



# BLUE WATERS

## Newsletter

On Marine Environment Protection

April 2025

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## From the Director General's Desk



Dear Reader,

Indian economy in the past decade has witnessed tremendous growth and set to become third largest economy in few years. India being geo strategically located in mid Indian Ocean between Strait of Hormuz and Pacific Ocean, will see new avenues of sea trade and growth in maritime sector. The growth strategy adopted will see rise in trade and commerce activities by sea whereas the marine ecosystem will also resonate to increase in sea borne trade.

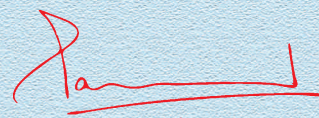
The Hon'ble Prime Minister's vision of "Viksit Bharat" enshrines the 'Maritime Amrit Kaal Vision - 2047, encompassing aspirations in shipping for supporting India's 'Blue Economy'. The initiatives identified in Maritime Amrit Kaal Vision 2047 includes, creation of world class maritime port based clusters all across the coastline and transshipment hub through PPP model. The envisaged growth to support Amrit Kaal Vision entails increase in port handling capacity to 10000 MMTPA, four times of the existing capacity, establishment of 03 transshipment hub and 13 deep draught ports by 2047. The coastal shipping in India is still in nascent stage and numerous initiatives are identified for enhancing modal share of coastal shipping including creation of deeper draught ports. The envisaged growth in the maritime sector will bring more challenges for preservation and protection of marine environment.

Disasters are bound to happen if risks are not averted in time. Indian Coast Guard strives towards protection and preservation of marine environment through continuous air and surface surveillance for mitigating such disasters.

The growth in maritime sector lays impetus on all the stakeholders for safeguarding our oceans from the perils of Oil & HNS pollution. The collective effort witnessed in case of MV Maersk Frankfurt reiterates importance of preparedness for effective response in mitigating such incidents. Ultimately, protecting our marine environment is not just an obligation but a collective resolve of all stakeholders.

I wish all the readers and stakeholders 'Happy Reading'.

Vayam Rakshamah. Jai Hind.



(S Paramesh)  
Director General  
Indian Coast Guard

24 Apr 2025  
New Delhi



## EDITORIAL

India, geo strategically located in vicinity of world's busiest shipping route, has seen approximate growth of 4.5% while handling 870 million tonnes of cargo in 2024. India is emerging as key player in trade and commerce across the world while aligning with the Amrit Kaal Vision – 2047.

The new avenue towards harnessing the maritime opportunity focuses on new connectivity, infrastructure growth and development of Maritime Cluster. The innovative technology integration for sustainable trade is important for greener maritime future. The clean maritime environment of dwelling is essential for our well being as well as for future generation.

In an effort to mitigate Oil Spill and ensure cleaner seas, the Guidelines on Usage of OSD in Indian waters has been promulgated by Competent National Authority on 31 Jul 2024. The vetting of Oil Spill and Contingency Plans (OSCPs) of Major Ports and Oil Handling Agencies has been a linchpin in augmentation of robust oil spill response in Indian subcontinent. Further the OSCP of non-Major Ports is being formulated in consultation with ICG for enhancing the Oil Spill preparedness.

This edition strives to highlight the importance of progressive endeavours of all the stakeholders prerequisite for sustainable economic development. We wish you all happy reading and resolve to adopt safe practices for environment preservation.



(Kundan)  
Commandant  
Joint Director (FE)



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## EVENTS

### INAUGURATION OF REGIONAL MARINE POLLUTION RESPONSE CENTRE (RMPRC) AT CHENNAI

Indian Coast Guard being the Central Coordinating Agency at the National level for coordinating response to marine oil spills has the obligation to support regional countries for developing their capacity and capability to respond to oil spills. The parties to the Oil Pollution Preparedness, Response and Co-operation (OPRC-2000) are required to establish measures for dealing with pollution incidents including training, in co-operation with other countries.

A maiden India-ASEAN Defense Ministers meeting was conducted on the sidelines of ADMM Plus in Cambodia on 22 Nov 22. During the meeting Hon'ble Raksha Mantri had announced establishment of Regional Marine Pollution Response Centre at Chennai to address and supplement regional efforts to deal with any marine pollution incident in the region.



Figure 1. RMPRC inauguration by Hon'ble RM

The center was activated on 24 Apr 24 and commenced function to meet requirement of training for oil spill responders of FFCs in the region in

addition to incident reporting centre. Subsequently, the Regional Pollution Response Centre (RMPRC) was inaugurated by Hon'ble Raksha Mantri Shri Rajnath Singh on 18 Aug 24. The Centre is envisaged to be a centre of excellence in terms of PR training, repository of data and case studies related to Pollution Response and nodal point of contact akin to MRCC.

The center will operate under two fold objective and act as a Centre of Excellence in the Region. The first objective array developing appropriate marine pollution response capacity for supplementing regional efforts for surveillance, detection, reporting and combating oil & HNS spills. Also, the center would act as data repository for oil & HNS pollution incidents, equipment inventory, contingency plans, case studies and availability of expertise at National and Regional level. Secondly, the center will ensure "Capacity Building through meaningful Training" by conducting regular Pollution Response training (IMO OPRC level I & II courses) for Friendly Foreign Countries (FFCs) in the region.

