MAJOR STRAITS AND PORTS

Major straits and booming ports are important features of the Southeast Asian maritime environment. The archipelagic nature of the region and its relative lack of land-based transport infrastructure mean that shipping is extremely important in the region. The region sits astride key access routes between the Indian and Pacific Oceans that are economically and strategically important to the economies of Northeast Asia, the United States, and the emerging maritime powers of Asia.

The maritime geography of Southeast Asia creates numerous straits, as well as other "choke points" for shipping. These straits occur both along the coast of mainland Asia where the island chain presses close into the coast (e.g. the Straits of Malacca and Singapore), and through the off-lying islands and archipelagoes (e.g. the San Bernadino Strait in the Philippines, the Balabac Strait North of Borneo, and the Sunda and Lombok Straits through the Indonesian archipelago).

Straits of Malacca and Singapore

The Straits of Malacca and Singapore are a narrow 805 km (435nm) stretch of water between Peninsular Malaysia, Singapore and Indonesia. They are the main shipping channel between the Indian Ocean and the Pacific Ocean. About one-quarter of the world's traded goods and a quarter of all oil carried by sea passes through the straits annually.

Oil is transported mainly from Persian Gulf suppliers to Asian markets such as China, Japan, and South Korea. In 2006, an estimated 12 million barrels per day were transported through the straits comprising 14.3 percent of world oil demand. Around 26 tankers, including three fully loaded supertankers heading for Asian ports, pass through the Singapore Strait daily. Because this strait is relatively shallow, only 23 meters deep at most points, the International Maritime Organization (IMO) has required an under-keel clearance of 3.5 metres for ships transiting the straits. This translates to ships of at most 200,000 deadweight tons (DWT) being allowed to navigate through the Straits. At its narrowest point in the Phillip Channel near Singapore, the navigable channel is only 2.8 km (1.5 nm) About 75,510 passages were made annually through the straits by 8,678 ships which carried in total 3 billion tonnes of cargo with the average deadweight tonnage being 39,581. In terms of value, cargo worth a total of US$390 billion is carried annually.

The straits are likely to be even busier in future due to increasing trade flows and energy demands in Asia. The trend of increasing traffic is apparent from traffic data reported via the Malacca Straits Ship Reporting System, or STRAITREP[1]. A study done by the Ministry of Land, Infrastructure

1 The STRAITREP is a Mandatory Ship Reporting System adopted by the IMO to aid in navigational safety in the Straits of Malacca and Singapore whereby ships transiting the Straits will have to report details of their passage to the respective Vessel Traffic Services (VTS) in Malaysia and Singapore. STRAITREP data from 1999 to 2007 indicate that traffic in the Malacca Straits increased by 61% within the eight-year period.

and Transport of Japan projected that the volume of cargo will increase to 4.7 billion tonnes in 2010 and to 6.4 billion tonnes in 2020. Similarly, the number of vessels might increase to 117,000 in 2010 and 141,000 in 2020. However, the current economic recession and downturn in international shipping may lead to a revision of these projections.

The straits are now covered by the Cooperative Mechanism for the Straits of Malacca and Singapore established in September 2007 to encourage user States and other stakeholders to voluntarily cooperate with Indonesia, Malaysia and Singapore to enhance safety, security and environmental protection in the Straits. It comprises three elements: a Cooperation Forum, an Aids to Navigation Fund, and specific Projects. The Forum brings together the littoral States, user States and other interested stakeholders. The Fund is intended to enable user States and other stakeholders to make voluntary contributions to enhance navigational safety and environmental protection by maintaining and replacing aids to navigation such as lighthouses and buoys. While some contributions to the fund have been forthcoming, international ship-owners have so far shown some reluctance to contribute.

Lombok / Makassar Straits

The Lombok Strait is important for vessels moving between Australia and Singapore, and elsewhere in East Asia. Fully-laden tankers of the size of about 230,000 deadweight tons and above traversing from the Indian Ocean also use the deeper Lombok-Makassar Straits route due to the limitations of the 3.5 metre under-keel clearance imposed by the Malacca Straits Traffic Separation Scheme as well as the limits of a 23-metre depth in the Strait. The Lombok Strait in Indonesia is wider, deeper, and less congested than the Straits of Malacca and separates the islands of Lombok and Bali. The minimum passage width in the Lombok Strait is 19 km (10 nm) and the depths are greater than 150 metres. The Lombok Strait is therefore considered the safest route for supertankers.

