Management of Reef Fish Spawning Aggregations*

Presented by Henri Boyé (MEDDTL)

*prepared by Yvonne Sadovy (University of Hong Kong) and Eric CLUA (Secretariat of the Pacific Community)

With the support of:

SCRFA
SOCIETY FOR THE CONSERVATION OF REEF FISH AGGREGATIONS

CRISP
Coral Reef Initiatives for the Pacific
Initiatives Corail pour le Pacifique

ICRI

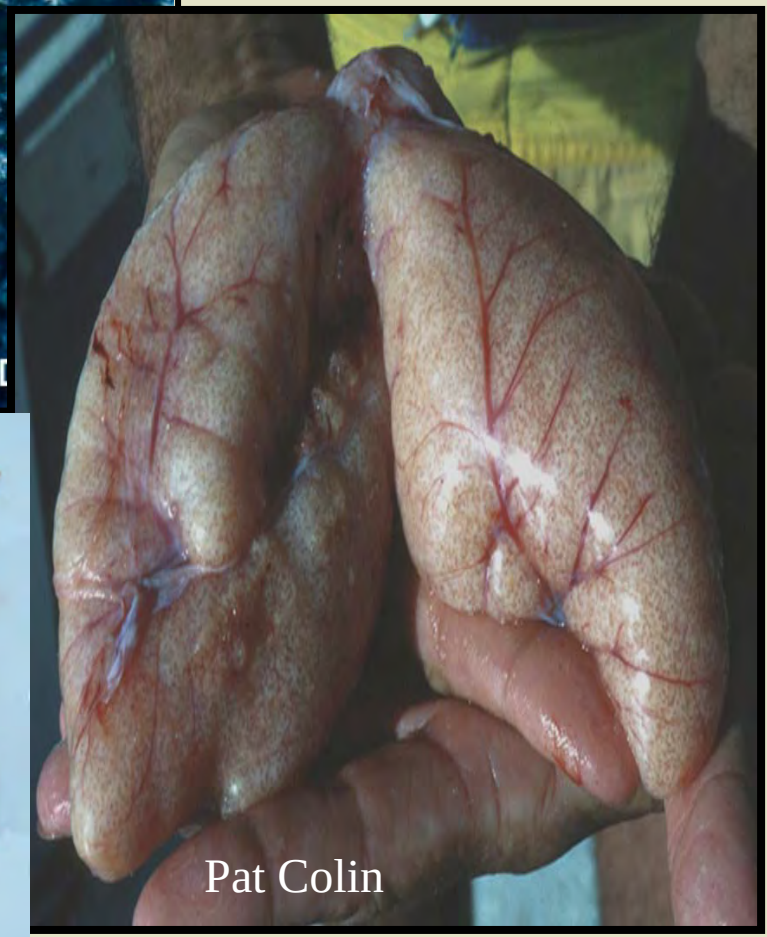
Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
Ministère de l'Écologie, du Développement durable, des Transports et du Logement

- Reef fisheries >10% of global fishery landings
- Support and nourish millions
- Pressures to exploit them growing
- Many valuable species aggregate to spawn and are easily overfished
- Little management, conservation or monitoring

Aggregating fishes make up circa 70% of Fiji coastal catches; most of the 22 reported aggregations undergoing decline

What are spawning aggregations and why are they so important?


© Michael


Pat Colin


cm scale
Pat Colin

Spawning aggregations

- Global and local trends
- Threatened fisheries and species
- Challenges to management
- Possible solutions

Search Database Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss Real.com

Address http://www.scrfa.org/SearchDatabaseResults.php Go Links

MySearch Google Yahoo! Ask Jeeves LookSmart Files Customize My Button Highlight

nation of the fields returned by the search can be viewed here.

www.SCRFA.org

Done Internet

Start Local Disk (C:) Mail :: Message... Yahoo! Mail - a... Search Datab... Microsoft Powe... 09:18

