



PROMOTING SUSTAINABLE LIFE FISH TRADE IN INDONESIA

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Indonesian Demersal Association (est. 2019)



PT Kelola Mina Laut



PT Kemilau Bintang Timur



PT Inti Lautan Fajar Abadi



PT Alam Jaya Seafood



PT Intimas Surya



PT Cilacap Samudera Fishing Industry PT Bahari Biru Nusantara



PT Varia Niaga Nusantara



PT. PERMATA MARINDO JAYA
Quality Seafood Supply



PT Sukses Hasil Alam Nusalindo



PT Trans Anugrah Mulia



PT Prima Bahari Inti Lestari



PT Inti Luhur Fuja Abadi



PT Sinar Graha



LRFF trade: Facts and figures

- Live reef food fish (LRFF) is the term used for fish that are kept alive until cooking in order to preserve their freshness.



HK imports 13,000 tons in 2002 (official data)

Worth US\$ 350 M

Koeshendrajana 2006, Sadovy 2003

Total Hk Imports might reach 18,000 tons/year (+unreported)

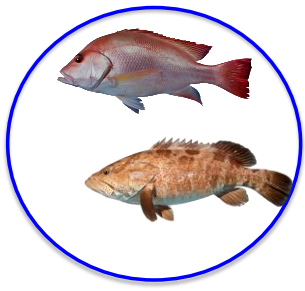
US\$ 450-500 M

Muldoon and Scott 2005, Sadovy 2003

Global trade reaches 30,000 tons (HK accounted for 60%)

US\$810M – US\$1 B

Source: California Environmental Associate, 2011



FACTS OF THE INDONESIA POTENCY FOR LIFE FISH TRADE (SNAPPER – GROUPER SPECIES)

- ❑ World's highest species number
- ❑ Jobs and food security (Sadovy *et al.* 2013).
- ❑ Contribution to the global market: 45% snapper (Cawthorn & Mariani 2017), and 30% grouper (FAO 2021).
- ❑ Important national GDP contributor (capture fisheries)

LRFF fishing and trade

LRFF fishing and trade is the process of catching the fish from the sea and trading them through different middle men until they reach the end consumer

...constitute a new and unique type of tropical marine commodity because it hinges on the fish's biophysical forms and their corresponding need to be constantly immersed in clean, cool, oxygen-rich seawater to survive. ..



