Net Fishing and SOCI
Queensland Research

Recent industry-driven research on the Queensland East Coast Inshore Finfish Fishery has explored ways to improve interactions between Species of Conservation Interest and fishing nets. Fishing is one of several threats to dugong and other iconic marine animals, however fishers in the Queensland net fishery have been at the forefront of research to minimise this threat.

Background

Between 2009 and 2011 the number of dugong mortalities on the Queensland east coast rose, sparking significant concern and shining the spotlight firmly on all threats to their survival, including net fishing.

These mortalities, along with the desire of some motivated and pro-active commercial fishers to highlight their stewardship in this fishery, provided the genesis for this project. A key objective of the project was to identify strategies that industry can employ to further minimise the risk of net fishing to Species of Conservation Interest (SOCI).

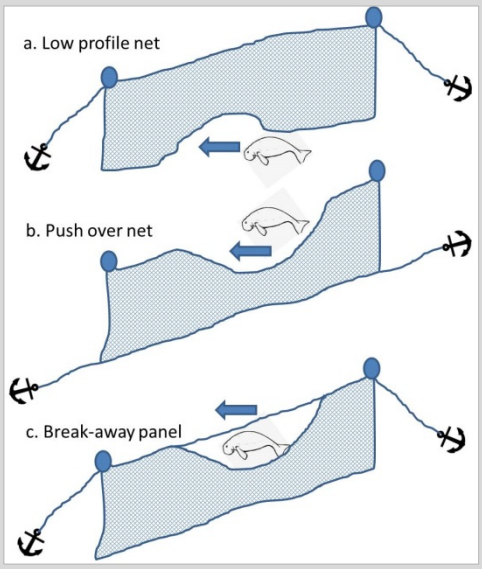
Scientists from James Cook University and the Queensland Government teamed up with commercial fishers and managers from the Great Barrier Reef Marine Park Authority to trial modified gillnets – designed by commercial net fishers – and assess their effectiveness in reducing the risk of interactions between fishing nets and SOCI.

Innovative fishing net designs were field tested to assess the outcome of an interaction with species such as dugongs, turtles and dolphins. The project also assessed the fishery performance of each net design to ensure there were no detrimental effects on the catch rates of target species or on the level of unwanted catch.

As part of the project the team also interviewed fishers of the Queensland East Coast Inshore Finfish Fishery to identify the fishing practices adopted by commercial net fishers that are intended to improve day-to-day interactions with SOCI.

Field Methods

Field trials tested two nets in Moreton Bay (a 'standard' net and a modified 'breakaway' design), as well as three nets in Bowling Green Bay (a local modified net or 'push-over' net, the breakaway net, and a 'low-profile' net).



Fishers were interviewed along the east coast to identify: voluntary gear and behavioural changes, and perceived 'risk' of SOCI interactions.

"I like to tinker and innovate, and I think lots of other net fishers do, too. As a group, net fishers should share more about their gear and the fishing behaviours they think reduce impacts on SOCI and the ecosystem at large. We can do good things."

Anonymous ECIFF fisher

Findings

Although the concept behind the breakaway net was shown to work, the project was not able to produce evidence that the modified net designs reduce the risk to SOCI due to the lack of SOCI interactions.

Overall, although regionally variable along the east coast, the risk of SOCI interactions with fishing nets is likely to be low. Regardless of location, poor fishing practices increase this risk.

For many years fishers have voluntarily adapted their fishing practices to minimise risk to SOCI. While certain gear changes may be beneficial by reducing the risk of entanglement, behavioural changes by fishers (e.g. avoiding known dugong haunts) may reduce the chance that SOCI will encounter nets. Therefore focusing efforts on behavioural changes be more effective in reducing the overall risk of SOCI interactions.

Individual fisher knowledge, experience, and the desire to "do the right thing" play a pivotal role in the risk nets present to SOCI.

Implications

Commercial net fishers demonstrate a willingness to continually improve their fishing practices to be ecologically friendly, but their efforts are poorly recognised. Though fishers demonstrate innovation and stewardship, this has not been enough to alter poor perceptions about the fishery from the wider community.

Initiatives to promote improved fishers' behaviour and fishing practices that are adopted are likely to have the greatest positive impact on the level of interaction between SOCI and fishing nets.

Recommendations

- **Better reporting and data** on SOCI interactions are required.
- **Regional Codes of Conduct** developed by fishers are likely to be an effective means of reducing the risk of SOCI interactions with nets. This may best be achieved in the future through regional management approaches to Queensland fisheries.
- **Championing responsible fishing practices and stewardship** may be the strategy most likely to minimise SOCI interactions and improve the outcomes of unavoidable interactions when they occur.
- **Better understanding of fisher attitudes and perceptions** of SOCI may be key in helping improve approaches aimed to reduce fishery-wide SOCI interactions.
- Given the perception of net fishing, the overall risk of SOCI interactions with net gear should be established, and the appropriateness of SOCI specific fishery **regulations should be reviewed** with a relevant regional context.

Reef Guardian Fishers

The GBRMPA **Reef Guardian Fishers** program recognises commercial fishers who are fishing sustainably and maintaining the health of the Great Barrier Reef. Fishers use practices that go beyond what is required by State and Federal laws.

Participants of the program set robust voluntary protocols for their operations, develop innovative practices to minimise environmental impacts, and share knowledge with other fishers and their communities.

reef guardians

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