

Box 2. Regional Plan of Action on Sustainable Utilization of Neritic Tunas in the ASEAN Region (Cont'd)

- Encouraging the involvement of ASEAN Member States in regional or sub-regional research on the impact, adaptation, and mitigation measures of climate change on fisheries particularly on neritic tunas (ongoing)
- Conduct of risk assessment on the effective management of neritic tunas based on the stock assessment of individual species (ongoing)
- Conduct of R&D on suitable fishing methods and practices for sustainable utilization of neritic tuna resources and promotion to ASEAN Member States
- Promotion of cooperation among ASEAN Member States and with other RPOA-IUU participating countries in combating IUU fishing under the RPOA-IUU Framework (ongoing)
- Development and promotion of the **ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chains in the ASEAN Region**
- Provision of technical support to promote proper handling and preservation of neritic tunas onboard and at ports (ongoing)
- Development and implementation of traceability system to monitor movement of neritic tuna fish and fishery products in the supply chain for export (*i.e.* origin of catch, transport, processing, storage, and distribution)
- Development of arrangements and partnerships between fisheries authorities or related agencies and fisheries industries regarding the implementation of labor standards in fisheries in accordance with national laws, the International Labour Organization (ILO) Work in Fishing Convention of 2007 (C188/Work in Fishing Convention, 2007) No. 188 and other related ILO Conventions (on-going)
- Review of the existing action plans in sub-regions such as Sulu-Sulawesi Seas, Gulf of Thailand, South China Sea, and Andaman Sea (ongoing)
- Establishment of cooperation on R&D to support sub-regional management of neritic tuna fisheries (ongoing)
- Establishment of the SEAFDEC scientific working group on neritic tunas for regional stock assessment and provision of scientific advice for policy considerations on neritic tuna management;
- Conduct of regular meetings of SEAFDEC scientific working group at sub-regional and regional levels (ongoing)
- Promotion of the development of **ASEAN Catch Documentation Systems and Schemes**
- Enhancement of the promotion of neritic tuna fish and fishery products from small-scale operators

Box 3. Way Forward to Promote the RPOA-Neritic Tunas

- Implementation of ASEAN Catch Documentation System and Scheme by ASEAN Member States for neritic tuna fish and fishery products at national level
- Development of joint trade promotions within and outside the region through the ASEAN Tuna Working Group
- Exchange of information among ASEAN Member States on legal framework, policies and management, and trade rules and regulations at sub-regional and regional levels on neritic tuna fisheries
- Recognition of security and safety issues for all types of fishing activities by implementing skills training programs
- Conduct of assessment of post-harvest losses of neritic tunas and describe the various ways of reducing post-harvest losses
- Strengthening surveillance activities and enforcement
- Prohibition of importation, landing, or transshipment at port of neritic tunas from vessels presumed to have carried out IUU fishing activities in the ASEAN region without prior clarification from vessel owners or concerned flag States
- Development of measures to refrain from conducting business transactions with owners and vessels presumed to have carried out IUU fishing activities
- Creation of platforms and fora to facilitate cooperation among scientists and managers
- Support the development of information, education, and communication (IEC) programs on sustainable use of resources
- Development of management measures to control fishing effort and capacity at national and sub-regional levels

1.1.2 Round Scads

Round scads (Family Carangidae) are the most common pelagic fishes in the Southeast Asian region, and the three species most common in the region are the Indian scad (*Decapterus russelli*), Japanese scad (*D. maruadsi*), and shortfin scad (*D. macrosoma*). Most of these species are caught in their immature stage since mature fishes are rare in many areas as these are believed to migrate to deeper waters for spawning. The main fishing gear used to catch round scads is purse seine, where purse seine with luring light is common in Thailand, while purse seining around payao, a type of FAD, is commonly practiced in the Philippines. Round scads are also caught by trawl net and it has also been recorded that lift-net is used to catch round scads in the east coast of West Malaysia.

Stocks of round scads are known to be migrating in several fishing areas and thus, are shared with possible considerable uncertainty of their limits, specifically from the Gulf of Thailand to Sunda Shelf, Malacca Strait,

Eastern South China Sea, and the Gulf of Tonkin (**Figure 45**). However, it is also possible that one or more stocks are not shared especially those found in the waters of Indonesia. Based on the results of collaborative studies in the South China Sea conducted by SEAFDEC/MFRDMD from 2002 to 2006, *D. macrosoma* is widely distributed in the coastal areas of the South China Sea (**Figure 46**) from the Gulf of Tonkin, Gulf of Thailand and west coast of Borneo, and in Palawan and west coast of Luzon in the Philippines (SEAFDEC, 2012b).

