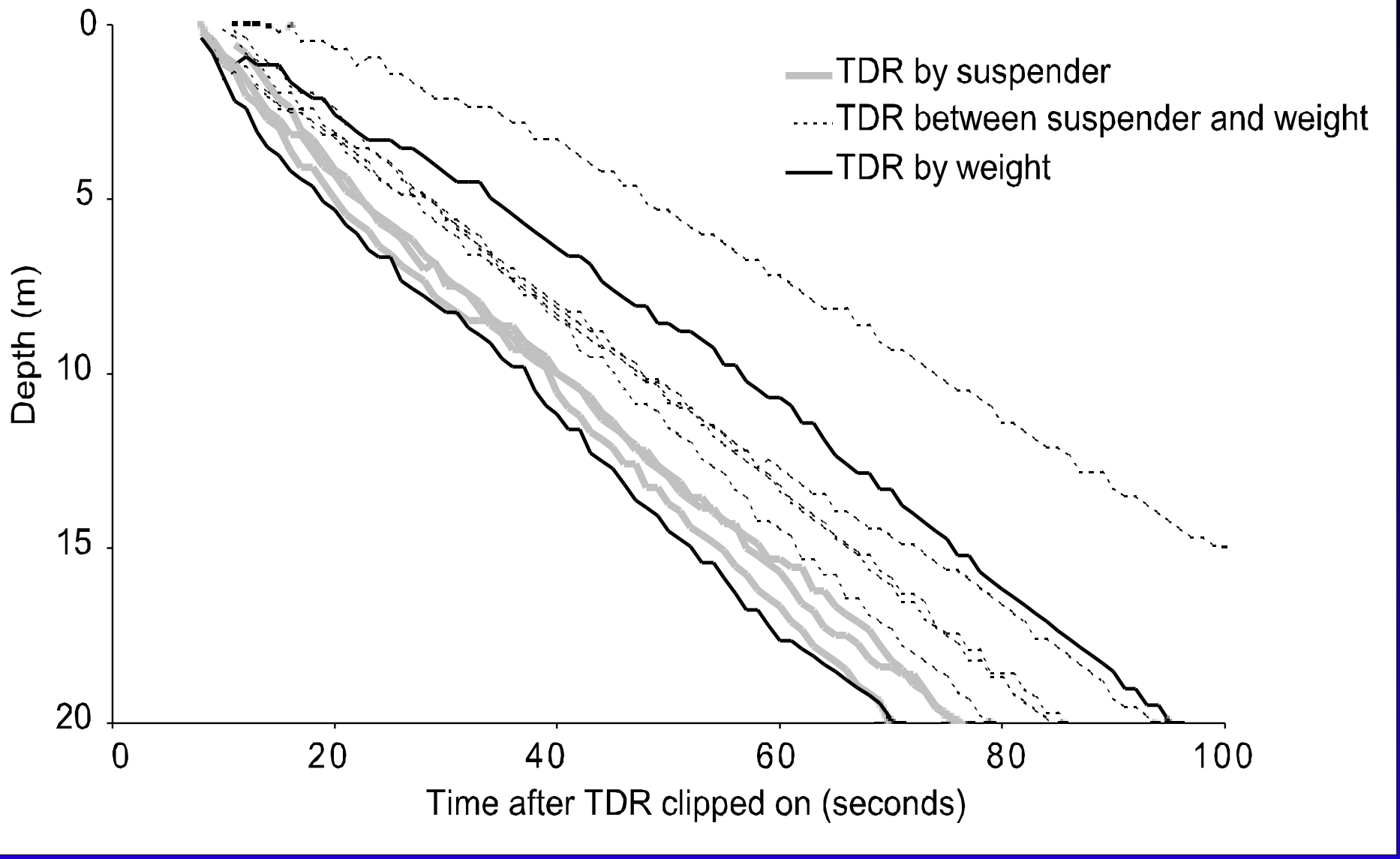
Weights and suspenders with floats
between weights. Line above sea bed