This center is envisaged to function akin to



Figure 2. IMO OPRC level I & II courses for FFCs

MRCCs w.r.t. reporting and response to oil and HNS spills in the region. Any incidents of marine pollution due to oil and HNS spills in the region will



be reported to this center. Emergency Response Centre will be set up at RMPRC for providing response advisory to FFCs for first aid response to any Oil/HNS spill.

## INTERNATIONAL COASTAL CLEANUP (ICC) DAY – 2024

### Introduction.

Towards ongoing effort of Government for the “Swachh Bharat Abhiyan” in line with the Hon’ble Prime Minister’s appeal for mass cleanliness and sanitation campaign, through “Swachhata Hi Seva”, ICG conducted ICC-2024 in all Coastal States/ Union Territories on 21 Sep 2024. The International Coastal Cleanup (ICC) day is conducted in various parts of the world on third Saturday of September every year under the aegis of United Nations Environment Programme (UNEP) and South Asia Co-operative Environment Programme (SACEP) in the South Asian Seas Region. The Indian Coast Guard has

been coordinating this activity in India since 2006.

### Participation.

Indian Coast Guard, as a part of International Coastal Cleanup Day conducted focused activities contributing towards ‘Swachh Bharat Abhiyan’. The event was conducted with an aim to educate and to motivate the local populace for maintaining the sea shores neat and clean and to avoid further pollution of marine environment. This year, Coast Guard Regional Headquarters (West) has witnessed the highest participation of 14,155 volunteers followed by Coast Guard Regional Headquarters (East) with 7,492 volunteers. Nationwide, 27,563 volunteers participated in the ICC -2024 campaign.

### Civil Support.

Apart from Ministries and other Armed Forces, ICC-2024 received overwhelming support from various civil authorities, Municipal Corporations, NGO, fisheries associations, School students, College students, NCC/ NSS cadets, Marine Police and volunteers from Oil Handling Agencies (OHAs).



Figure 3. Pawan Chakki Beach, Okha



Figure 4. Besant Nagar Beach, Chennai





Figure 5. Kapilpur Beach, Diglipur



Figure 7. 26<sup>th</sup> NOSDCP & Preparedness Meeting



Figure 6. North Wandoor Beach, Andaman

## 26<sup>TH</sup> NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOSDCP) AND PREPAREDNESS MEETING

The 26<sup>th</sup> National Oil Spill Disaster Contingency Plan (NOSDCP) and Preparedness meeting was held at Vigyan Bhawan, New Delhi on 05 Nov 2024. Director General S Paramesh, AVSM, PTM, TM, Director General Indian Coast Guard, chaired the meeting. The meeting witnessed an active participation from various government departments, ports and oil handling agencies. A total of 108 representatives attended the meeting.

The Chairman in his inaugural address welcomed the delegates from various Ministries, Departments of the Central & State Government, Regional Commanders of Indian Coast Guard, members from major ports, non-major ports, oil handling agencies and oil installation onshore.



Figure 8. Inaugural address by DGICG

The inaugural address was followed by a presentation on 'overview of NOSDCP', covering all activities since the last meeting held in Nov 2023, which was presented by DIG Ravindra Kumar, PD(FE), Secretary NOSDCP. The presentation highlighted the need for early submission of Oil Spill Contingency Plans and provisioning of adequate Pollution Response equipment at each facility i.a.w. NOSDCP.



During the meeting Director General S Paramesh, AVSM, PTM, TM, Chairperson NOSDCP awarded 'Samudri Paryavaran Sanrakshan Trophy - 2024' to Visakhapatnam Port Authority for instituting measures for protection of environment in its area of responsibility.



Figure 9. Samudri Paryavaran Sanrakshan Trophy

The important issues discussed and deliberated during the NOSDCP meeting includes vetting of OSCP of major ports, non- major ports, OHAs, Coastal states and promulgation of HNS response Contingency Plans, promulgation of new "Policy and Guidelines for use of Oil Spill Dispersants (OSD) in Indian Waters-2025", training cum mock drill for shoreline cleanup, development of comprehensive database of PR resources and conduct of online training for shoreline cleanup.

## POLICY AND GUIDELINES FOR USE OF OIL SPILL DISPERSANTS (OSD) IN INDIAN WATERS-2025

The New "Policy and Guidelines for use of Oil Spill Dispersants (OSD) in Indian waters-2025" approved by the competent authority was introduced during the NOSDCP meeting held on 05 Nov 24.



Figure 10 . Policy and Guidelines for use of OSD in Indian Waters-2025

The salient aspects of new guidelines are as follows:-

- The new procurement of OSDs is to be carried out i.a.w. parameters specified in new guidelines.
- The existing stock, if not meeting any parameter i.a.w. new guidelines can continue to be used till expiry of shelf life of OSD.