Search Database Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

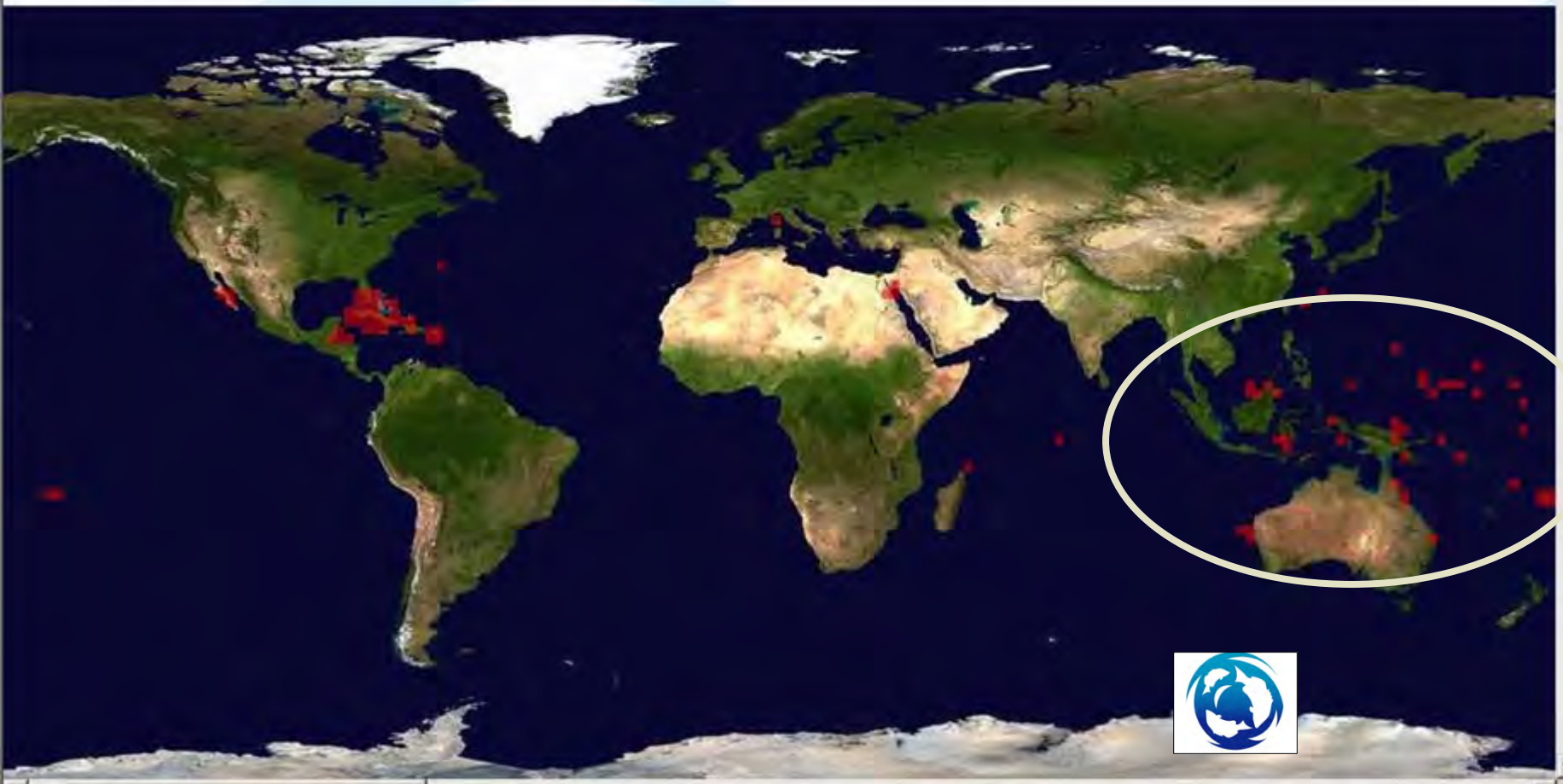
Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss Real.com

