

**INNOVATIVE PROJECTS IN THE MARINE ZONE:
Engaging the Commercial Fishing Industry
in Regional NRM**

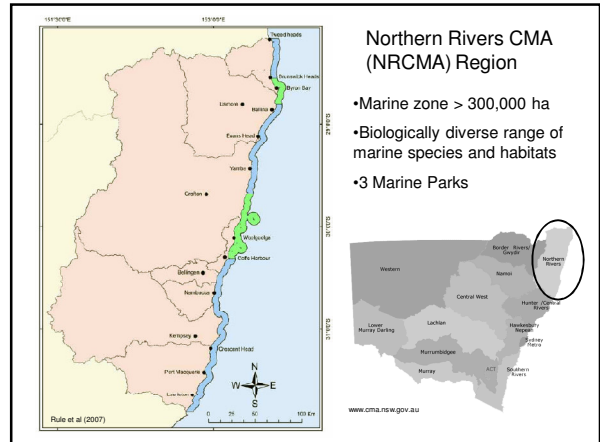


Presentation to NSW Coastal Conference
November, 2008. Wollongong

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In partnership with:

- NSW Department of Primary Industries (DPI)
- North coast commercial fishers



Why is it important for the NRCMA to engage commercial fishers in NRM?

- The largest number of commercial fishers of any region in NSW.
- Important industry contributing to our region economically and socially.
- Like many terrestrial producers, they are affected by drought, cheaper imports and fuel prices.
- To assist the fishing industry to adopt best practice techniques and reduce its impact on the region's natural resources.
- Work towards the 3 of the 4 Marine targets in the NR CAP as well as the Marine State target.

Fisheries engaged by NRCMA projects

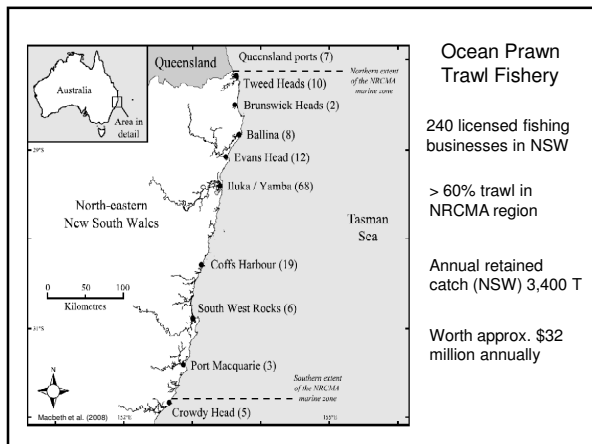
Ocean Trawl Fishery - prawn trawling



Ocean Trap & Line Fishery - fish trap and line fishing

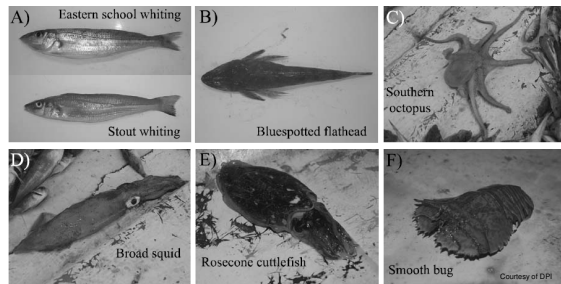


Estuary General Fishery - estuary prawning

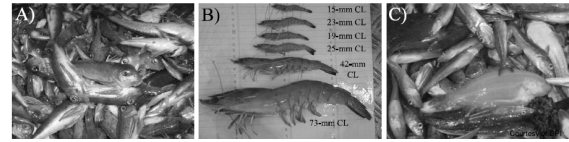


Ocean Prawn Trawl Fishery

Marketable 'byproduct' species



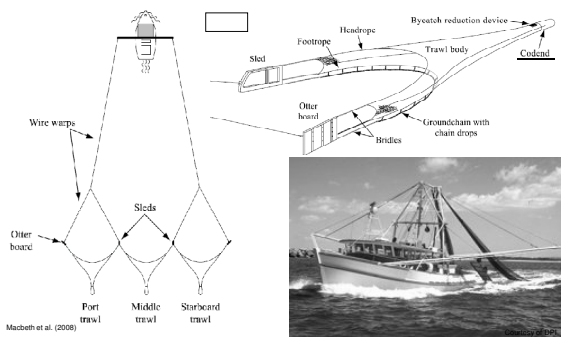
'Bycatch': unwanted organisms that are discarded
=> a major issue in this fishery



Includes: - individuals of the target and byproduct species that are too small for sale
- species of no commercial interest

