

Reef Fish Management and the Great Barrier Reef

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Gestión de Pez de Arrecife y La Gran Barrera de Coral

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EXTENDED ABSTRACT

The Great Barrier Reef (GBR) Marine Park is a World Heritage Area with complex management for reef fish fishing. Management has been implemented gradually since the 1990s through research, stakeholder discussions, management compromises, and political positioning. Fundamentally the management relies on acceptance by fishers.

The GBR reef-fish fishery is a commercial, charter and recreational hand line fishery targeting coral reef fish. In the 1970s and 1980s, the commercial fishery supplied fresh and frozen reef fish for the domestic Australian market. In the 1990s the Asia live reef food fish trade increased demand for common coral trout (*Plectropomus leopardus*), increasing the commercial catch and effort. This relatively rapid increase caused concern by commercial and recreational fishers, conservation groups and government agencies alike, that the fishery would become over fished. This triggered research projects including the worlds largest reef fish fishing experiment, the “*Effects of Line Fishing Experiment*” (Mapstone et al. 2004), and a fish spawning aggregation survey project (Samoilys 1997, Russell 2005). However, it took about 14 years for specific management to be implemented to prevent over fishing. A fisheries management plan and marine park closures were introduced in 2004.

In 2004, 33% of the GBR Marine Park was protected from line fishing. Reef fish spawning season closures were introduced, and revised input and output controls were implemented.

The spawning season closures involved three nine-day closures (27 days) to reef fish fishing throughout the entire GBR over the new moons in October, November and December each year. This was aimed at protecting reef fish species, primarily common coral trout from fishing during the peak spawning times. Since the implementation of these closures, commercial and recreational fishers raised concern that this management tool was excessive given the fishery also has a total allowable catch, fish minimum and maximum size limits, recreational possession limits, total protection of key iconic species such as the humphead Maori wrasse (*Chelinus undulatus*), and marine park closures. There was considerable pressure placed on politicians by fishers to have the spawning season closures removed, because of the financial hardship caused.

In 2007, a stakeholder workshop was organised by the GBR Marine Park Authority, to assess information on spawning aggregations, and determine appropriate management and research priorities (Russell 2008). The workshop participants, including fishers, researchers, conservation NGOs and government officers, concluded that “*the current management arrangements provide suitable protection of FSAs for most reef fish in the GBR Marine Park*”.

In 2009, another stakeholder workshop was organised by the Queensland Government fisheries management agency, to assess the risk of aggregation fishing and determine appropriate management strategies. The workshop participants, including a different group to the 2007 workshop participants, concluded that “*the spawning closures could be reduced, given the other management arrangements in place and the lack of evidence that spawning aggregations were being targeted and greatly impacted by fishing.*”

Subsequently, the spawning season closures were modified to two five-day (10 days) closures over the October and November new moons each year until 2014. The take of reef fish throughout the entire GBR is prohibited during these times. However, the charter fishing sector managed to negotiate a further concession by being exempt to this rule, because of the financial hardship the closures would cause them. It has been difficult to convince fishers and government of the need to protect spawning aggregations on the GBR. The underlying issue about GBR spawning aggregations is that there has been relatively little research done to date. There is currently only one key research project on spawning aggregation sites for common coral trout on two reefs (Russell 2005). This project has now been running for 20 years, and has been used to indicate the peak spawning times to base the seasonal closure management upon.

Prioritising spawning aggregation research on the GBR has proved difficult because of the overarching management arrangements and the lack of fishing catch and effort and anecdotal indicators that fishers target aggregations of reef fish, relative to aggregation fishing in other parts of the world such as throughout the Caribbean.

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