Source: www.fishbase.org

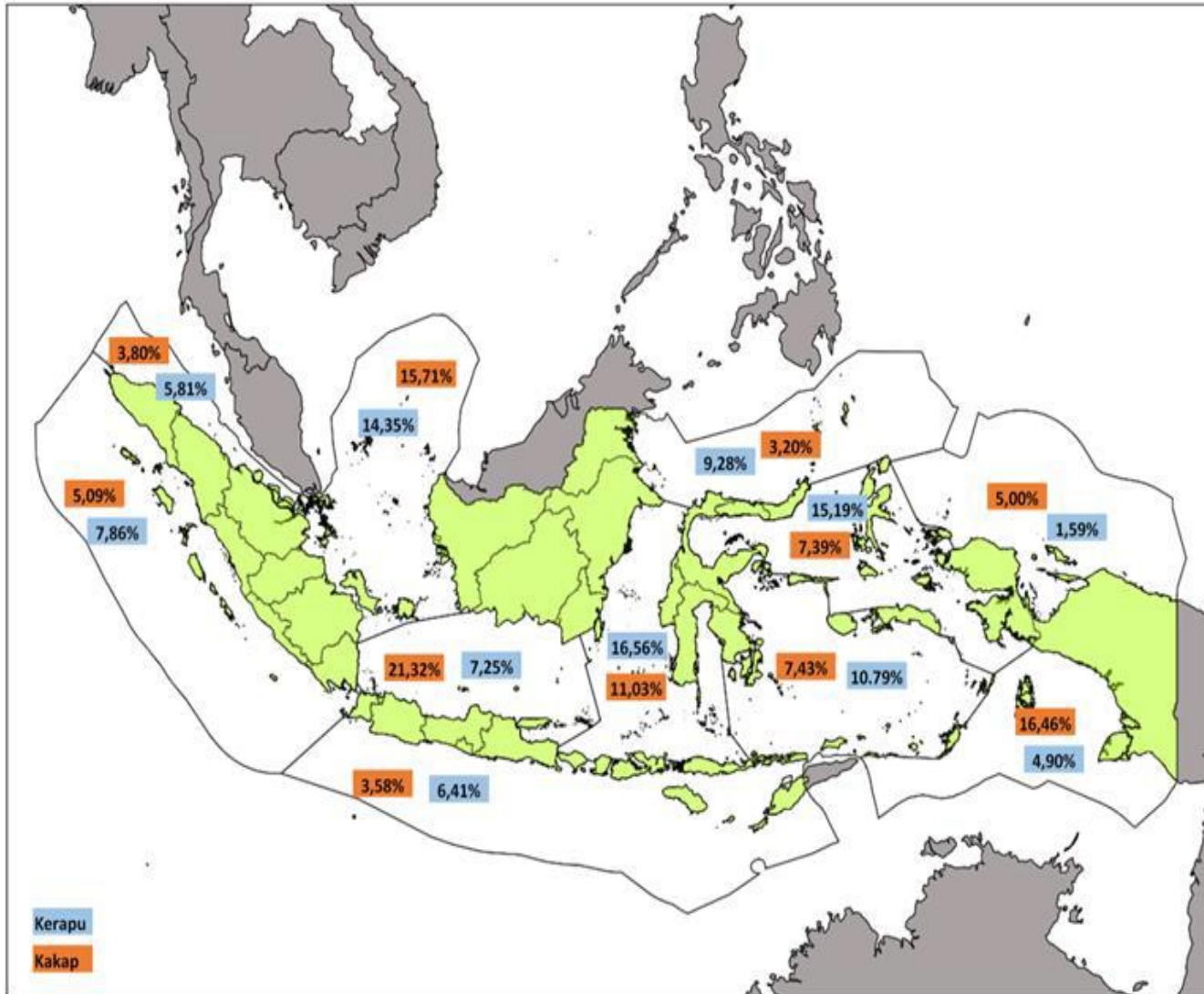
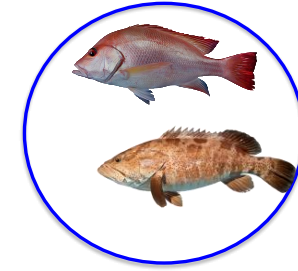
Highfinned grouper / *Cromileptes altivelis*
IUCN Redlist: Vulnerable

<i>Local name</i>	<i>Indonesian</i>	<i>English</i>	<i>Latin</i>
Napoleon	Napoleon	Napoleon wrasse, humphead wrasse	<i>Cheilinus undulatus</i>
Sunu tikus	Kerapu tikus	Polkadot grouper, highfinned grouper, barramundi cod	<i>Cromileptes altivelis</i>
Sunu merah	Kerapu merah / sunu merah	Coral trout, leopard grouper	<i>Plectropomus leopardus</i>
Sunu merah	Sunu pappa	Polkadot cod	<i>Plectropomus areolatus</i>
Sunu merah	Kerapu merah / sunu merah	Violet coral trout	<i>Plectropomus pessuliferus</i>
Sunu kwaci	Sunu kwaci	Red-flushed cod	<i>Aethaloperca logaa</i>
Sunu macan / kerapu lumpur	Sunu macan	Tiger grouper	<i>Epinephelus fuscoguttatus</i>
Sunu bone	Sunu bone	Spotted coral trout	<i>Plectropomus maculatus</i>



Napoleon Wrasse / *Cheilinus undulatus*
IUCN Redlist : Endangered

Snapper - Grouper by FMA (Fishery Management Area)



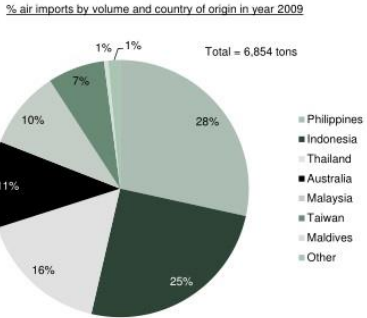
- ❖ Primary areas for snapper (FMA 712 and 718); grouper (FMA 713 and 715)
- ❖ Fishing gears: bottom longline, handline, longline, traps, gillnet