Address http://www.scrfa.org/SearchDatabaseResults.php Go Links

MySearch Google Yahoo! Ask Jeeves LookSmart Files Customize My Button Highlight

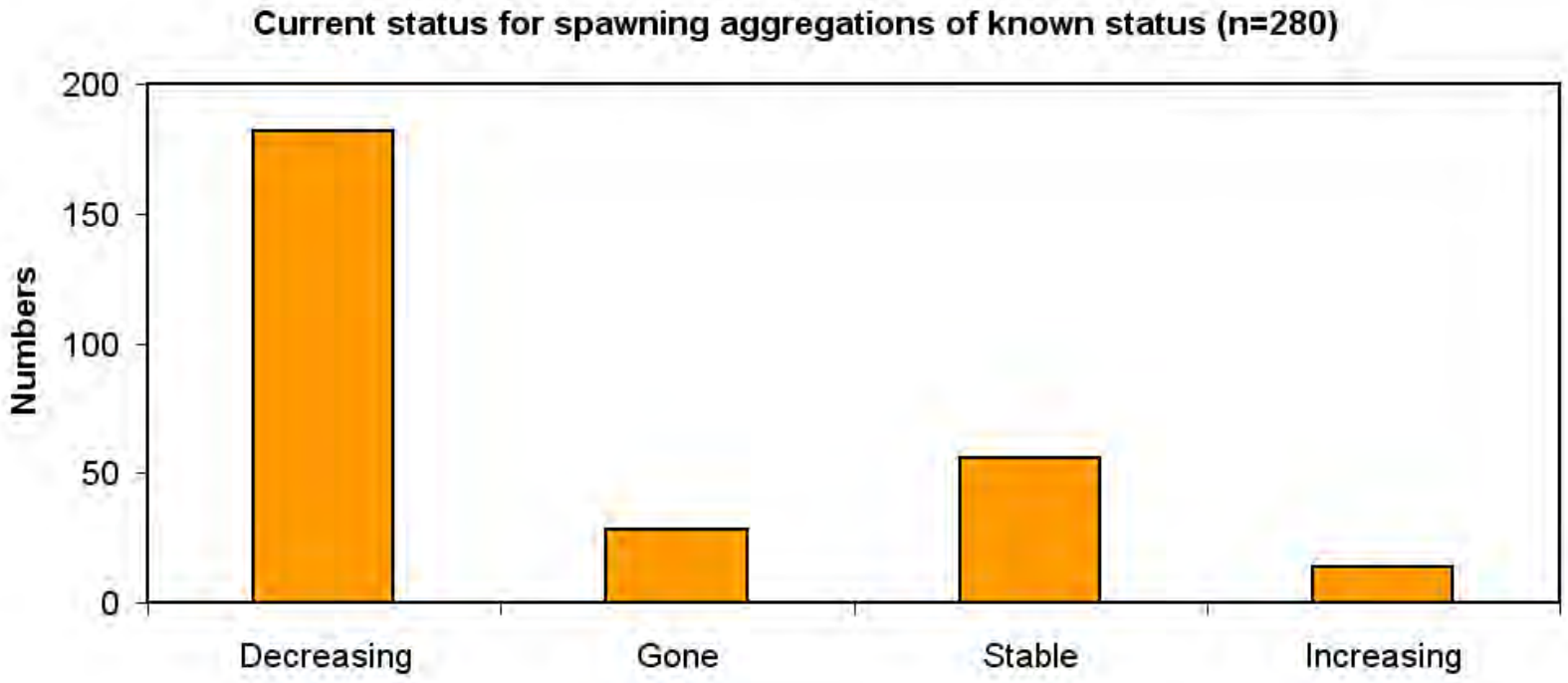
nation of the fields returned by the search can be viewed here.

www.SCRFA.org



Done Internet

Start Local Disk (C:) Mail :: Message... Yahoo! Mail - a... Search Datab... Microsoft Powe... 09:18



www.scrfa.org

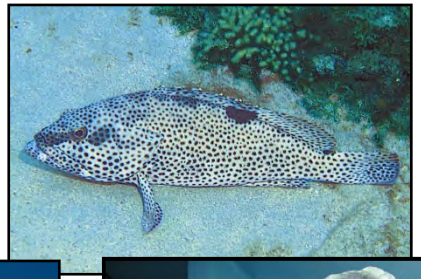
SCRFA

Sadovy et al., 2008 Conservation Biology

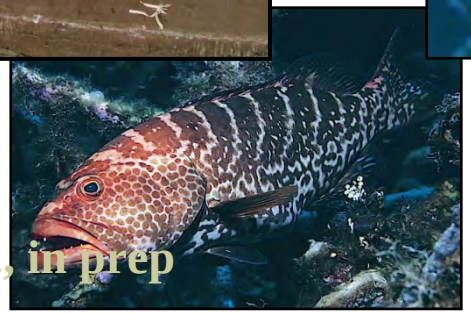
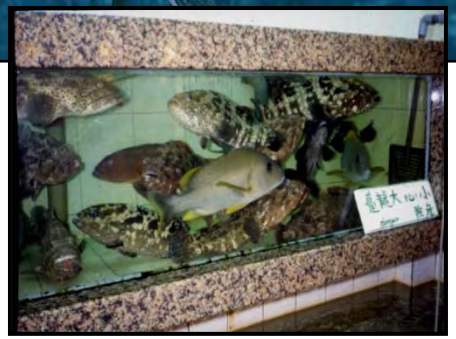
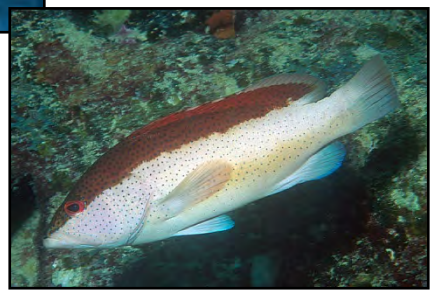
162 groupers globally

