From Crisis to Action: The 1972 *Myrtea* Oil Spill in the Singapore Strait

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Summary

This article revisits the Myrtea oil spill of 1972 in the Singapore Strait, a critical yet underdocumented event in maritime environmental history. The Myrtea, an oil tanker, grounded near Pulau Bukom, resulting in a significant oil spill that impacted the marine ecosystem and local communities. The spill's immediate effects included severe damage to marine life, coral reefs, and mangroves, which also entailed long-term recovery periods. This incident, together with concurrent global oil spills and the increasing number of supertankers roaming the Strait, prompted significant changes in the region's maritime safety and environmental protection policies. However, subsequent oil spills in the Strait highlight ongoing challenges in managing environmental risks in this crucial maritime corridor.

The Singapore Strait—a 113-kilometer-long, 19-kilometer-wide strait between the Malacca Strait and the South China Sea—is often described as one of the most crucial sea lanes for merchant ships in global trade. It is the only deep-water passage to the Port of Singapore, the world's second-busiest port in terms of total shipping tonnage, and is known as a conduit for a significant portion of the world's oil trade.

Yet, within this corridor of commerce, maritime incidents (e.g., ship collisions, fire, machinery damage, and sinking/grounding) are frequently observed, which in turn impact on the environment, particularly when tankers are involved and oil spills occur. Among these is the *Myrtea* oil spill of 1972, which, despite being largely forgotten and scarcely documented, was one of the earliest "large" oil spills (exceeding 600,000 liters) by a "Very Large Crude Carrier" (VLCC) supertanker in the Strait—at a time when concurrent global oil spills were increasing public awareness and calls for the regulation of such tankers.

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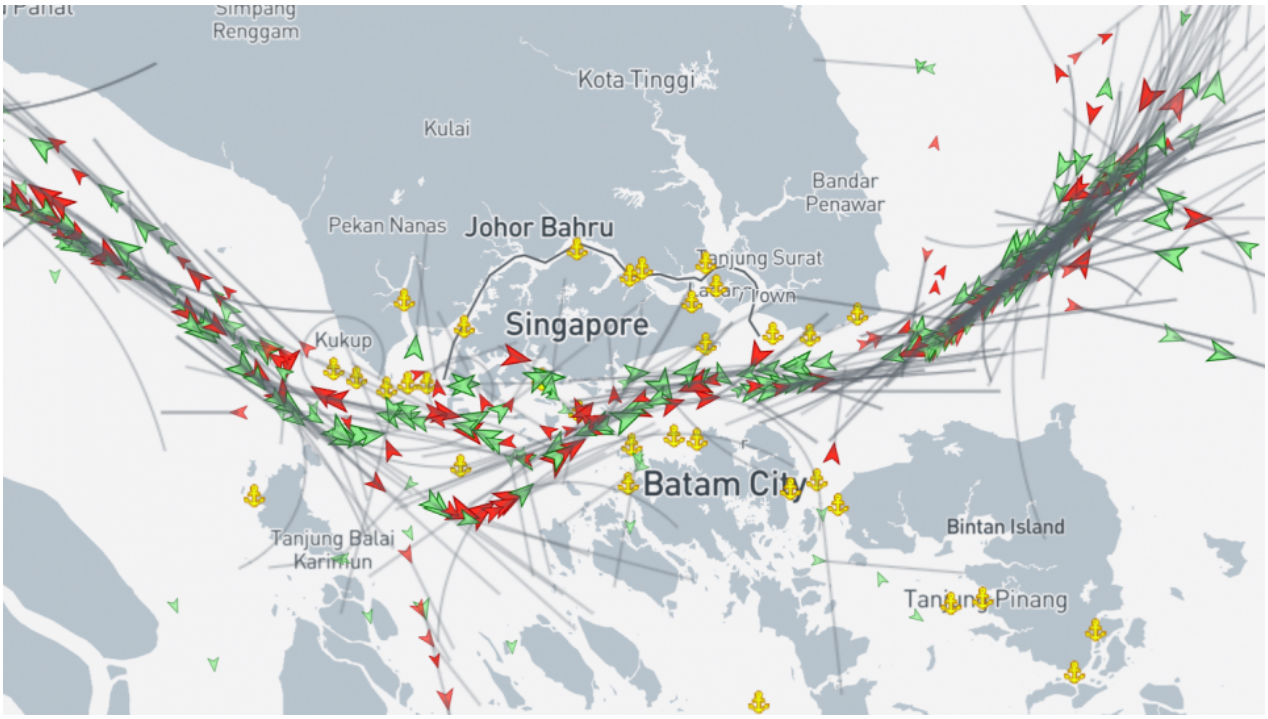

Screenshot of a live map showing underway cargo vessels (green) and tankers (red), as well as their projected course (grey), in the Singapore Strait on 6 March 2024, at 6 a.m. local time.