Hongkong as the Main Global Market

Size of the trade: Previous reviews suggested that the global LRFF market was worth approximately \$800M to \$1B at the point of sale; with 30,000 tons of LRFF traded globally per year from 1999-2002

Value/Volume	Reference	Assumptions and Methodology
Official Hong Kong imports of 13,000 tons in 2002; worth an estimated \$350M at final point of sale	Sonny Koeshendrajana (2006), citing Sadovy (2003)	<p>Volume estimate from 2002; provided by CSD and AFCD data – CSD represents mainly imports by air, and AFCD does not identify source country for import data</p> <p>Price used to determine market value was approximately \$27 per kg (roughly the average retail price of select species in March 2003)</p> <p>Only includes officially reported import data</p>
Total HK imports may have been 18,000 tons annually, if we estimate unreported imports, worth \$450-500M under the same assumptions	Geoffrey Muldoon, Peter Scott, APEC (2005), citing Sadovy (2003)	Uses the above assumptions and methodology but includes an estimate of unreported imports ; Assumes that Hong Kong-flagged fishing vessels only declare half of their imports of LRFF
Global trade estimated at 30,000 tons, worth \$810M-\$1B annually, assuming Hong Kong is 60% of the market	<p>Pomeroy, et. al. (2005) citing McGilvray and Chan (2001)</p> <p>Padilla et. al. (2003) citing \$1 billion from Pratt et. al. (2000)</p> <p>Sadovy (2003) extrapolating \$810 million</p>	<p>Uses the above assumptions to estimate world market value of live reef food fish.</p> <p>Assumes that Hong Kong, China is 60% of the market, including re-exports</p>

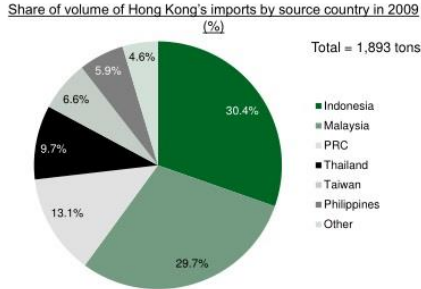
According to Hong Kong's CSD, imports of live reef food fish by air were highest from Philippines, Indonesia and Thailand



Source: Hong Kong Census & Statistics Department
 Other category includes: Vietnam, Kiribati, India, Cambodia, Canada, Brunei, Turkey, Togo, New Zealand, Papua New Guinea, Sri Lanka, Myanmar, France, Singapore

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In 2009, reported landings by fishing vessels indicated that Indonesia and Malaysia were the largest suppliers to Hong Kong by sea



Data from Agriculture, Fisheries and Conservation Department for the year 2009

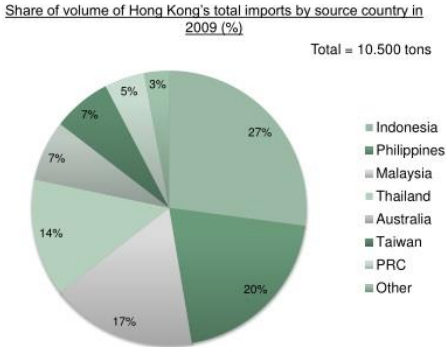
This data represents estimates from information provided voluntarily by nine traders shipping live marine fish into Hong Kong

These traders' imports only represent about 15% of Hong Kong's total live marine fish imports

*Tiger grouper, leopard coraltrout, green grouper, flowery grouper, brown-spotted grouper, roving spotted grouper, barred cheek coral trout, speckled blue grouper, spotted coraltrout, giant grouper, mangrove snapper, high finned grouper, other wrasses and parrotfishes