25% threatened or near-threatened (IUCN Red List) partly due to aggregation fishing





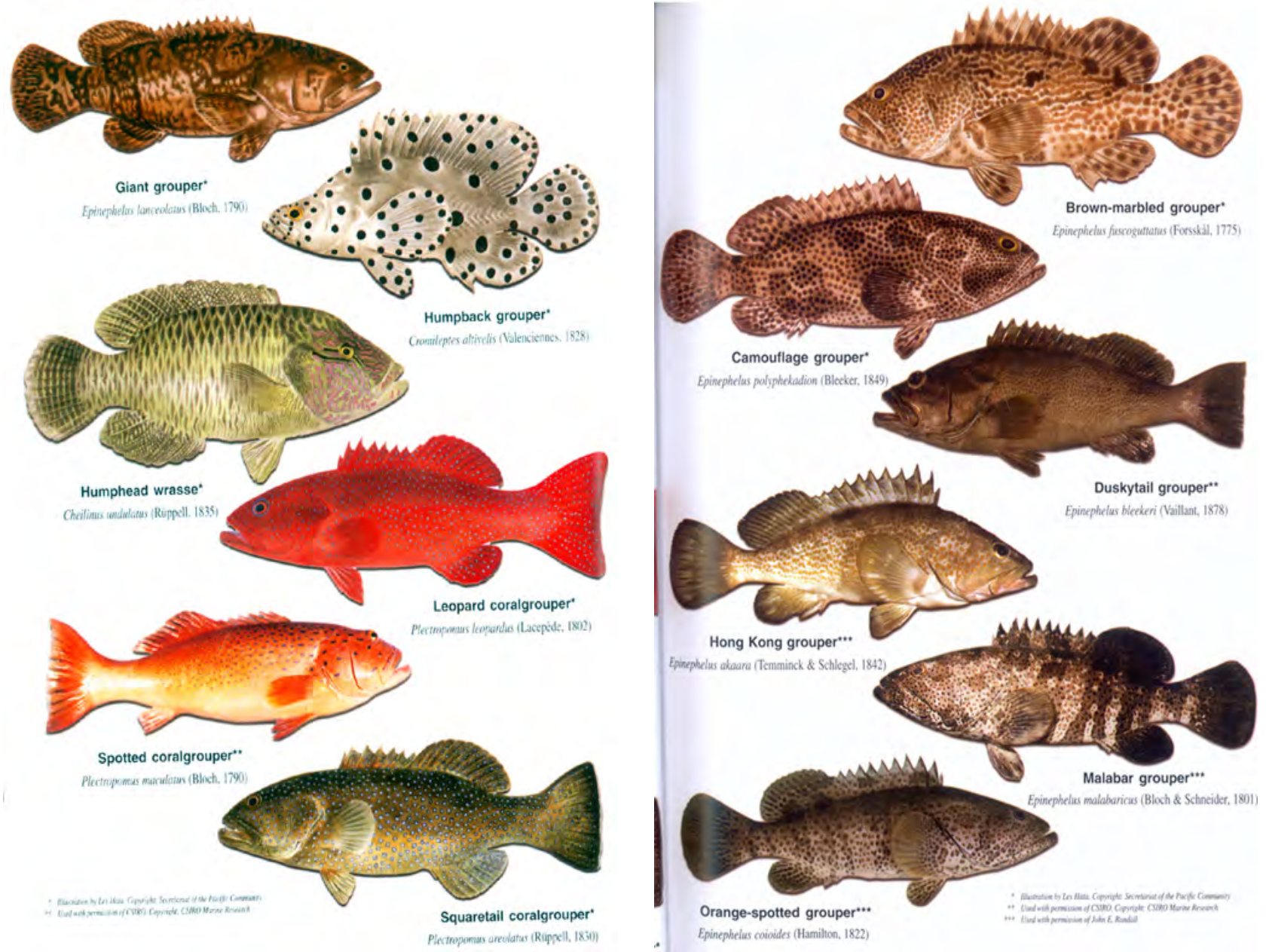


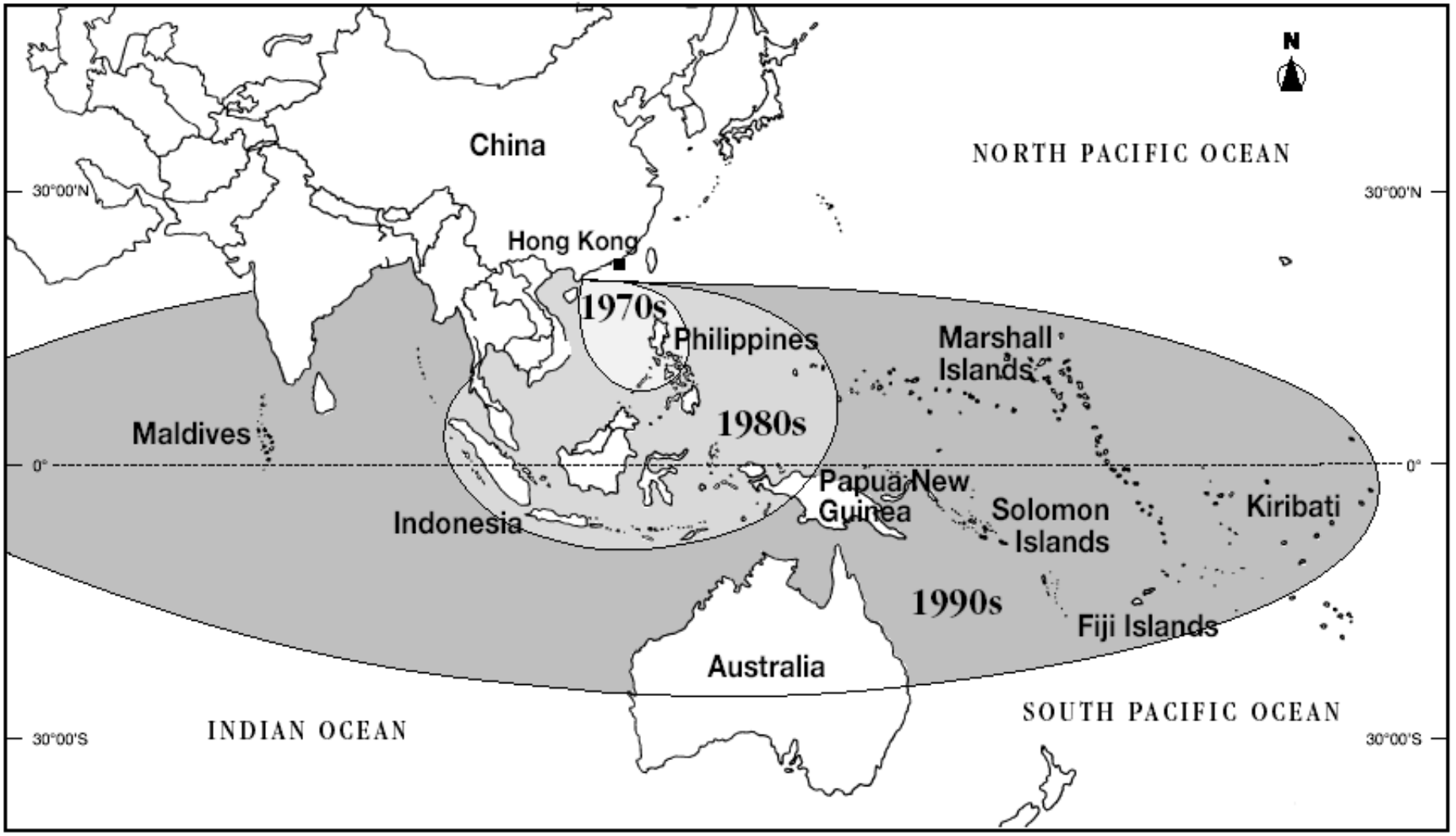




Sadovy et al., in prep

Live Reef Food-Fish Trade

Many of the major species in live reef food fish trade aggregate to spawn





Spread of live reef food fish trade source countries
For fish 1970s to 1990/2000s

A major impediment to management is the lack of awareness of exploited aggregations and their status and the impacts of exploitation on aggregations and on the fisheries they support

Illusions of plenty from the many fish caught in aggregations make it difficult to convince people to manage proactively

Vulnerable seabird colonies and turtle nesting beaches often receive protection.....

