THOUGHTS ON A FAD RESEARCH PLAN

SPC-OFP

FAD WG, 27 – 28/11/15

Stones Hotel, Kuta, Bali, Indonesia

Aims

- Scientific / practical understanding of the dynamics and behaviour of the system to:
  - Improve stock assessments
  - Reduce FAD impacts on BET
  - Minimise reductions in catch of YFT/SKJ
  - Reduce unwanted bycatch
- Note existing activities (FAD tracking, EU projects)

Area 1 – FAD design

- Particularly tangling/non-entangling subsurface structures, length of subsurface structures.

    – Investigate differential effect on species catches

    – May require FADs to be deployed by the project

    – Related to "Phase 2" of the EU bigeye mitigation project

    – Do certain designs differentially catch bigeye? i.e. regulations regarding bigeye-friendly FAD designs

Area 2 – tuna behaviour

- Information on bigeye (+ SKJ & YFT) vertical behaviour in relation to dFADs
  - Need more focus in western Pacific
  - Data exists for the CP and EP & model of depth distribution being developed
  - BET/SKJ/YFT archival tagging on dFADs/TAO buoys/aFADs in the WP.
  - Will inform whether net depth changes can be effective in differentially reducing BET catch

Yellowfin Arc88 time series example

Depth (m)

Time
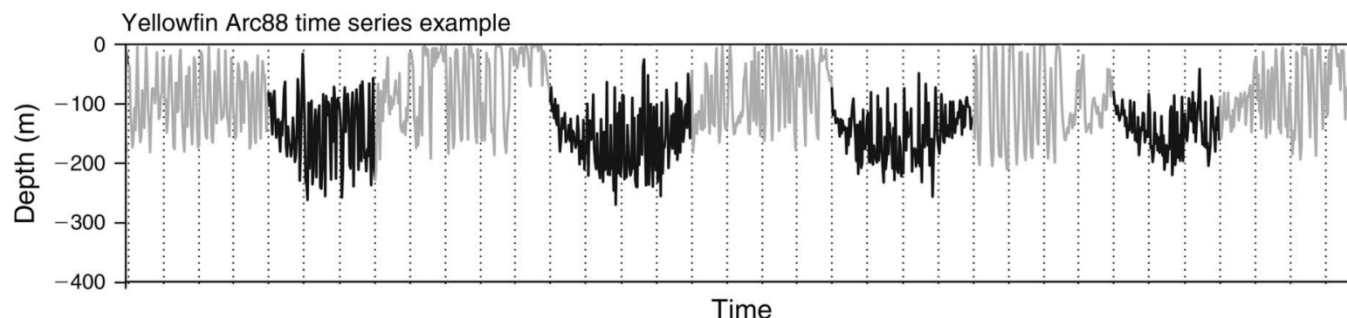
Area 3 – BET hotspots

- Why do a few vessels have a relatively high proportion of the BET catch?
  - What do they do differently?
- Further analysis of PS logsheet data to:
  - indicate possible hotspots
  - operational methods that result in high BET catch.
- Note planned EU 2016 project on bigeye mitigation analyses
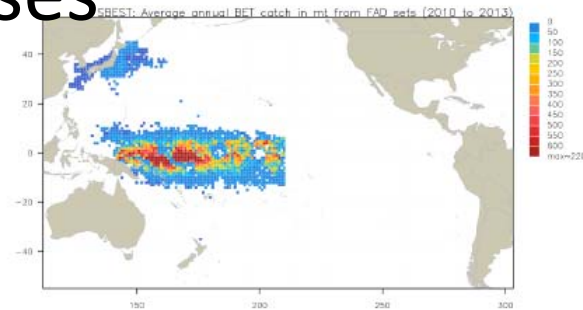
(a) Catch – distribution
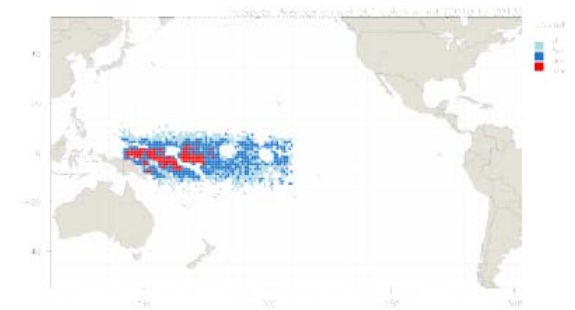
(b) Catch – hot spots

Area 4 – acoustic FAD info

- Can acoustically-equipped dFADs provide useful fishery-independent information on tuna abundance in near real time?
  - Is a specific research project required, with dFADs + appropriate equipment deployed and monitored over time by scientists?
    - Potentially expensive, but allows control of FAD design and instrumentation.
  - Info on latent period to build fishable biomass, location effects, etc.
  - Information on FAD 'competition' for fish?

Area 5 – fleet behaviour

- How has developing FAD technology affected fleet behaviour?
  - Has fishing efficiency increased? Can we quantify it?
  - Would require liaison with fishing companies and access to operational information
  - Can changes over time be identified from existing information (e.g. analysis of data for different FAD types?) or is this a longer-term study?

Summary

- Area 1 – FAD design
- Area 2 – Tuna behaviour
- Area 3 – BET hotspots
- Area 4 – Acoustic FAD information
- Area 5 – Fleet behaviour