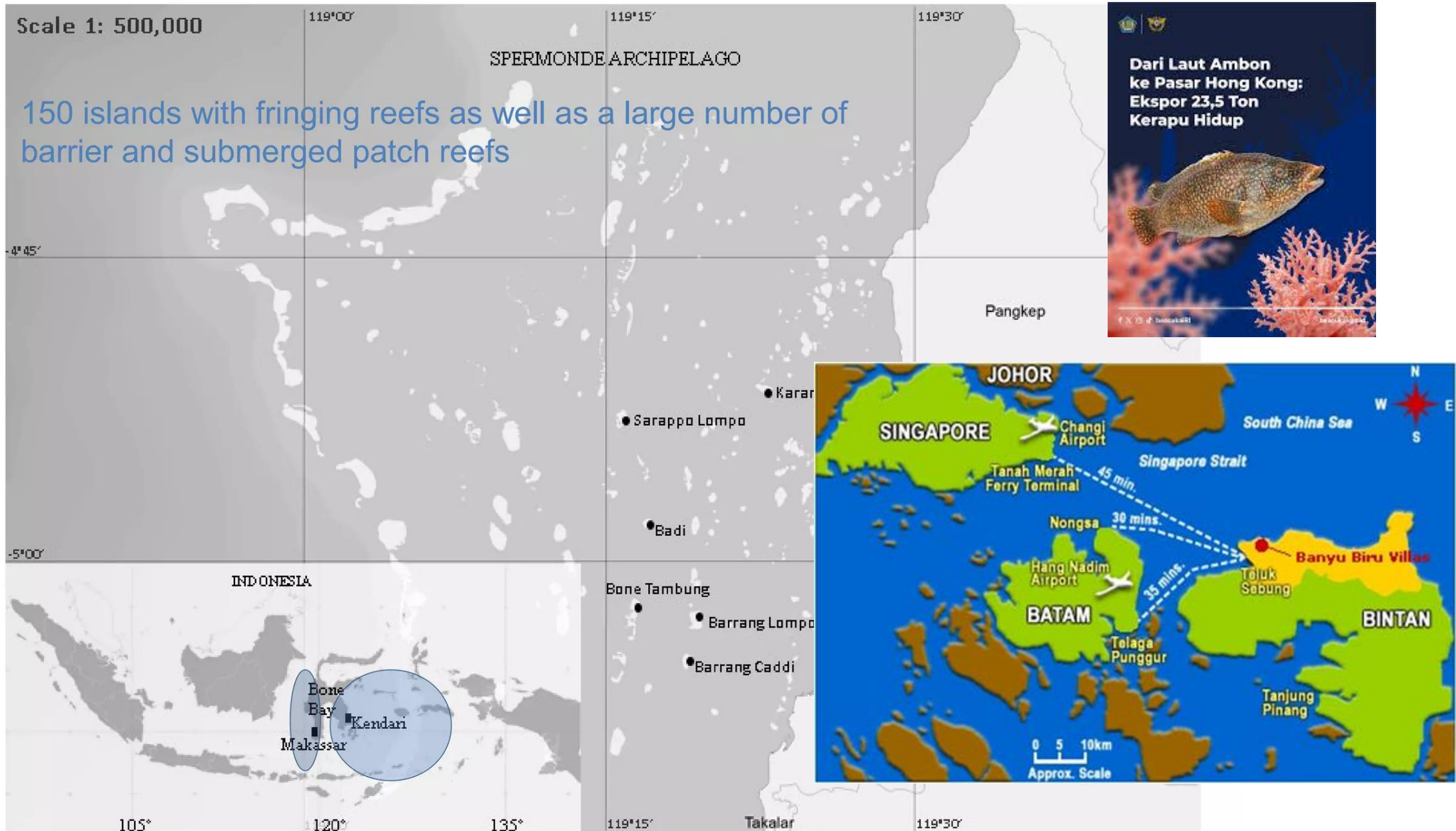
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If we double landings by fishing vessels and include air shipments landings, two-thirds of the overall Hong Kong imports come from Indonesia, the Philippines, and Malaysia.