... and many regulations protect berried (with eggs) lobsters ...

Non-extractive benefits

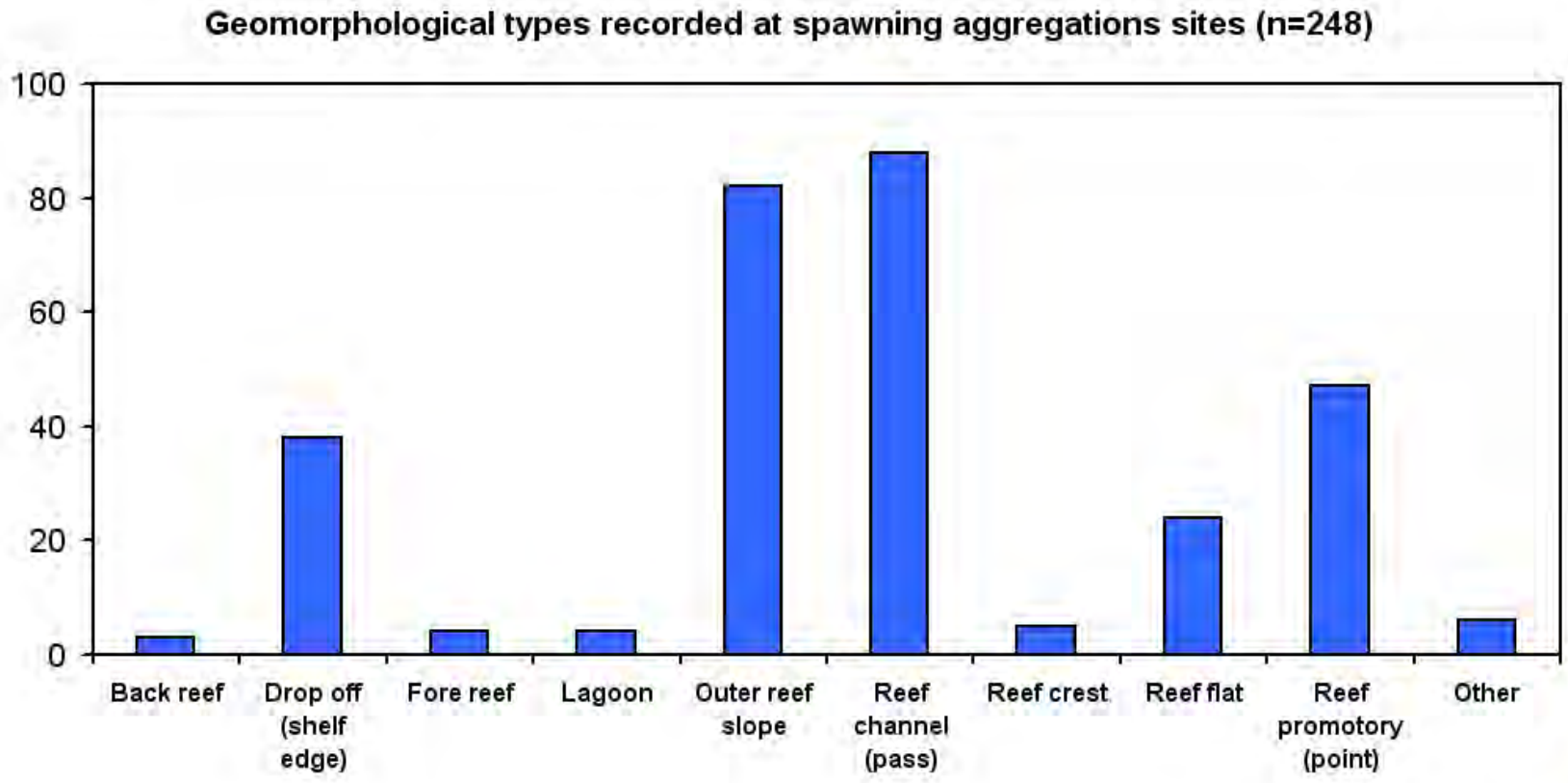
Ripe adults are the capital and spawning aggregations produce interest (eggs)