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## ARTICLES

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### PHYTOPLANKTONS: KEY TO OUR SURVIVAL

{Comdt Pradip Kumar Saha (0844-Q), ICGS Rani Durgavati}

#### Introduction.

Indian Coast Guard, being the nodal agency for ocean oil pollution at sea since 1986, has been taking stimulated measures to prevent and control pollution and protect and preserve marine environment. However, apart from oil pollution which significantly affect marine environment, it is the presence of plastic and ghost nets that has become a threat to the very survival of Human race. This article intends to give a gist on how one sea plankton can be the key to human survival if not threatened by the human interference mainly due to ghost nets/plastic waste and how all the marine stakeholders including the Indian Coast Guard can contribute significantly to its survival.

#### What are Phytoplankton.

Phytoplankton are microscopic plants floating around in marine and aquatic ecosystems that produces 50-80% of world oxygen. These plants are also the foundation of marine food web. The word phytoplankton is derived from the Greek words “Phyto” which means plant and “plankton” which means drifter or wanderer. Just like plants found on land, phytoplankton contains green pigments called chlorophyll, which absorbs light to provide energy for photosynthesis. Because phytoplankton need light to live and grow, most are found floating at the top layers of the ocean where sunlight penetrates the water.

#### Phytoplankton as Carbon Sequesters.

However, besides providing oxygen and food for countless other organisms, they significantly absorb carbon dioxide and reduce the harmful effect of

greenhouse gases. In an independent ocean habitat, Phytoplankton survive on the excretory nutrient product of sea mammals which they use as food and use photosynthesis to produce oxygen and absorb carbon dioxide. When they die, they sink to the bottom of the ocean as “marine snow”, locking away carbon for millions of years. Fossilized remains of microalgae are compressed by geologic forces, which over time turn into oil. Thus, phytoplankton absorbs around 30-50 billion metric tons of CO<sub>2</sub> annually, which represent roughly 40% of the total carbon produced globally.

The main source of phytoplankton nutrients are zooplanktons, sea mammals and whale poop. These marine creatures dive deep into ocean to feed, and swim back up to the surface to breathe and excrete waste full of nutrients. So ultimately, an abundance of whale poop means an abundance of phytoplankton, which capture large amounts of CO<sub>2</sub>. Not only it removes carbon from atmosphere, but also produce oxygen that animals need to survive. When they are eaten by other marine animals, the carbon continues to pass through food chain, or when they die, they sink to the ocean floor locking away carbon from the atmosphere. This process is known as biological pump, helps transfer billions of metric tons of CO<sub>2</sub> to ocean floor every year.

#### Human Interference in Marine Ecosystem.

In recent times, sea mammals, marine ecosystem and habitat have been drastically affected due to human interference. Human interference has dwindled this self-sustaining capacity of independent ocean habitat. Presence of plastic and ghost net creates havoc to this marine self-sustaining ecosystem. Some studies suggest that ghost nets are more lethal than plastic waste in the world due to its significant effect on phytoplankton. Marine life becomes trapped in ghost



gear, leading to injury, starvation & death and in turn threatens the survival of phytoplankton. Over 19 million tons of ghost gear are estimated to be in the oceans already. As high as 1 million tons being added globally each year which is accelerating the threat of climate change. As multiple studies suggest phytoplankton produces more oxygen and absorbs more carbon than the trees, survival of phytoplankton is the key to our survival during this incoming menace of climate change.

### Way Ahead.

Damage to vital marine habitats suppresses their ability to store carbon. Also, as we disturb this ecosystem, we are ending our oxygen supply. This means saving the existence of phytoplankton is more effective than planting trees for saving the planet, from it becoming a hotbed for greenhouse gases and reducing our carbon footprint. Thus, as India is committed to reduce its CO<sub>2</sub> emission by almost 4 billion tons between 2020 to 2030, ICG and marine stakeholder can also play a significant role through adopting following measures:-

- Creating awareness amongst fishermen community through regular interactions regarding the menace of ghost nets and how it is significantly affecting the very survival of human in this planet.
- Reporting, recovering and safe disposal of ghost nets and debris need to be brought into practice and to be made a continuous process. This would mean coordinating with suppliers for licensing the issue of nets and its safe disposal, to pin down owner and supplier responsibility for safe handling of nets. Simultaneously developing industries where recycling and safe disposal of abandoned net can be effectively managed.
- Adopting and encouraging stakeholders to implement eco-friendly/ biodegradable netting solutions with radio frequency identification tags

(RFID) to track down and reduce menace of ghost netting when lost at sea.

- Encourage and participate in regular beach clean ups with environmental NGOs and fishing community to reduce waste entering the oceans.
- Encouraging repairs of fishing gears in different Indian fishing ports by penalizing or preventing the discarding of fishing gear.

## ENVISAGED GROWTH IN THE MARITIME SECTOR AND MARINE POLLUTION RISK ANALYSIS

*(Capt. Gourab Nandi, Master Mariner, Hazira Port Pvt. Ltd.)*

### Introduction.

The maritime sector is a cornerstone of global trade, facilitating the movement of goods across continents. As the industry grows, it faces the dual challenge of expanding sustainably while mitigating marine pollution. This article explores the envisaged growth in the maritime sector and analyzes the risks of oil spills.