Results of studies conducted by SEAFDEC indicated that the exploitation rate of *D. macrosoma* in the South China Sea varies from 0.42 to 0.90 depending on the specific fishing grounds (**Figure 46**). Specifically, the exploitation rate *D. maruadsi*, varied from 0.26 to 0.90 while the exploitation rate of both *D. macrosoma* and *D. maruadsi* is high, especially in the Gulf of Tonkin and in the southern part of the east coast of Viet Nam where the exploitation rate could be higher than 0.8 (SEAFDEC, 2012b).



Figure 45. Maps showing Gulf of Thailand, Sunda Shelf, Malacca Strait, Gulf of Tonkin (left), and Gulf of Tonkin, Gulf of Thailand, West Coast of Borneo, Palawan, West Coast of Luzon in the Philippines (right)

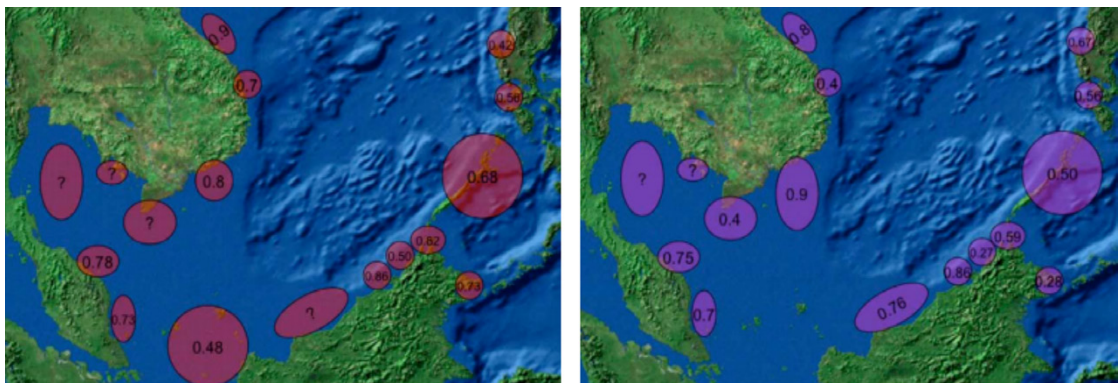


Figure 46. Exploitation rates of *Decapterus macrosoma* (left) and *D. maruadsi* (right) in the South China Sea in 2002-2005 based on studies conducted by SEAFDEC (Source: SEAFDEC (2012b))

Trends of the total catch of round scads (in metric tons) were compared between the South China Sea and Andaman Sea during 2000-2013. Results showed that the total catch from the former was greater than that of the latter (Figure 47), in spite of the decrease in total catch from the South China Sea starting 2003 that fluctuated between 2003 and 2010, but the total catch increased again from 2011. On the other hand, the trends of total catch from the Andaman Sea appeared to be stable and consistent.

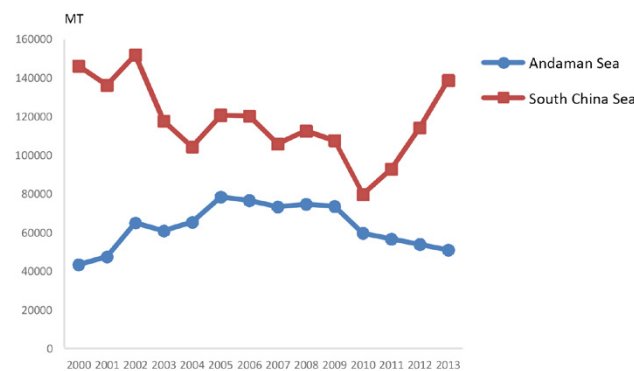


Figure 47. Trends of total catch of round scads from the South China Sea and Andaman Sea (2000-2013)

Source: SEAFDEC (2002-2013); SEAFDEC/MFRDMD (2000); SEAFDEC/MFRDMD (2015a); and Department of Fisheries Malaysia (2000-2014)

The total catch of round scads based on the national statistics provided by four Southeast Asian countries, namely: Indonesia, Malaysia, Philippines, and Thailand, from 2000 to 2013 is shown in Figure 48. As the region's major producers of round scads, Indonesia and Philippines indicated total catch ranging from 300,000 metric tons in 2003 to about 420,000 metric tons in 2013, respectively. In the case of Thailand and Malaysia, the total catch ranged from 10,000 metric tons to 70,000 metric tons in 2000-2013. While the catch of Thailand fluctuated with a minimum recorded in 2004 at 30,000 metric tons and maximum in 2012-2013 at 70,000 metric tons, that of

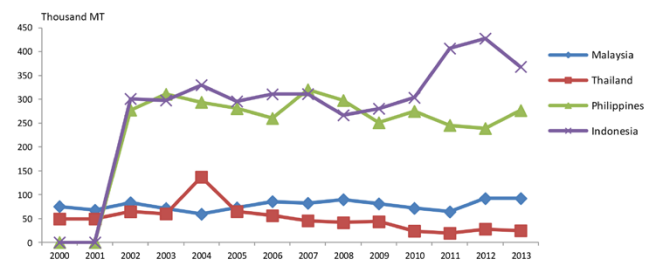


Figure 48. Total catch of round scads of some Southeast Asian countries in 2000-2013 by quantity

Source: SEAFDEC (2002-2013); SEAFDEC/MFRDMD (2000); and Department of Fisheries Malaysia (2000-2014)

Malaysia had been consistent at about 10,000-20,000 metric tons during the same period.