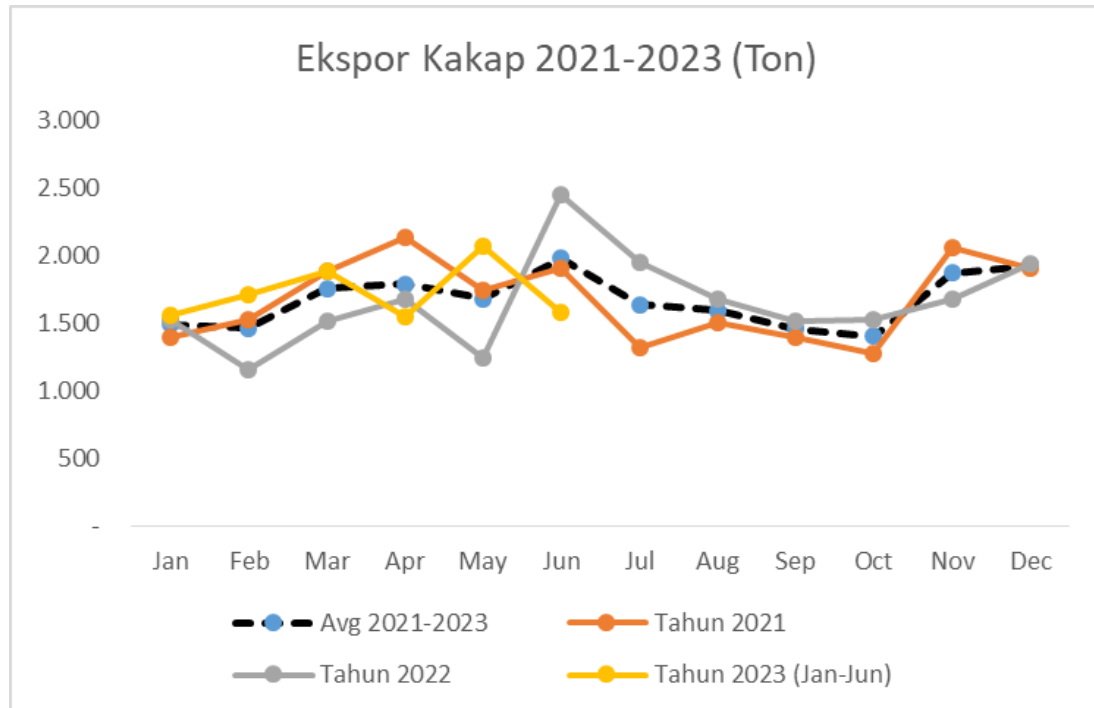
Data from Agriculture, Fisheries and Conservation Department and CSD for the year 2009