### Marine Pollution Risk Analysis

Despite the sector's growth, marine pollution

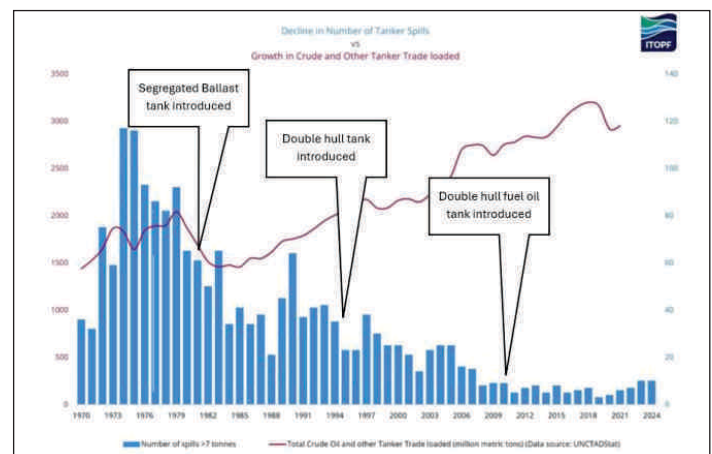


Figure 11. Data & Statistics- ITOPF

(Source: <https://www.itopf.org/knowledge-resources/data-statistics>)

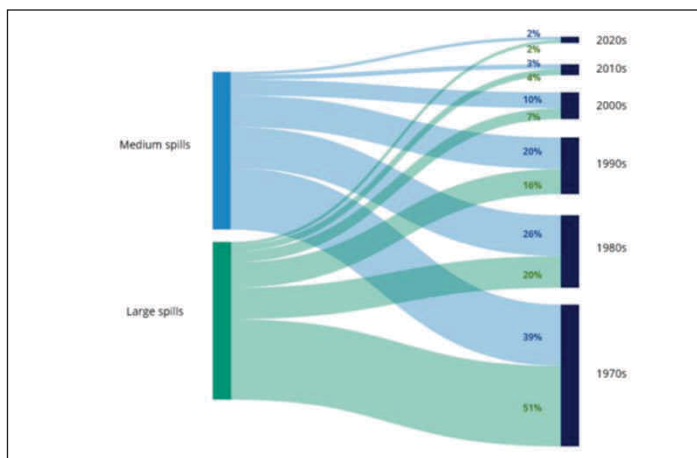


remains a significant concern, particularly oil spills. According to (International Tanker Owners Pollution Federation) ITOPF, oil spills from tank vessels have been a persistent issue since 1970.

However, despite increased tanker movements, the downward trend in oil spills continues, with a significant decrease in the quantity of oil spill over the past decades. In the 2010s, approximately 164,000 tonnes of oil was lost from tanker spills of 7 tonnes and above, a 95% reduction since the 1970s.

### Oil Spills.

Oil spills are categorized by size: small (<7 tonnes), medium (7-700 tonnes), and large (>700 tonnes). Refer the chart below, a quarter of all spills recorded over 7 tonnes are large, with more than half of these occurring in the 1970s.



*Figure 12. Data & Statistics - ITOPF*

(Source: <https://www.itopf.org/knowledge-resources/data-statistics>)

Based on the 2 graphs above, it is evident that the quantity of spills has declined, especially large spills over 700 tonnes. Large spills now contribute to only 2% of the total spilled quantity, compared to the 1970s when they accounted for as much as 51%.

The average quantity of spills between 1970-80 was approximately 3,19,500 tonnes/year, compared to an average of 16,400 tonnes/year, in the last decade

upto 2020 and 7600 tonnes/year between 2020-2024. This represents a reduction of about 90% in terms of quantity.

Wondering what factors have contributed to this significant reduction in spill quantities? – Engineering controls applied on tankers.

The regulatory changes that prompted structural modifications in oil tankers, resulting in a reduction in oil spills, include: -

### Double Hull Tankers.

The primary cause of the reduction in oil spills is the introduction of double hull tankers, as mandated by MARPOL Annex I. Regulation 19, introduced in 1992, made it mandatory for tankers of 5,000 dwt and more ordered after July 6, 1993, to be fitted with double hulls or an alternative design approved by the IMO.

### Segregated Ballast Tanks.

Regulation 18, introduced in 1982, required oil tankers of 20,000 dwt and above and product carriers of 30,000 dwt and above to be fitted with segregated ballast tanks. This regulation aimed to prevent the contamination of ballast water with oil, further reducing the risk of pollution.

### Pump Room Bottom Protection.

Regulation 22, introduced in 2007, mandated pump room bottom protection for oil tankers of 5,000 dwt and above constructed on or after January 1, 2007. This regulation required the pump room to be provided with a double bottom, enhancing the safety and environmental performance of the vessel.

### Oil Fuel Tank Protection.

Regulation 12A, introduced in 2010, required oil fuel tank protection for ships with an aggregate oil fuel capacity of 600 m³ and above delivered on or after August 1, 2010. This regulation aimed to minimize the risk of oil spills from bunker tanks, further enhancing



maritime safety. This regulation aimed to minimize the risk of oil spills from bunker tanks, further enhancing maritime safety.

#### **Alternative Fuel (LNG, ammonia or electric).**

The use of alternative fuel is gaining traction in the maritime industry. LNG is a cleaner alternative to traditional marine fuels, producing fewer emissions. These sources eliminate the risk of oil spills. This also means that the consumption of oil worldwide is also going to decline or stagnate, leading to lesser carriage of oil.