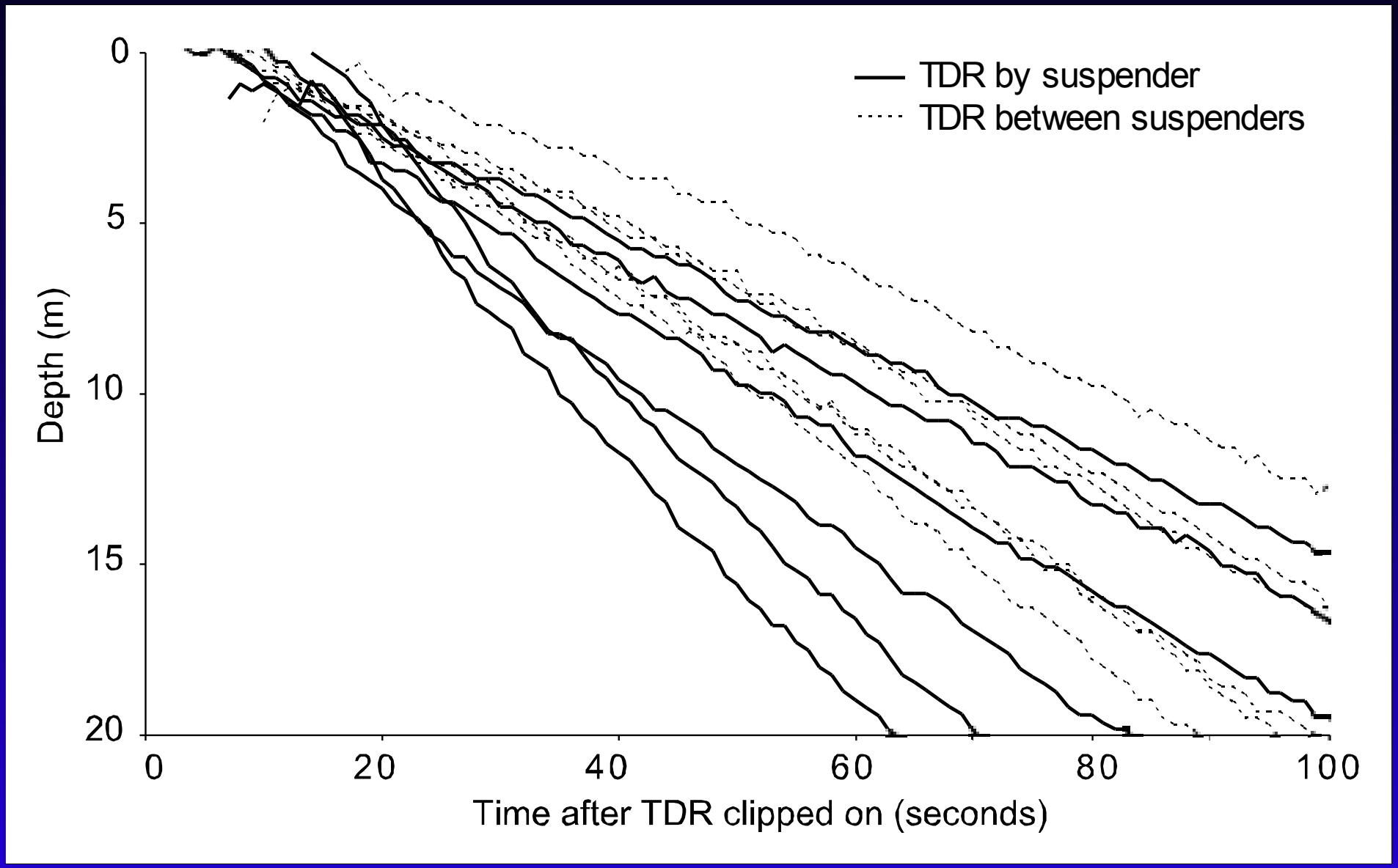
△ weight ▮ TDR ○ sub-surface float

snood and hook on backbone

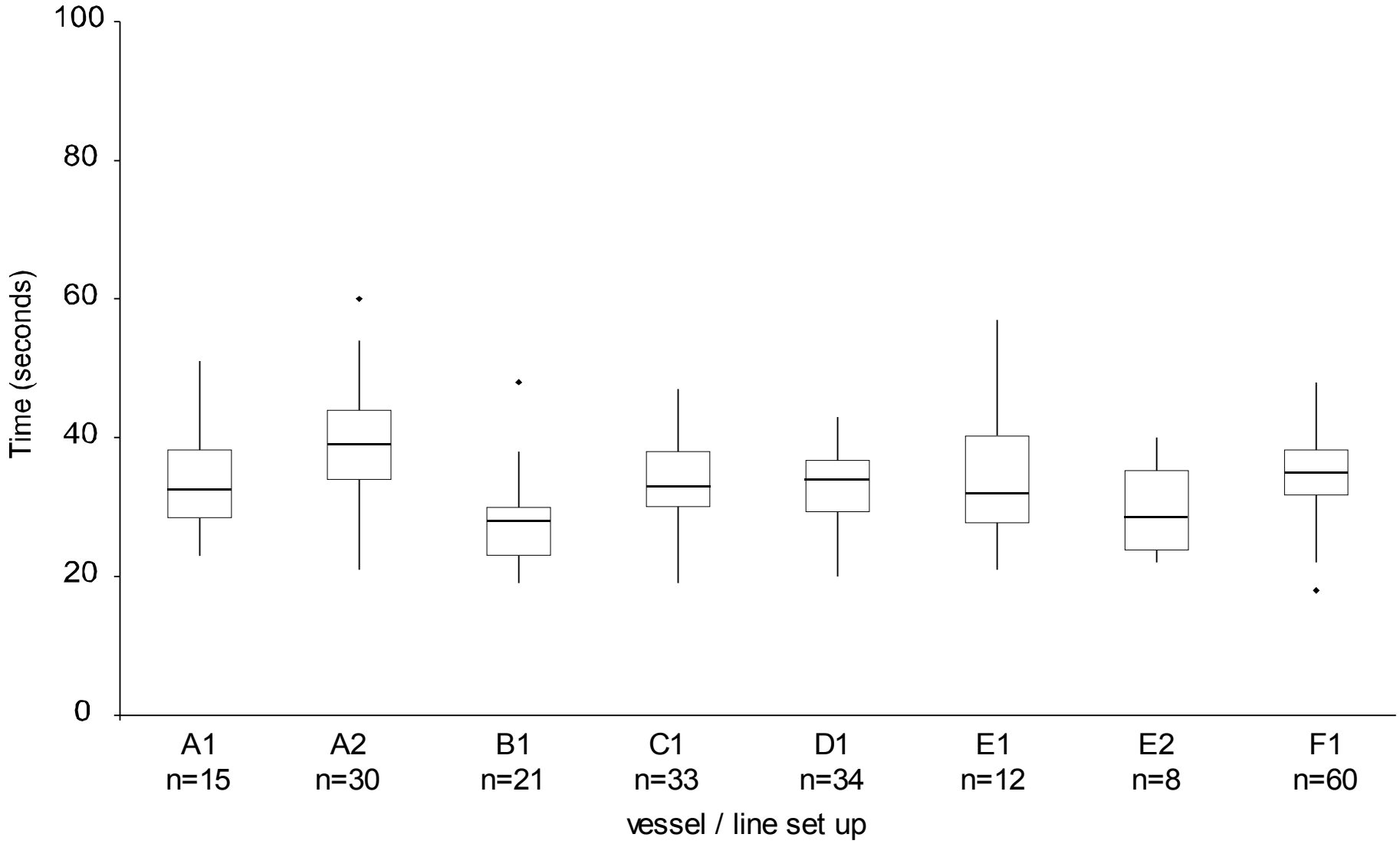
Results – Time depth profile