Map taken from MarineTraffic. http://www.marinetraffic.com/ .

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On the night of 25 June 1972, the *Myrtea*, a VLCC owned and operated by the French company Société Maritime Shell (Shell), sailed from the Middle East and ran aground at around 11:00 p.m. about half a mile west of Pulau Bukom—the location of Shell's then-biggest refining-petrochemical complex. The cause of the grounding is not known but it resulted in a breach of the ship's hull, leading to an estimated leakage of 850,000 liters of crude oil into the surrounding sea. The full extent of the spill only became apparent at sunrise, when a three-kilometer-long oil slick, driven by strong currents, was found to be making its way toward the shores of mainland Singapore. The consequences were far-reaching, contaminating the beaches of Bedok, Changi, Loyang, and Tanah Merah.

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Photograph of the *Myrtea*. Being a "Very Large Crude Carrier" (VLCC), it was one of the first oil tankers above 200,000 tons deadweight—a measure of how much weight a ship can carry, as a sum of cargo, fuel, fresh water, ballast water, provisions, passengers, and crew—that began to dominate the world's shipping lanes during the early 1970s.

Unknown photographer, n.d.
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Despite authorities undertaking immediate and large-scale cleansing operations with 75,000 liters of dispersants (later found to be highly toxic through field and laboratory studies at other marine oil spill sites; see the 1967 *Torrey Canyon* and 1969 *Santa Barbara* incidents), coupled with the efforts of hundreds of soldiers, firefighters, public health workers, and civilians, it took one week to bring the spill under control, at a cost of around four million Singapore dollars (inflation-adjusted).

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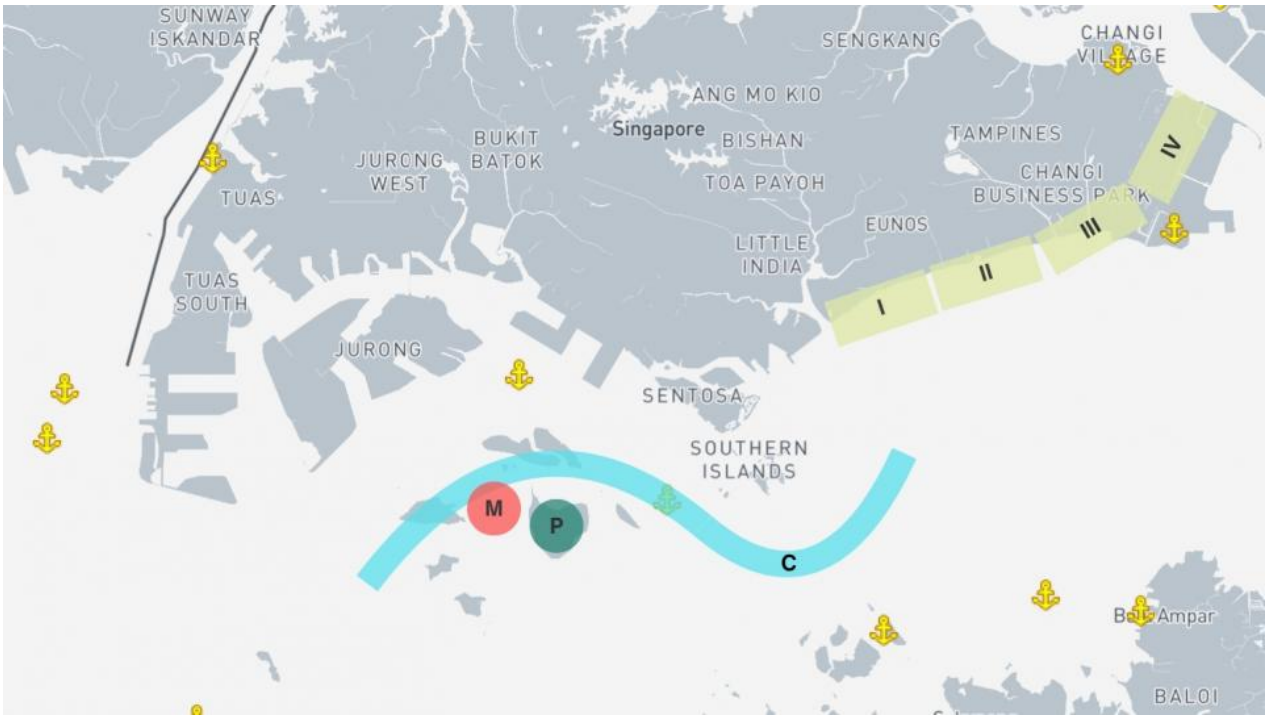

Map of Singapore detailing the *Myrtea* oil spill area, with the grounding location (M), Pulau Bukom (P), tidal currents from West to East (C), and affected beaches Bedok (I), Changi (II), Loyang (III), and Tanah Merah (IV) (based on the 1972 shoreline).