LRFF fishing and trade in Spermonde Archipelago, South Sulawesi, Indonesia

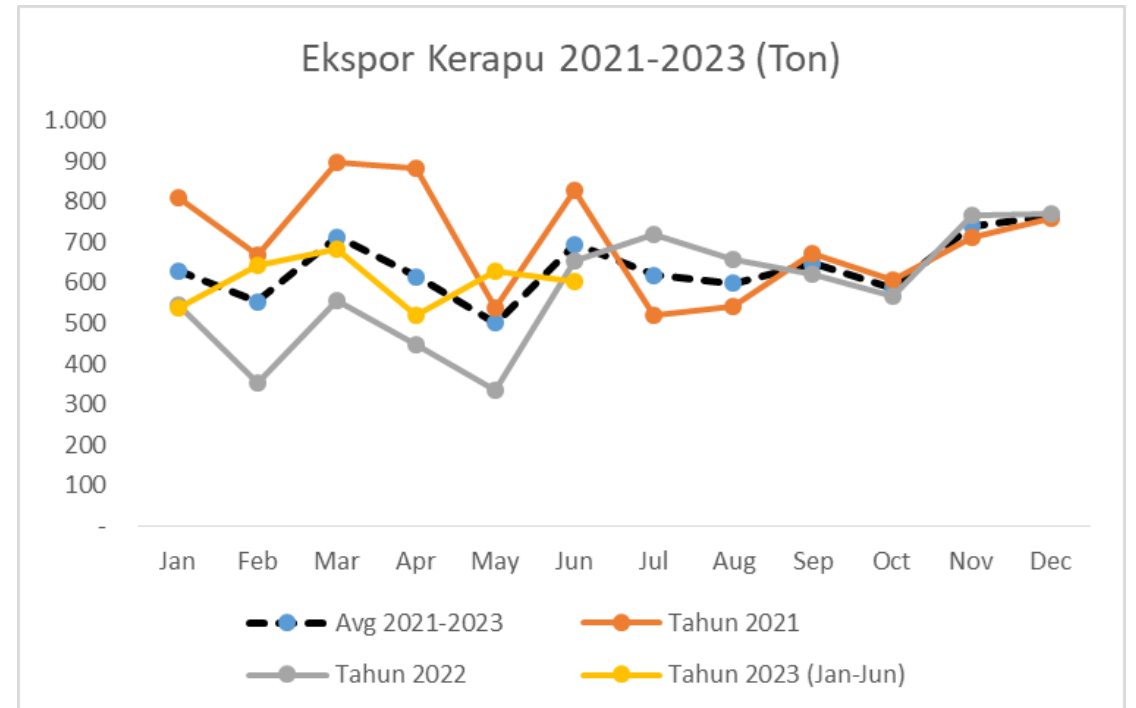