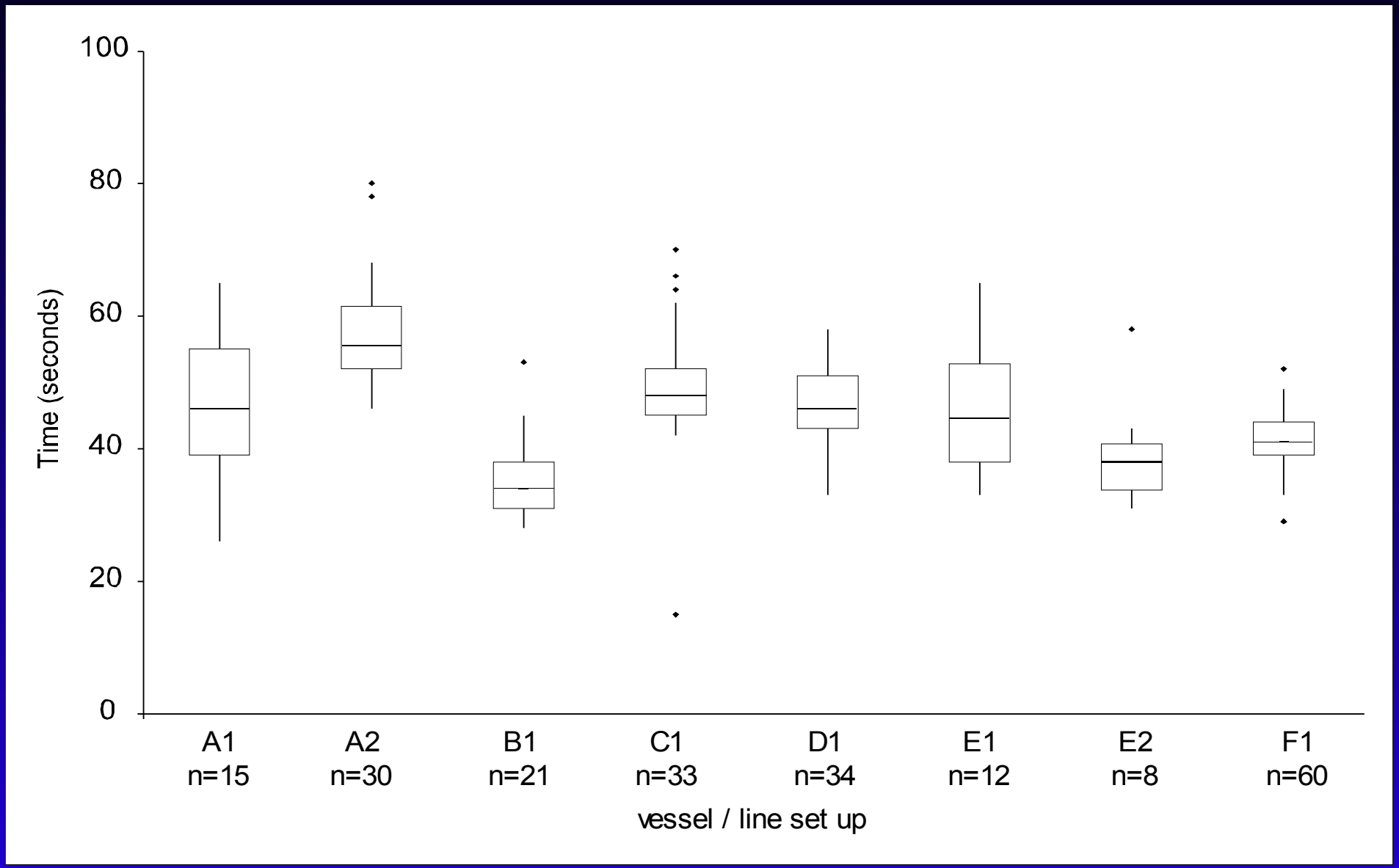
Results – Different size weights



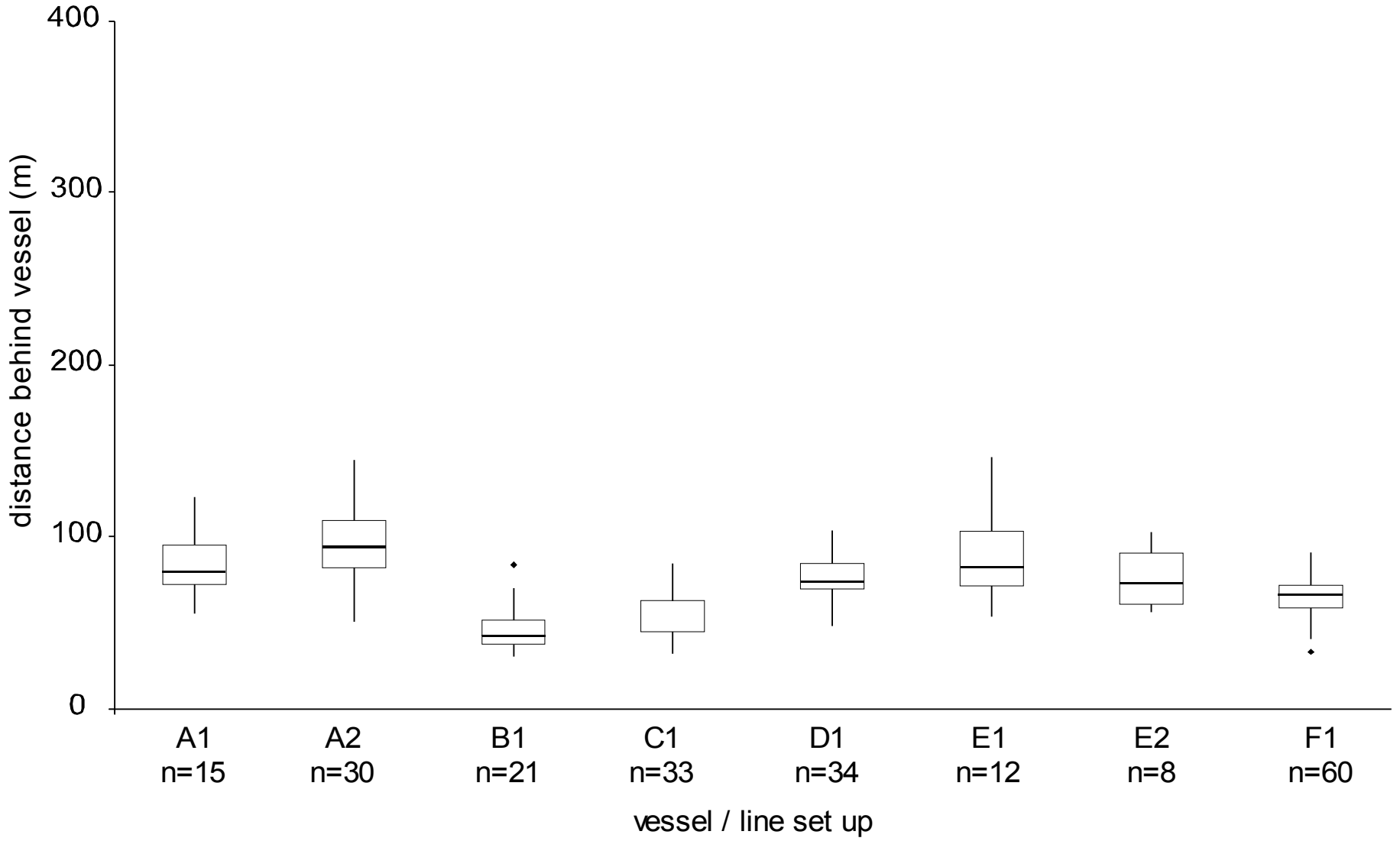
Sink time to 5m



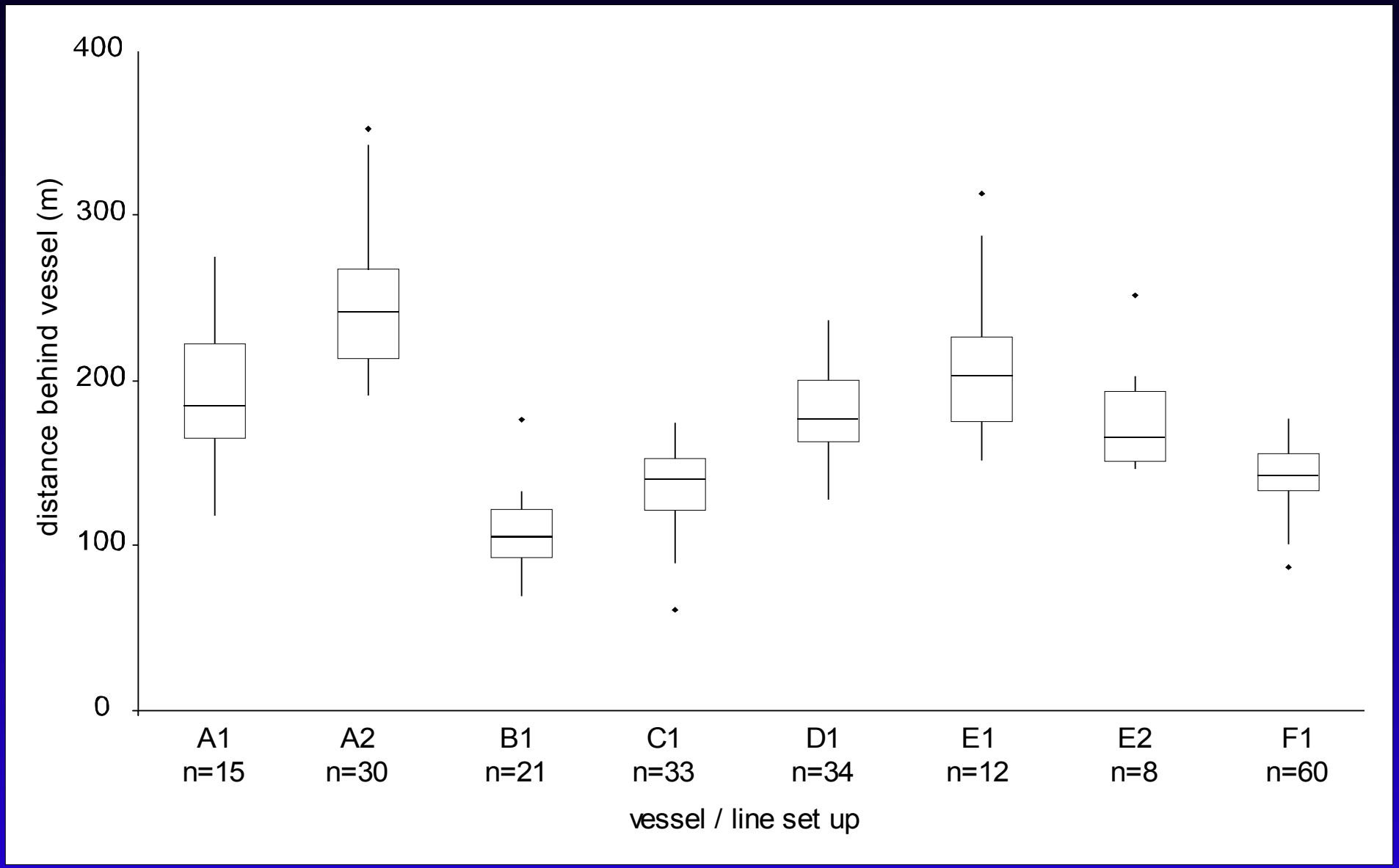
