Challenges linked to spawning aggregations of reef fishes

Yvonne Sadovy
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• Support and nourish millions
• Pressures to exploit them growing
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• Little management, conservation or monitoring
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Aggregating fishes make up circa 70% of Fiji coastal catches; most of the 22 reported aggregations undergoing decline.
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What are spawning aggregations and why are they so important?
Spawning aggregations

- Global and local trends
- Threatened fisheries and species
- Challenges to management
- Possible solutions
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Information of the fields returned by the search can be viewed here.
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Report on current status and exploitation history of reef fish spawning aggregations in Palau

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[Fisher Interviews: Palau 2003. A total of 30 interviews was conducted. For each interview, cards were used to assist in fish identification (a, b) and maps provided (b) to identify aggregation sites. Gear was inspected, whenever possible (c). Fishing interview team: Rengili, Yvonne and Tino (d).]
Groupers, Palau - aggregation catches (PCS/SCRFA, 2003)
We seldom see them anymore

THE rabbit fish (Meyas) were once so plentiful in Palau that we took it for granted that they were our natural gifts and that they would be available to us for all times. Today we hardly see them in their natural environment and we no longer have the opportunity to go into any fish market and buy huge quantities of them, not even a few pounds, as we used to. Many of us can still remember the times when huge schools of Meyas were once caught in bulging nets. These scenes are things of the past and we might never have a chance to see them again. The same can be said of two other favorite fishes (the Mekebud and the Teber) that were once so plentiful at our boat anchorages and in shallow waters near the shores.

Other well-known and familiar fishes that are no longer caught in our lagoons and inland waters are the Kelat and Uluu. The highly prized Kelat (Mullet) has also disappeared from the fish markets. Many connoisseurs of sea food in the restaurants say this delicacy has been replaced by imported bangus fish from abroad. Another awesome sight, which indicated the presence of huge schools of tuna and other pelagic fishes, has also disappeared from the horizons in our waters. They are the huge number of black sea birds (Bedaoch) which darkened the horizon whenever big schools of tuna chase small bait fishes in their feeding frenzies close to our shores. These sights, too, are no longer seen in or outside our reefs.
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162 groupers globally
25% threatened or near-threatened (IUCN Red List) partly due to aggregation fishing

Sadovy et al., in prep
Live Reef Food-Fish Trade
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Myths about the sea

“The sea has endless fish: we will never run out”
“There are not enough data for management”
“Aquaculture will solve overfishing and all our seafood needs”
“Fish still here but they moved somewhere else”
“Fish declines not due to fishing - instead pollution, boats, global climate change....”
“MPAs alone can manage reef fisheries”
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Lack of awareness of exploited aggregations and their status
Illusions of plenty
Vulnerable seabird colonies and turtle nesting beaches often receive protection.....
... and many regulations protect berried (with eggs) lobsters ...
Ripe adults are the capital and spawning aggregations produce interest (eggs)

*Non-extractive benefits*
Ripe adults are the capital and spawning aggregations produce interest (eggs $$$$)
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Preserving spawning aggregations and the fisheries they support

- Recognize general need for management
- Map exploited aggregations/ seasonality
- Consider spatial/ seasonal protection etc.
- Spawning aggregations as indicators?
- Instruments, accords, guidelines, resolutions...: IUCN; ICRI; X Challenges; FAO; EBM
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Geomorphological types recorded at spawning aggregations sites (n=248)
Example of aggregation information available on SCRFA database: www.scrfa.org
Spatial protection

Outer reef areas often not included in MPAs or otherwise managed
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Aggregations as indicators?

Candidates as indicators of general reef fishery condition can signal:

(a) pressures on fishery resources caused by human activities (fishing);

(b) environmental state (aggregation condition relevant to some baseline);

(c) societal response by the degree to which they are managed effectively.

SCRFA Newsletter No. 12:  www.scrfa.org
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