#### **Conclusion.**

In conclusion, engineering controls like double hulls and segregated ballast tanks have significantly reduced oil spills, proving more effective. The adoption of LNG as a cleaner fuel or other alternative further supports sustainable practices. Continued focus on engineering innovations is essential for minimizing environmental impact while ensuring the maritime sector's growth.

### **PLASTIC WASTE MANAGEMENT ONBOARD SHIPS**

*(Dy Comdt Abhishek Kumar, ICGAS Daman)*

#### **Introduction.**

Plastic waste management is a growing concern in the maritime industry due to its significant impact on the marine environment. Ships which travel vast distances across oceans are major contributors to plastic pollution. This includes bulk carriers, goods carrier and government vessels including warships. As global awareness of the environmental harm caused by plastic waste increases, it has become imperative for shipping companies and crew to adopt effective waste management practices onboard.

#### **Issue of Plastic Waste in the Maritime Industry.**

Shipping vessels generate substantial amounts of plastic waste including food packaging, bottles, straws and single-use items. Once discharged into the ocean, plastic waste poses a significant threat to marine life. Marine animals often mistake plastic for food, leading to ingestion, entanglement and further to death. Additionally, plastics can take centuries to decompose, accumulating in the ocean and further degrading ecosystems. The issue is further complicated by the lack of proper waste disposal mechanisms on ships. While most vessels do not dispose of plastic waste directly into the ocean, improper handling and inconsistent regulations on waste management can still lead to plastic leakage.



*Figure 13. Marine ecosystem affected by Plastic Waste*

#### **Regulations and International Laws.**

To address this challenge, international regulations have been established to control plastic waste disposal from ships. The most notable regulation is the International Maritime Organization's (IMO) MARPOL Annex V, prohibits the discharge of plastic waste into the sea. Under this regulation, ships may either store the plastic waste onboard until they can safely dispose the same at designated ports or use approved incineration systems. Additionally, the Ballast Water Management Convention and the Ship Recycling



Convention also contribute to reducing the environmental footprint of ships by controlling pollutants that may include plastics.

### Effective Plastic Waste Management Strategies Onboard.

Efficient plastic waste management onboard ships involve a combination of prevention, reduction, recycling and safe disposal practices. Some of the primary methods are as appended below:-

- Reduce Single-Use Plastics.
- Waste Separation and Collection.
- Recycling Systems Onboard.
- Waste Compaction and Incineration.
- Plastic Waste Collection Points.

### Challenges and Solutions.



Figure 14. Duration of Plastic Waste to Decompose

Although progress has been made in managing plastic waste onboard ships, several challenges remain critical and requires paramount attention. Some of these are mentioned below:-

- Limited Facilities in Remote Areas.
- Crew Awareness and Training.
- High Cost of Disposal and Recycling.

### The Future of Plastic Waste Management at Sea.

The future of plastic waste management in the maritime industry hinges on innovation, stricter enforcement of regulations and a collective effort by stakeholders to address this global challenge. New technologies such as plastic-to-fuel conversion systems and advanced waste treatment systems show promise for reducing plastic waste onboard. In the long run, the adoption of a circular economy in shipping, focusing on reducing, reusing and recycling plastics will play a crucial role in minimizing the industry's environmental impact. Shipping companies that proactively adopt sustainable practices, comply with regulations and invest in waste management technologies will not only help preserve marine ecosystems but also improve their environmental footprint and reputation.

### Conclusion.

Plastic waste management on ships is an ongoing challenge, but with the proper strategies in place, significant improvements can be made. By reducing plastic consumption, improving waste segregation, enhancing recycling methods, and adhering to international regulations, the maritime industry can help mitigate the negative impacts of plastic waste. As global awareness and regulations continue to evolve, there is hope that the shipping industry will become a leader in sustainable waste management practices at sea.



## REPORTS

## WORLD WATCH

**OIL SEEPING FROM  
S'PORE-FLAGGED TANKER  
INVOLVED IN COLLISION NEAR  
PEDRABRANCA: SHIP OPERATOR**

Source: <https://www.straitstimes.com/singapore/light-oil-sheens-reported-near-s-pore-flagged-tanker-involved-in-collision-off-pedra-branca-mpa>

SINGAPORE – Oil is seeping from the damaged part of the Hafnia Nile, the Singapore-flagged tanker involved in a collision with another vessel on 19 Jul 24. Hafnia, the ship's operator, said that an initial assessment showed damage to the tanker's engine room.



*Figure 15. Singapore-flagged tanker Hafnia Nile on fire in Tanjung Sedili, near Singapore*

“Further inspections have confirmed a light oil sheen which is seen emanating from the damaged area,” a Hafnia spokesperson said. “A salvage team that has boarded the vessel has meanwhile transferred equipment from one of the attending tugs on site to contain and stop any localised seepage.” The spokesperson added that experts are conducting inspections on the damaged areas of the vessel, which

is connected to tugs in Malaysian waters.

Hafnia Nile and Sao Tome and Principe-flagged ship Ceres I caught fire at about 6 a.m. on 19 Jul 24 about 55 km north-east of Pedra Branca, in a part of the sea that falls within Singapore's maritime search and rescue region. Thirty-six crew members from both ships were rescued.