Non-extractive benefits

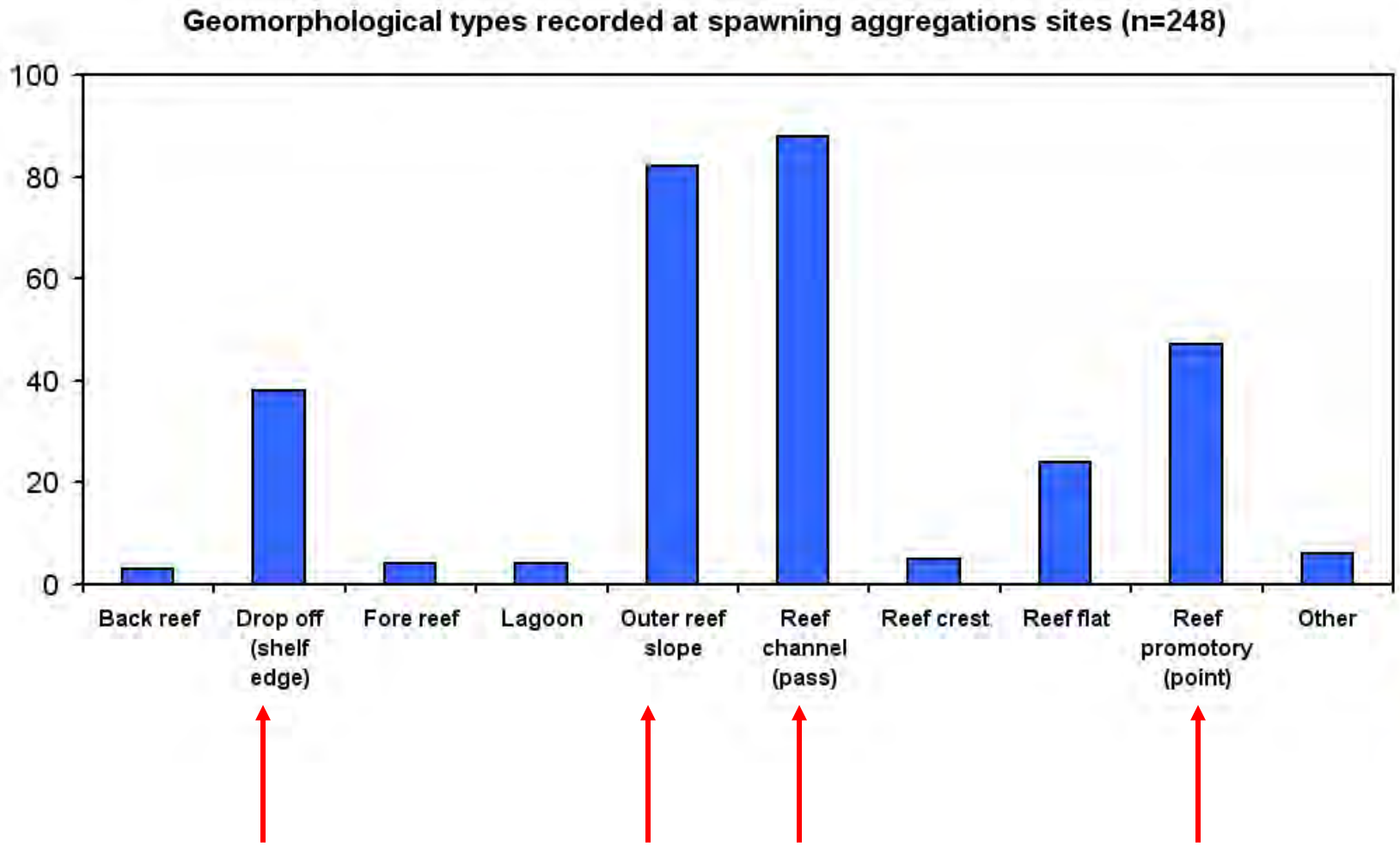
Ripe adults are the capital and spawning aggregations produce interest (eggs $$$)

Spawning aggregations

- Global and local trends
- Threatened fisheries and species
- Challenges to management
- Possible solutions


Geomorphological types recorded at spawning aggregations sites (n=248)
100
80
60
40
20
0
Back reef
Drop off (shelf edge)
Fore reef
Lagoon
Outer reef slope
Reef channel (pass)
Reef crest
Reef flat
Reef promotory (point)
Other

SCRFA


Geomorphological types recorded at spawning aggregations sites (n=248)
100
80
60
40
20
0
Back reef
Drop off (shelf edge)
Fore reef
Lagoon
Outer reef slope
Reef channel (pass)
Reef crest
Reef flat
Reef promotory (point)
Other

SCRFA

Spatial protection

Outer reef areas often not included in MPAs or otherwise managed

Preserving spawning aggregations and the fisheries they support

- Recognize general need for management
- Map exploited aggregations/seasonality
- Consider spatial/seasonal protection etc.
- Use spawning aggregations as indicators?
- Use all instruments (accords, guidelines, resolutions...): IUCN; ICRI; Micronesian Challenge; FAO; EBM; PECC...