Most ships transiting the Lombok Strait also pass through the Makassar Strait between the Indonesian islands of Borneo and Sulawesi, which has an available width of 18 km (10 nm) and a length of 966 km (522 nm). To the north, the Makassar Straits joins the Celebes Sea, while to the south, it meets the Java Sea. About 604 passages were made annually by 418 ships which carried in total 36 million tonnes of cargo with the average deadweight tonnage being 60,702. The total value of cargo carried is worth US$40 billion annually.

Lombok and Makassar Straits lie entirely within Indonesian archipelagic waters. They are subject to the regime of archipelagic sea lanes (ASL) passage under UNCLOS Article 53. UNCLOS Article 43, which provided the legal basis for the Cooperative Mechanism in the Malacca and Singapore Straits, does not apply to ASL passage. However, Indonesia may still wish to explore similar arrangements for the Lombok and Makassar Straits with the objective of enhancing safety, security and environmental protection in these important straits.

Sunda Strait

The Sunda Strait is the strait between the Indonesian islands of Java and Sumatra. It connects the Java Sea to the Indian Ocean. The strait stretches in a roughly north-east/south-west orientation and is 81 km (44 nm), with its narrowest width being 24 km (13 nm) at its north-eastern end between Cape Tua on Sumatra and Cape Pujat on Java. It is very deep at its western end but as it narrows it becomes much shallower, with a depth of only 20 metres in parts of its eastern end. This makes it notoriously difficult to navigate, with sandbanks, strong tidal flows and man-made obstructions such as oil rigs off the Java coast.

The strait's narrowness, shallowness and lack of accurate charting make it unsuitable for many modern large ships. For example, deep-draught ships of over 100,000 DWT or of more than 18 metres draught do not transit the strait, and as a result, it is not heavily used. About 1,320 passages were made annually by 2,278 ships which carried in total 111 million tonnes of cargo with the average deadweight tonnage being 48,783. The total value of cargo carried is worth US$5 billion annually.

Philippine Straits

Important seaborne trade also passes through the Philippine archipelago from either the Pacific Ocean or the Makassar Strait to East Asia. Important shipping routes in the area include one across the Sulu and Bohol seas between the Surigao and Balabac straits used by shipping travelling between Southeast Asia and the Pacific; one from the Makassar Strait across the Sulu Sea to the Mindoro Strait used by ships travelling between the Indian Ocean and Australia and southern China; and one passing between Mindoro and Luzon and then through the San Bernardino Strait to the East and North of Samar. Some of these straits are very narrow. The Philippines also has a complex network of inter-island shipping routes with a high incidence of major shipping disasters.

Major Ports

The growth of ports in Southeast Asia reflects the growth of regional trade. Seaborne trade and ports have generally grown at a higher rate than regional economies. Container ports in the region now account for an estimated 30 per cent of the world's trans-shipment traffic. Figure 2 shows some of the major ports and key shipping routes in Southeast Asia.

Major regional ports include Singapore, Port Klang and Tanjung Pelepas in Malaysia, and Tanjung Priok in Indonesia. Based on 2007 data, Singapore was the top container port in the world, handling 27.9 million twenty-foot equivalent units (TEUs); Port Klang was the 16th largest container port in the world handling 7.1 million TEUs; Tanjung Pelepas was the 18th largest container port in the world, handling 5.5 million TEUs; and Tanjung Priok was the 23rd largest port in the world, handling 3.9 million TEUs. Preliminary data suggests that Singapore continues to be the top container port in the world in 2008, handling 29.9 million TEUs.

Besides container ports, there are also major oil ports in the region like Balikpapan, Dumai and Port Dickson. Balikpapan is the largest of these, handling tankers of up to 250,000 DWT at an offshore mooring. Balikpapan is the site of a large refinery and is the centre of oil exploration and exploitation in the rich oil fields in the southern portion of the Makassar Strait. Dumai is rich in both fuel and palm oil while Port Dickson is the gateway to Malaysia's oil industries, with a large number of oil tankers plying between Port Dickson and other ports of Malaysia. Singapore is also a major oil refining centre and a top bunkering port.

Figure 2 – Major ports and shipping routes in Southeast Asia