Reuters reported that Hafnia Nile is carrying naphtha, a generic term for a refined or partially refined petroleum fraction that is commonly used as a solvent.

**OIL SPILL REPORTED  
OFF VENEZUELA'S CARIBBEAN  
COAST – BY REUTERS**

Source: <https://www.reuters.com/world/americas/oil-spill-reported-off-venezuelas-caribbean-coast-2024-08-17/>

CARACAS – An oil spill, which appeared to originate from Venezuela's El Palito refinery has contaminated a bay off the country's north-central coast in the Caribbean Sea, five sources told Reuters.



*Figure 16. Oil slick, beach near the Venezuelan state oil company PDVSA's El Palito refinery, in Boca de Aroa, Venezuela.*



Biologist Eduardo Klein posted satellite images on 'X' that he said showed an oil slick of about 225 square kilometers (87 square miles) in the Golfe Triste and completely covering Morrocoy National Park, known for beaches lined with palm trees and mangroves. There was no immediate comment from the state-owned company Petroleos de Venezuela PDVSA or the oil ministry.

The El Palito refinery, with a capacity to process 146,000 barrels of crude oil per day, is Venezuela's smallest oil refining complex and located in the Puerto Cabello municipality on the coast of the central state of Carabobo.

"The spill came from El Palito". People in Boca de Aroa noticed lot of hydrocarbons on the shore and it affected some boats including artisanal fishing boats," one of the sources told Reuters.

### SIX MONTHS AFTER FIRST HOUTHİ SHİP SINKİNG, ATTACKS SLICK RED SEA WITH OIL

Source: <https://news.mongabay.com/2024/09/six-monthsafter-first-houthi-ship-sinking-attacks-slick-red-sea-with-oil/>

*MV Rubymar, a cargo ship carrying fertilizer, heavy fuel oil and marine diesel, became the first ship sunk in a series of attacks by the Houthis, the Iran-backed Yemeni civil war opposition group who sent the merchant ship and her cargo of oil & fertilizer to the bottom of the Bab el Mandeb Strait in the Red Sea.*

One of the Rubymar's five cargo holds was compromised during the attack, and likely released its contents into the water during the following weeks. The four other holds, carrying most of a cargo estimated at

around 22,000 metric tons of fertilizer, 200 metric tons of heavy fuel oil and 80 metric tons of marine diesel, are thought to remain intact underwater.

*The ship continues to raise fears of damage to the marine environment when its cargo holds inevitably disintegrate, including oil slicks, algal blooms and "dead zones."* There it still lurks, continuing to stoke fears of an environmental crisis when it eventually disintegrates.

"The increasing number of incidents in the Red Sea is a direct result of the escalating tension gripping our region," Julian Jreissati, program director for Greenpeace Middle East and North Africa, told Mongabay. "As the situation in the Middle East grows increasingly volatile, the humanitarian and environmental crises unfolding in the region will only deepen."

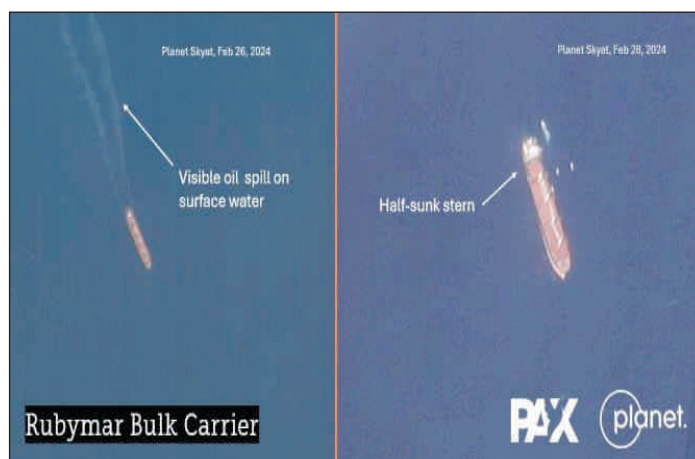


Figure 17. Satellite images show the Rubymar trailing an oil slick, left, eight days after being stricken by a Houthi missile, and with its stern half submerged, right.

"In addition to the fuel oil, the leaking fertilizer poses a significant threat to the marine environment," Tawfeeq Al Sharjabi, minister of water and environment in the internationally recognized government of Yemen, told Mongabay. Fertilizer can cause algal blooms that result



in low-oxygen dead zones that kill off marine life. However, he said, “ongoing water assessments have not yet detected any substantial negative impacts on the marine ecosystem.”

### **OIL ON THE OCEAN: ECOLOGICAL DISASTER LOOMS**

(Source: <https://www.samoaoobserver.ws/category/samoa/111434>)

SAMOA - The New Zealand naval vessel ran aground on the South West Coast of Upolu with 75 crew members safely rescued including three receiving minor medical assistance. Oil can be seen floating on top of the sea where the ill-fated HMNZS Manawanui sank. An environmental disaster looms that could affect the livelihoods of villagers in the area. Along with the oil, rubbish and debris from the wreck are also floating on the ocean threatening marine life, food sources and tourism in the area. There is also concern that the palolo season will be impacted as people fear they will be unable to catch any this year.