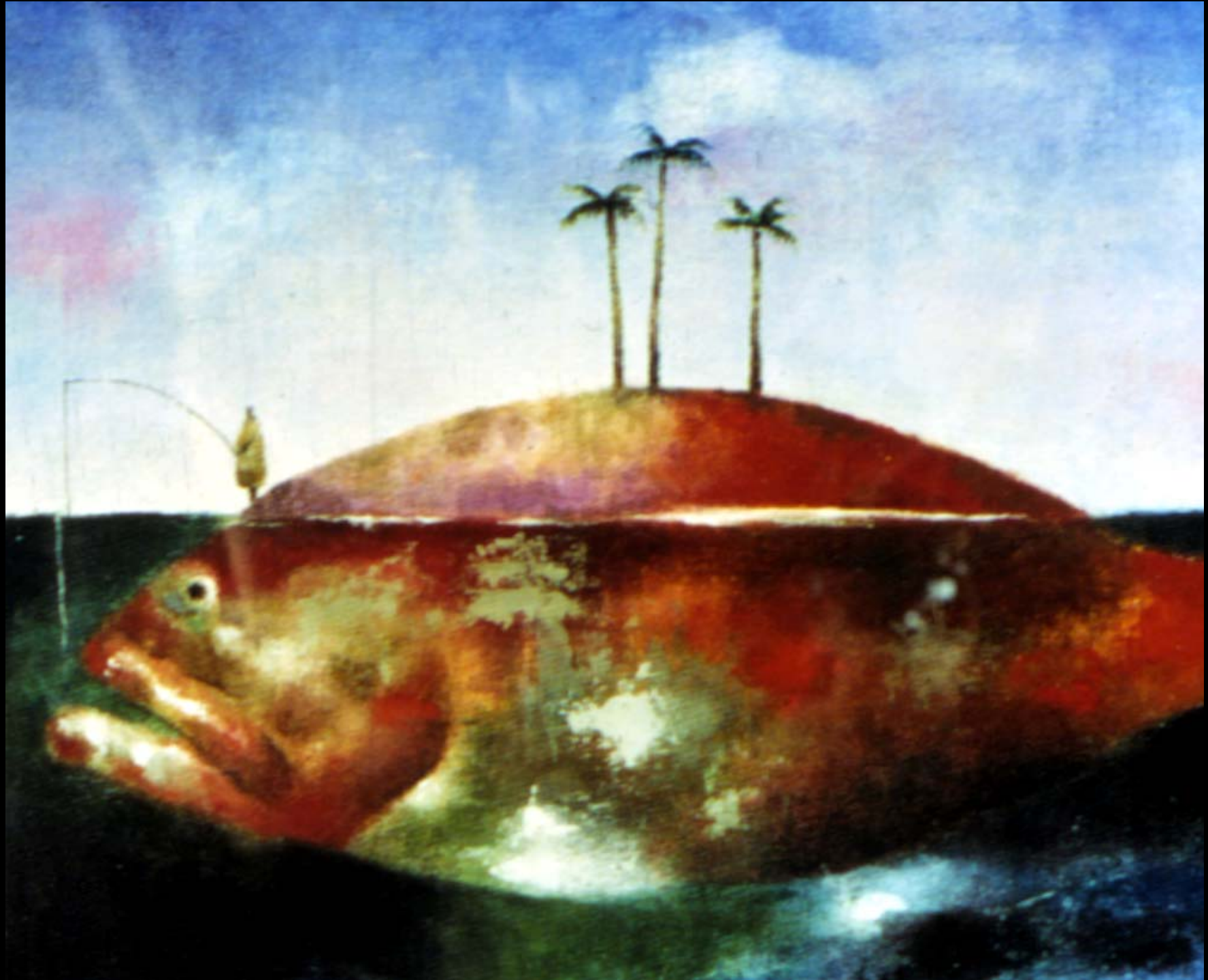
Aggregations as indicators?

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.



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”