Sink time 5 - 15m



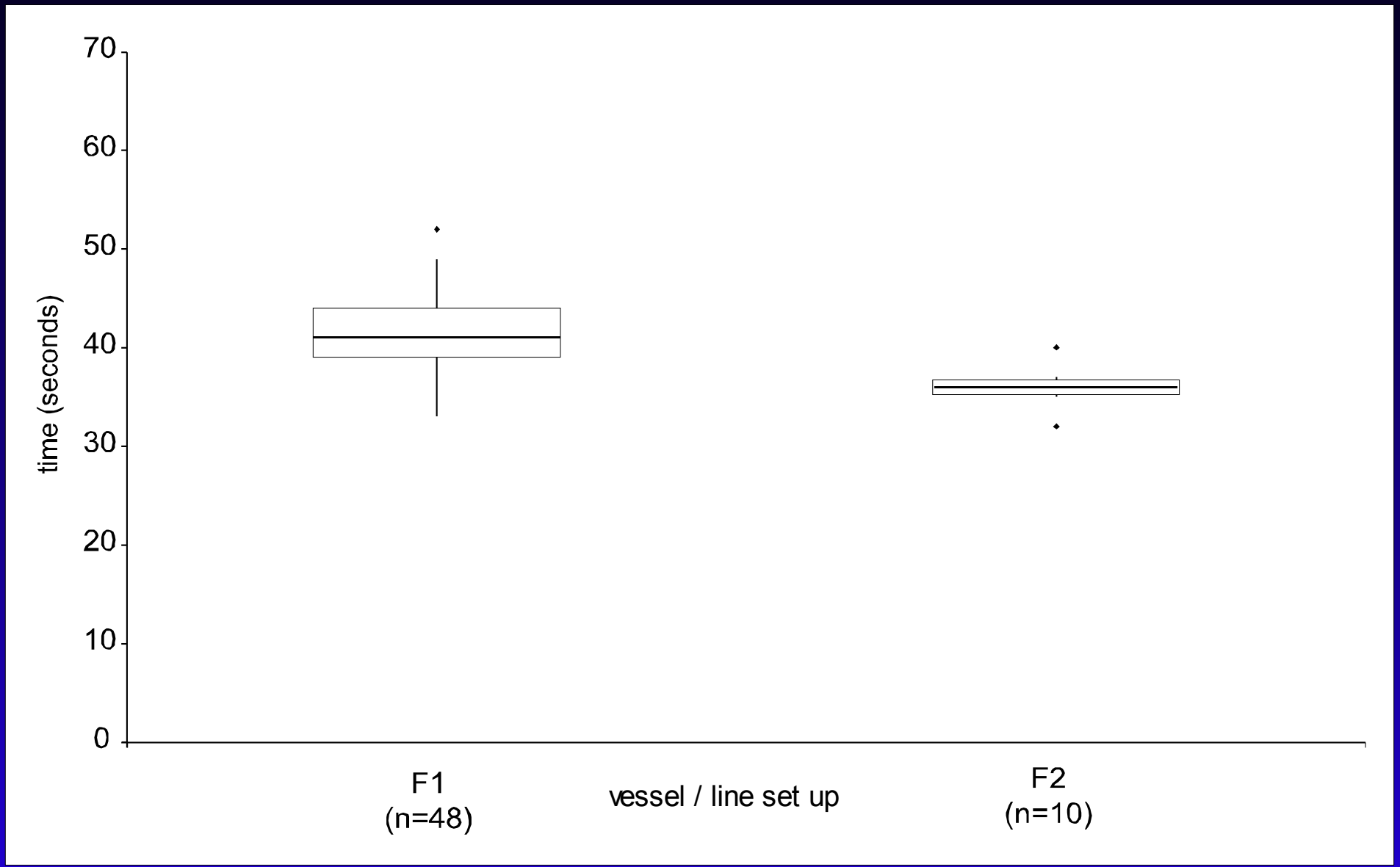
Distance astern line reaches 5m



Distance astern line reaches 15m



Adding more weight (time from 5-15m)



Recommendations

- Using regular sized weights gives a more even sink rate – thereby reducing maximum sink times
- Consider use of suspenders
- Careful deployment of intermediate surface floats
- Minimise height of shooting block
- Consider setting speed with respect to tori line coverage

Where to go from here

- **Feedback to fishers**
- **Sink rate testing / increasing sink rate**
  - **Bluenose boats**
- **Deterrents**
  - **Tori lines**
  - **Treating baits**
  - **Dyeing bait**