A day after the unrecoverable ship sunk into the ocean, nearby villages and tour operators didn't wait for the authorities to clean up the debris and items from the sunken ship. Many villagers who went out to sea confirmed seeing uncontained fuel in the ocean and debris littered everywhere.

The Ministry of Natural Resources and Environment (M.N.R.E.) and Ministry of Works Transport and Infrastructure (MWTI) have now taken over to carry out an environmental impact report. The Samoa Fire and Emergency Services (SFESA) were also in the area to assist the NZ team with their efforts.



*Figure 18. Samoa Fire and Emergency Services (SFESA)*

“The sea is our bread and butter,” Faatasigaltuau of Sa’anapu told the Samoa Observer as he looked out to the ocean shaking his head in disbelief.



## Indian Coast Guard Annual Calendar of Pollution Response Training and Exercise - 2025

Date	Venue	Exercise/Training	(a) Coordinator (b) Participants
06-10 Jan 25	Vadinar	OPRC Level 1	(a) CG PRT (NW) Vadinar (b) ICG Personnel & Stakeholders
20-24 Jan 25	CG PRT (W), Mumbai	OPRC Level 1	(a) CG PRT (W) (b) ICG Personnel (Officers/SOs/EPs)
03-07 Feb 25	Sri Vijaya Puram	OPRC Level 1	CG PRT (A&N)
17-21 Feb 25	CG PRT(E), Chennai	OPRC Level 1	(a) CG PRT (E) (b) Stakeholder
18-19 Feb 25	Visakhapatnam Port Authority	Area Level PR Exercise	(a) CG DHQ-6 (b) Visakhapatnam Port Authority & OHA
10-11 Mar 25	Diglipur	(i) PR Seminar/ Workshop/ Table Top/ Mock drill	CG DHQ-9
03-07 Mar 25	CG PRT (W), Mumbai	OPRC Level 1	(a) CG PRT (W) (b) Port & OHAs
17-21 Mar 25	Vadinar	OPRC Level1	(a) CG PRT (NW) Vadinar (b) ICG Personnel & Stakeholders
17-21 Mar 25	CG PRT (E), Chennai	OPRC Level 1	(a) CG PRT (E) (b) ICG Personnel
20-21 Mar 25	ADTPS Dahanu	PR Seminar/ Workshop/ Mock Drill & Table Top Exercise	(a) ICGS Dahanu (b) ICG & Stakeholders
31 Mar - 04 Apr 25	CG PRT (E), Chennai	OPRC Level 1	(a) CG PRT (E) (b) ICG Officers
02-03 Apr 25	CG DHQ-5	Area Level PR Exercise	(a) CG DHQ-5 (b) Kamrajar Port, Ennore
02-03 Apr 25	CG DHQ-5	PR Seminar/Workshop/ Mock Drill	(a) CG DHQ-5 (b) Kamarajar Port, Ennore
08-09 Apr 25	Finolex Terminal, Ranpur, Ratnagiri	PR Seminar/ Workshop/ Mock Drill & Table Top Exercise	(a) ICGS Ratnagiri (b) ICG & Stakeholders
14-25 Apr 25	RMPRC, Chennai	OPRC Level 1 & 2	(a) RMPRC (b) FFC
22-23 Apr 25	GoK (Off Kandla and Mundra)	Area Level PR Exercise	CG DHQ-15
22-23 Apr 25	Off New Mangalore	Area Level PR Exercise	(a) NMPA (b) NMPA & OHAs
22-23 Apr 25	Paradip Port/ CGDHQ-7, Paradip	Area Level PR Exercise	(a) CG DHQ-7/ PPA (b) ICG, PPA and OHAs
24-25 Apr 25	Kochi	Area Level PR Exercise	Cochin Port Authority
29-30 Apr 25	MPA/Off Goa	Area Level PR Exercise	(a) Mormugao Port Authority (b) Stakeholders of Goa
05-09 May 25	Sri Vijaya Puram	OPRC Level 1	CG PRT (A&N)
06-07 May 25	Off Mumbai	Area Level PR Exercise	(a) MbPA (b) Port and OHAs
19-23 May 25	CG PRT (W), Mumbai	OPRC Level 2	(a) CG PRT (W) (b) ICG & Stakeholders