In terms of value, round scads caught from the South China Sea seemed to command higher prices than those caught from the Andaman Sea (Table 53). The highest value of total scads production was recorded in the Philippines in 2013 at US\$ 396,602 while the lowest value was recorded in the West Coast of Peninsular Malaysia in 2000 at US\$ 5,117.

1.1.3 Mackerels

Mackerels (Family Scombridae) are also among the most economically important small pelagic fishes in the Southeast Asian region contributing about 38% to the small pelagic fisheries production or 11% to the total capture fisheries production in 2010 as shown in Table 54.

Mackerels are more predominantly caught in the Andaman Sea than in the South China Sea. As shown in Figure 49, higher catch was recorded in the Andaman Sea compared to that of the South China Sea. Although the catch from the Andaman Sea and South China Sea increased in 2010,

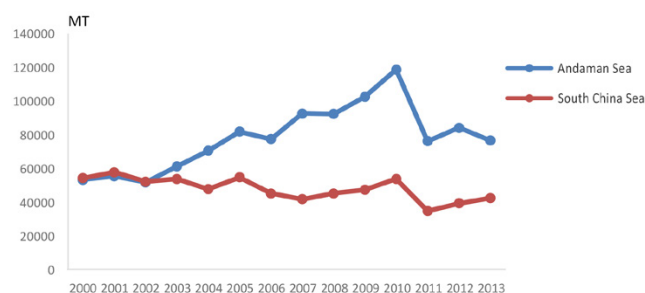


Figure 49. Production of mackerels from the South China Sea and Andaman Sea in 2000-2013

Source: SEAFDEC (2002-2013); SEAFDEC/MFRDMD (2000); SEAFDEC/MFRDMD (2015a); and Department of Fisheries Malaysia (2000-2014)

Table 53. Value of total production of round scads from different fishing grounds of the Southeast Asian countries from 2000 to 2014 (US\$ thousands)

Year	Indonesia ¹		Malaysia ²		Philippines ¹ (SCS)	Thailand ¹	
	Natuna Sea (SCS)	Malacca Strait (AS)	West Coast (AS)	East Coast+SS+LB (SCS)		Gulf of Thailand (SCS)	Indian Ocean (AS)
2000	...	...	5,117	79,086	...	67,857 ³	24,559 ³
2001	...	...	5,881	71,583	...	...	...
2002	109,925	27,481	15,474	74,827	...	31,152	14,211
2003	108,094	27,023	22,287	56,811	...	36,206	15,889
2004	115,094	28,773	23,477	43,814	...	42,537	19,764
2005	132,878	33,219	26,331	54,619	...	42,506	19,749
2006	145,106	36,277	33,311	60,666	...	45,163	20,984
2007	153,949	38,487	34,467	55,492	...	26,859	13,780
2008	165,073	37,483	38,975	61,804	315,179	22,224	...
2009	29,321	5,239	33,444	77,125	262,969	22,532	...
2010	238,363	37,482	38,442	63,112	306,314	...	25,517
2011	323,502	...	30,211	77,307	317,185	24,801	...
2012	213,536	13,018	22,801	79,988	343,895	29,761	...
2013	314,315	28,967	23,442	84,334	396,602	...	29,027
2014	...	...	29,796	72,848	...	...	...

SCS: South China Sea; AS: Andaman Sea; SS: Sabah-Sarawak; LB: Labuan; ... = not available
Source: ¹SEAFDEC (2002-2013); ²Department of Fisheries Malaysia (2000-2014); and ³SEAFDEC/MFRDMD (2000)

Table 54. Percentage of mackerels in small pelagic fisheries production and total capture fisheries production of the Southeast Asian countries in 2010

	Brunei Darussalam	Cambodia	Indonesia	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam	Average
% of mackerels catch in total capture fisheries production	17	...	13	19	...	19	2	4	...	11
% of mackerels catch in total small pelagic production	75	...	53	71	...	74	41	17	...	38

... = data not available

Source: Tagging program for economically important small pelagic species in the South China Sea and the Andaman Sea, Regional Project Terminal Report (Mazalina and Katoh, 2014)