Snapper-Grouper Export from Indonesia

Snapper

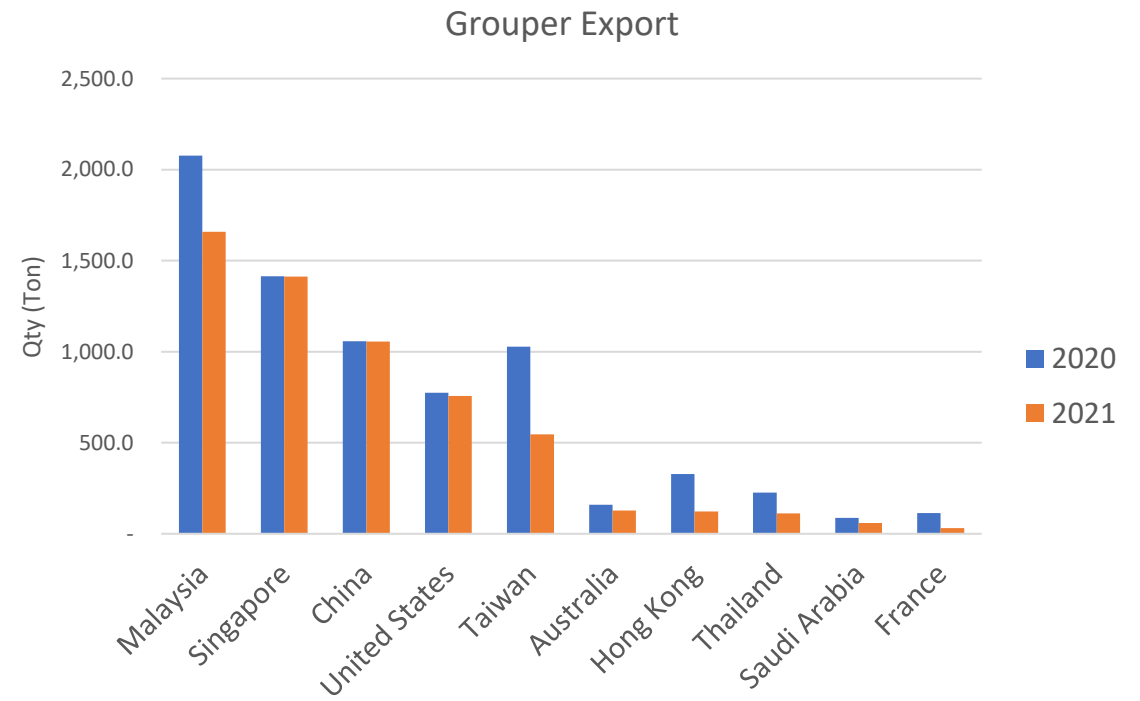
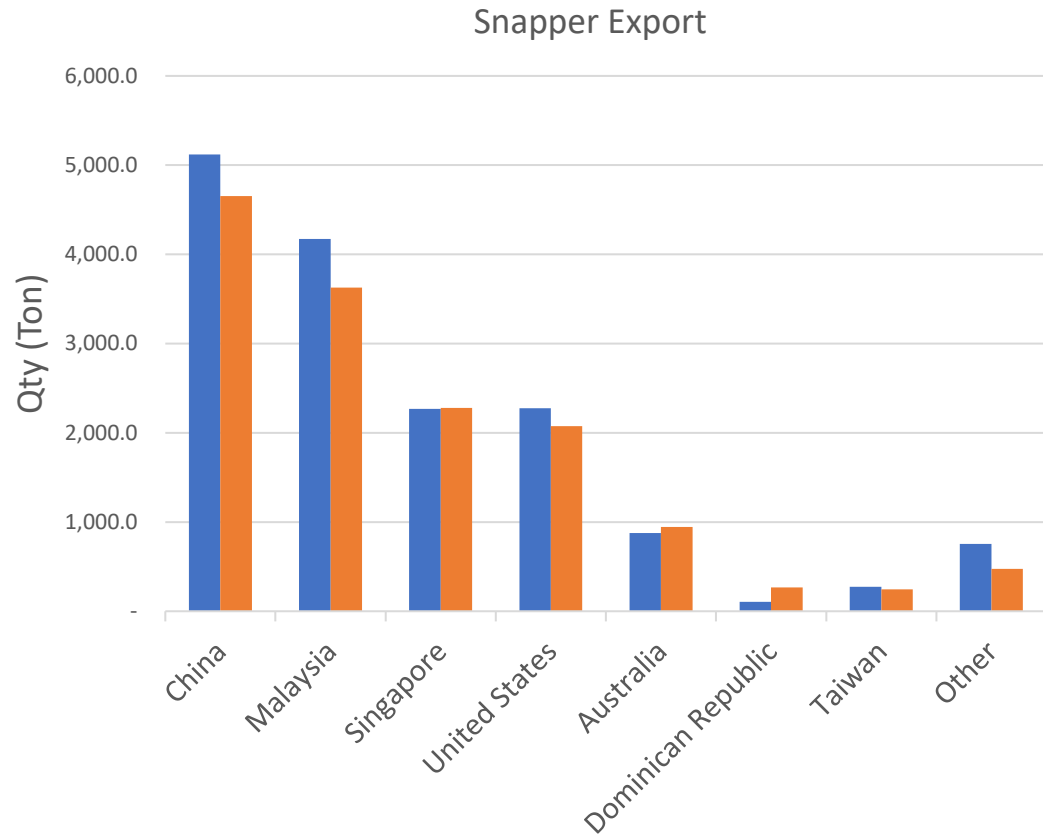