Map taken from MarineTraffic. http://www.marinetraffic.com/ .

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The incident left an indelible mark on the environment, specifically its marine ecosystem. The resultant oil slick affected a diverse array of marine life, including key species at various trophic levels, from microscopic plankton to larger fish and marine mammals—a disruption to the food chain with cascading effects, diminishing biodiversity and altering the ecological balance. It also caused damage to sensitive coral reef systems and mangrove forests. Coral reefs, already vulnerable to changes in water quality and temperature, suffered greatly from the oil's suffocating presence, leading to reduced coral cover and the loss of habitat for reef-associated species. Moreover, the mangrove forests around Bedok and Changi, with their ecological significance (e.g., essential for shoreline stabilization and as nurseries for various species), experienced severe contamination. The physical smothering of their roots and the toxic effects of oil hampered growth and regenerative capabilities, leading to a decline in mangrove health and coverage.

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Habitat	Recovery period
Plankton	Weeks/months
Sand beaches	1 – 2 years
Exposed rocky shores	1 – 3 years
Sheltered rocky shores	1 – 5 years
Saltmarsh	3 – 5 years
Mangroves	10 years and greater

Indicative recovery periods after oiling for various habitats (as observed by ITOPF), dependent on the amount and type of oil spilled. Recovery is defined here as the point at which the habitat functions normally.

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Marine ecosystems can reestablish themselves over time; however, natural variability makes achieving pre-spill conditions highly unlikely. Similar to what was observed at the 1967 *Torrey Canyon* incident site, shore ecosystems/habitats (e.g., mangrove forests, coral reefs, sand beaches, exposed rocky shores) have shown signs of recovery from the oil within a few seasonal cycles, as indicated below, although with reduced robustness due to the narrow age range of new plants and animals. Moreover, it is to be expected that residual effects persist despite recovery, especially in long-lived species with low reproductive rates.

Given the environmental impact of the 1972 *Myrtea* incident, in addition to concurrent global oil spills and the increasing number of supertankers roaming the Strait, Singapore ratified the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL)—the main convention covering prevention of marine pollution by ships from operational or accidental causes. Shortly after, the Prevention of Pollution of the Sea Act (Prevention Act) was enacted for Singapore's accession to MARPOL, not only to specify measures to prevent deliberate, negligent, or accidental discharge of oil or other harmful substances from ships but also to establish a framework for proactive measures to safeguard the marine environment.

Under the Prevention Act, the Maritime and Port Authority of Singapore (MPA) was empowered to enforce environmental regulations, gaining the authority to deny entry to or detain ships that failed to comply with these standards, as well as to update its National Oil Spill Contingency Plan, integrating measures from the International Convention on Oil Pollution Preparedness, Response and Co-operation. This included the early adoption of protocols for rapid response and coordination during oil spill incidents, which, although not as technologically advanced as later developments, represented significant progress for that time. The plan

emphasized preparedness through regular training, the establishment of designated response teams, and protocols for inter-agency collaboration, such as with the Singapore Civil Defence Force, ensuring that Singapore was better equipped to prevent and respond to marine pollution.

However, despite these efforts, the Singapore Strait continued to witness similar or even larger oil spills, highlighting ongoing challenges in managing environmental risks. Notable incidents include the *Monemvasia* in 1983 (3.6 million liters), the *Century Dawn* in 1988 (11.7 million liters), and the collision between the *Evoikos* and the *Orapin Global* in 1997 (24.0 million liters), as well as more recent ones, such as the *Alyarmouk* in 2015 (3.8 million liters).

Source Acknowledgment

The analysis and insights presented in this article are grounded in comprehensive research conducted within the official archive of Singapore newspapers maintained by the National Library Board, Government of Singapore. The archival materials provided a factual basis for reconstructing the events surrounding the 1972 Myrtea oil spill, ensuring the accuracy and integrity of the historical account detailed herein.

Further readings:

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Related links:

- "Effects of Oil Pollution on the Marine Environment." International Tanker Owners Pollution Federation – ITOPF (2014) https://www.itopf.org/fileadmin/uploads/itopf/data/Documents/TIPS_TAPS_new/TIP_13_Effects_of_Oil_Pollution_on_the_Marine_Environment.pdf

- "Myrtea - Singapore Newspaper Archive." Singapore Newspaper Archive. Accessed 30 November 2023. https://eresources.nlb.gov.sg/newspapers/search

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Miklas Pascal Sauermann is a PhD candidate at Ludwig-Maximilians-Universität Munich (LMU) and a passionate advocate for a sustainable, equitable, and just world. He has acquired extensive knowledge from working with notable consulting firms and has spent time studying at institutions in Germany, Sweden, Spain, and the USA. He holds a bachelor's and master's degree in business administration, alongside a master's degree in sustainability science. He is also a certified ESG Advisor (EBS University).
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