Ocean Prawn Trawl Fishery

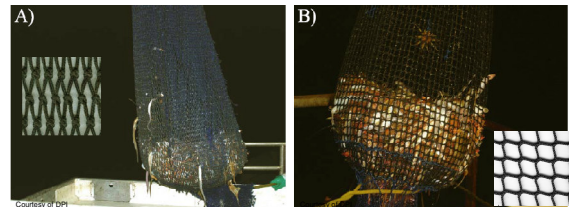
Triple-rigged prawn trawl configuration



Ocean Prawn Trawl Fishery

Traditional **diamond**-shaped cod-end mesh = less selective

New **square** mesh cod-end = more selective



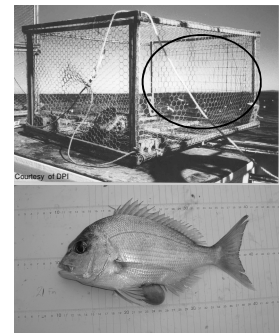
Project 1: Implementation of best-practice fishing gear technology in the Ocean Trawl Fishery



- 63 cod-ends constructed and distributed through EOI process
- 21 fishers implementing best practice (i.e. 3 cod ends each)
- 21 voluntary best-practice commercial fishing gear agreements negotiated
- Ecological benefits
- Economic benefits for fishers (sorting time, fuel)

Project 2a: Implementation of best-practice fishing gear in the Ocean Trap & Line Fishery

- Escape panels - 50x75mm weld mesh on one face of trap
- 2 rolls provided to each fisher = 24 escape panels
- 31 fishers signing agreements & implementing best practice
- Total of 744 ocean fish traps in fishery with BRDs



Project 2b: Implementation of best-practice fishing gear in the Estuary General Fishery



Prawn hauling net with conventional diamond mesh cod-end



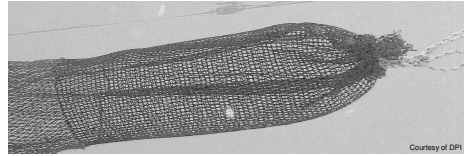
Richmond River prawn hauling



"Clean catch" = Minimal non-prawn bycatch

Project 2b: Implementation of best-practice fishing gear in the Estuary General Fishery

- 81 Estuary fishers signed agreements
- Each received enough square mesh to make 4 cod-ends
- Flexibility to use in a range of regulated prawning gear
- 324 units of best practice gear being used to catch prawns in north coast estuaries



Underwater view of square mesh cod-end

Project 3: Ocean Trawl Fishery Observer Surveys



Courtesy of DPI

To fill important knowledge gaps – recording information in addition to what fishers are required to record



Courtesy of DPI

Project 3: Ocean Trawl Fishery Observer Surveys

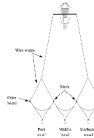
Observers systematically record information including:

- Size of retained individuals
- Quantity and composition of bycatch
- Any interactions with threatened species
- Where prawn trawling is occurring



Courtesy of DPI

Scientifically trained observers



Project 3: Ocean Trawl Fishery Observer Surveys



Courtesy of DPI

Findings: (compared to diamond mesh)

- Square mesh cod-ends performed well for targeting king prawns
- but not suitable for school prawns
- Clear reduction in bycatch (22-65%)

Across all trawls:

- Few interactions Protected Species of fish (no threatened species)
- No direct interactions with marine reptiles, mammals or seabirds
- Minimal sharks caught

DPI scientists prepared a research report as part of this project:

Macbeth, W.G., Johnson D. D. & Gray C. A. (2008)

"Assessment of a 35mm square-mesh codend design and composite square-mesh panel configuration in the Ocean Prawn Trawl Fishery of northern NSW"

Lessons

- Like other stakeholders, the commercial fishing industry should be engaged in projects as early as possible to obtain the greatest results and uptake.
- New gear must be tested under a range of commercial operating conditions to ensure that it can and will be effectively implemented.
- Monitoring and 'adaptive management' of best practice techniques is essential for long term success.

Project 4: Observer Survey of Commercial Shark Fishing



Dusky whaler



Sandbar shark

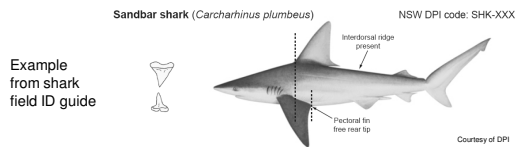
Courtesy of DPI

- Increase in targeted shark fishing by commercial line fishing vessels off NSW north coast.
- Fishers have difficulty correctly identifying and reporting sharks caught to species level.

Project 4: Observer Survey of Commercial Shark Fishing

The NRCMA is funding 50 observer trips which will:

- Collect important biological data for shark species targeted by commercial line fishing methods.
- Educate the fishers targeting sharks about field identification of the shark species they are catching.
- Allow more effective management of shark stocks.



NRCMA Investment in commercial fishery NRM projects to date:

- \$105K - implementing best practice gear technology
- \$151K - onboard observer surveys
- Plus \$50K - pilot fisher mapping project
- Substantial in-kind contributions from NSW DPI & commercial fishers.



Acknowledgements

NSW DPI

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- Will Macbeth
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- Stephan Soule

NRCMA

- Nicole Strehling
- Roger Stanley

North coast
commercial fishers



Thank you



Courtesy of DPI

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