Grouper



Source: BKIPM (June 2023)

Snapper-Grouper Export Destination Countries (2020-2021)



Source: BKIPM (2022)

What is the problems

- Over fishing (non resilience; massive depletion e.g. Napoleon)
- Cyanide fishing (impacts on coral reefs)
- Protogyny hermaphrodite (sex reversal)
- Targeting sexually mature female (super size)
- Targeting plate size (golden size)

Harvest Control Rules based on SPR SNAPPER AND GROUPER IN FMA 713 (HARVEST STRATEGY)

SPR Kakap



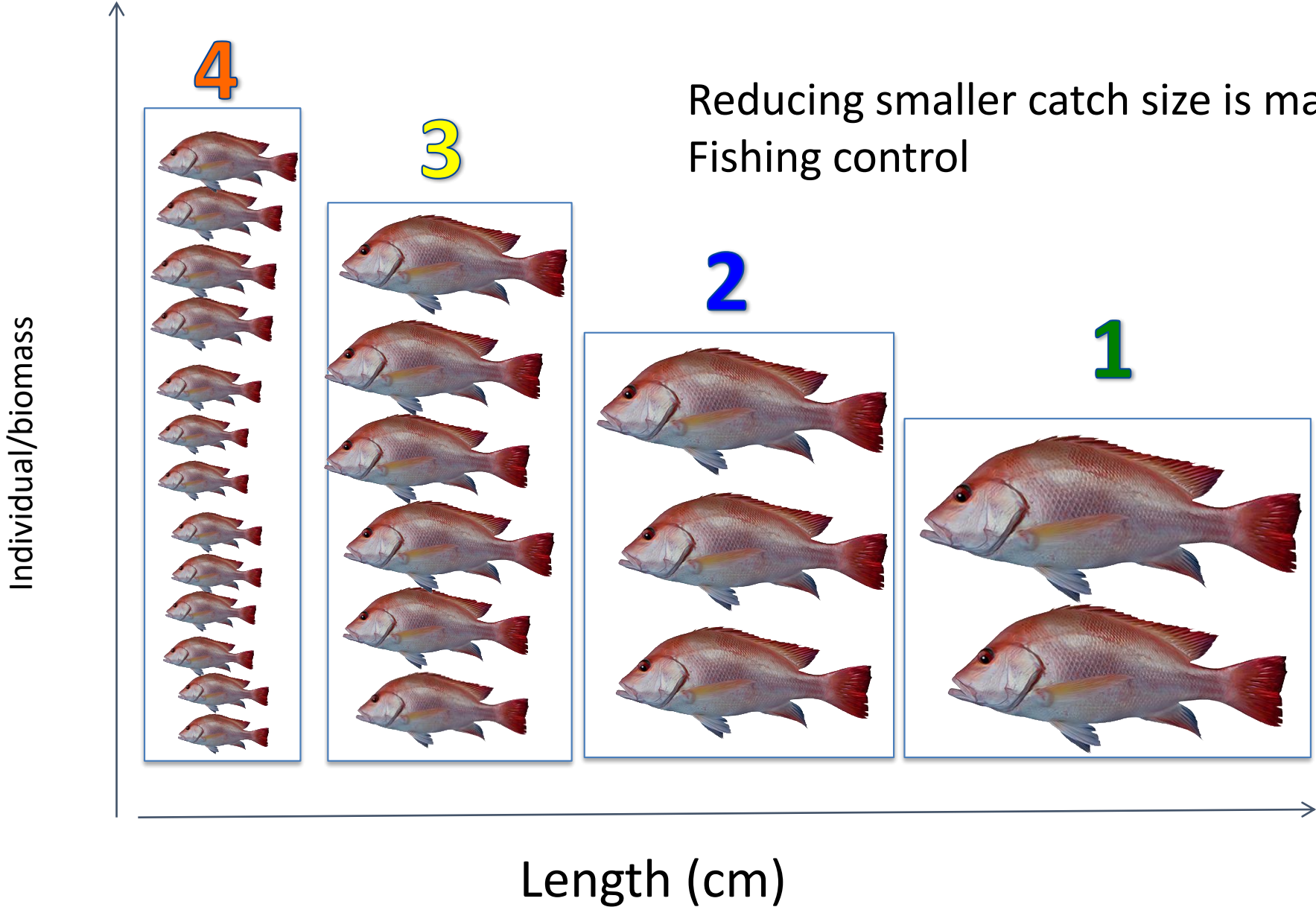
No	Species	SPR VALUE (%)		
		2016	2017	2018
Snapper		2016	2017	2018
1.	<i>Lutjanus malabaricus</i>	39 (33-45)	36 (31-41)	20 (18-22)
2.	<i>Pristipomoides multidens</i>	44 (42-46)	46 (43-50)	30 (28-31)
3.	<i>Aphareus rutilans</i>	NA	19 (5-33)	31 (28-34)

SPR Kerapu



No	Species	SPR value (%)		
		2016	2017	2018
Grouper		2016	2017	2018
1.	<i>Epinephelus coioides</i> (orange-spotted grouper)	NA	47 (32-61)	58 (51-65)
2.	<i>Epinephelus areolatus</i> (tiger grouper)	19 (18-20)	18 (17-18)	11 (10-11)
3.	<i>Variola albimarginata</i> (Kerapu ekor bulan)	20 (17-22)	35 (30-40)	29 (24-33)
4.	<i>Plectropomus leopardus</i> (Kerapu sunu/lodi)	10 (8-11)	14 (12-16)	9 (8-10)

Does size matter?





Catching the fish

**Sodium cyanide/
potassium cyanide**



Sodium Nifrustyrenate



terramicyn

Keeping the fish 'healthy and fresh'



Anesthetizing the fish



Ready to transport



✓ Aspects to Life Reef Fish Trade Sustainability

- Stock rebuilding (Restocking, Catch Limiting Size, Fishing Gears, Open-closed System, Right-Based Fishery, Harvest Control Rules, etc.)
- Catch data monitoring (logbook on landing, observer, and processing unit recording)
- Vessel registration (small & large scale)
- ETP species
- Policies and regulation (compliance, law enforcement)

Terimakasih