Date	Venue	Exercise/Training	(a) Coordinator (b) Participants
19-23 May 25	CG PRT(E), Chennai	OPRC Level 2	(a) CG PRT (E) (b) ICG Officers
21-22 May 25	CG DHQ-8, Haldia	PR Seminar/ Workshop/ Mock Drill/ Table top Exercise	(a) CG DHQ-8 (b) All stakeholders including SMPK (KDS & HDS) and OHAs
05-06 Jun 25	Murud Janjira	PR Seminar/ Workshop/ Mock Drill & Table Top Exercise	(a) ICGS Murud Janjira (b) ICG & Stakeholders
16-18 Jun 25	RMPPRC, Chennai	HNS Operational Level Course	RMPPRC
16-20 Jun 25	CG PRT (W), Mumbai	OPRC Level 3	(a) CG PRT (W) (b) ICG & Stakeholders
23-27 Jun 25	Vadinar	OPRC Level 1	(a) CG PRT (NW) Vadinar (b) ICG Personnel & Stakeholders
23-27 Jun 25	CG PRT (E), Chennai	OPRC Level 1	(a) CG PRT (E) (b) ICG Personnel
24-25 Jun 25	CG DHQ-3	PR Workshop/ Seminar and Mock Drill/ Table Top Exercise	CG DHQ-3
24-25 Jun 25	CG DHQ-6	PR Seminar/Workshop/ Mock Drill	(a) CG DHQ-6 (b) Visakhapatnam Port Authority and OHA
07-11 Jul 25	CG PRT(E), Chennai	OPRC Level 2	(a) CG PRT (E) (b) ICG & Stakeholders
15-16 Jul 25	CG DHQ-7, Paradip	PR Seminar/ Workshop/ Mock Drill/ Table Top Exercise	(a) CG DHQ-7 (b) ICG, PPA, OHAs and Coastal State authorities
15-16 Jul 25	ICGS Karaikal	PR Seminar/Workshop/ Mock Drill & Table Top Exercise	(a) CG DHQ-13 (b) CG DHQ-13, ICGS Karaikal & Unit under command/ Port OHAs/ Local Administration/ Stakeholder in AoR
04-08 Aug 25	Sri Vijaya Puram	OPRC Level 1	CG PRT (A&N)
06-08 Aug 25	Off Vizag	Regional Level PR Exercise	(a) CG DHQ-6 (b) Visakhapatnam Port Authority, OHA and Coastal Authorities
18-29 Aug 25	RMPPRC, Chennai	OPRC Level 1 & 2	(a) RMPPRC (b) ASEAN countries
18-22 Aug 25	Vadinar	OPRC Level 1	(a) CG PRT (NW) Vadinar (b) ICG Personnel & Stakeholders
21-22 Aug 25	Kochi	PR Seminar, Workshop and Mock Drill/ Table Top Exercise	CG DHQ-4
21-22 Aug 25	Campbell Bay	PR Seminar/ Workshop Table Top Exercise/ Mock drill	CG DHQ-10
08-09 Sep 25	Porbandar	PR Seminar/Workshop/ Mock Drill & Table Top Exercise	CG DHQ-1
08-12 Sep 25	CG PRT (E), Chennai	OPRC Level 1	(a) CG PRT (E) (b) ICG Officers
11-12 Sep 25	M/s AKPL Krishnapatnam Port Limited	PR Seminar/Workshop/ Mock Drill	(a) ICGS Krishnapatnam (b) M/s AKPL Krishnapatnam
11-13 Sep 25	Porbandar	Regional Level PR Exercise	CG DHQ-1
15-19 Sep 25	CG PRT (W) Mumbai	OPRC Level 2	(a) CG PRT (W) (b) ICG & Stakeholders

Date	Venue	Exercise/Training	(a) Coordinator (b) Participants
16-17 Sep 25	Kakinada	PR Seminar/Workshop/ Mock Drill	(a) ICGS Kakinada (b) Kakinada Port and OHA
17-18 Sep 25	CGDHQ-8, Haldia and HDC	Area Level PR Exercise	(a) CG DHQ-8 (b) All Stakeholders including SMPK (KDS&HDC) and OHAs
22-24 Sep 25	RMPPRC, Chennai	HNS Operational Level Course	RMPPRC
23-24 Sep 25	Vadinar	PR Seminar/Workshop/ Mock Drill & Table Top Exercise	CG DHQ-15
26 Sep 25	Beyppore/Kozhikode	PR Seminar	(a) ICGS Beyppore (b) Stakeholders
08-09 Oct 25	CG DHQ-16	Area Level PR Exercise	(a) CG DHQ-16 (b) VOCPA & stakeholders
13-17 Oct 25	CG PRT(E), Chennai	OPRC Level 1	(a) CG PRT (E) (b) Stakeholder
24 Oct 25	Vizhinjam	PR Workshop	(a) ICGS Vizhinjam (b) Kerala State Pollution Control Board, Kerala Maritime Board and Adani International Port.
10-14 Nov 25	Vadinar	OPRC Level 1	(a) CG PRT (NW) (b) ICG Personnel & Stakeholders
10-11 Nov 25	CG DHQ-5	Area Level PR Exercise	(a) CG DHQ-5 (b) Chennai Port & Stakeholders
10-14 Nov 25	Sri Vijaya Puram	OPRC Level 1	CG PRT (A&N)
11-13 Nov 25	Paradip	Regional Level PR Exercise	(a) CG RHQ (NE)/CGDHQ-7 (b) ICG, PPA, OHAs and Coastal State Authorities of Odisha and West Bengal.
12-14 Nov 25	CG DHQ-2/ Off Mumbai	Regional Level PR Exercise	(a) CG DHQ-2 (b) ICG and Stakeholder
13-14 Nov 25	CG DHQ-11	PR Seminar/ Workshop/ Table top Exercise	(a) CG DHQ-11 (b) ICG and Stakeholder.
17-28 Nov 25	RMPPRC, Chennai	OPRC Level 1 & 2	(a) RMPPRC (b) FFC
19-20 Nov 25	Kavaratti Island	PR Seminar/ Workshop/ Table top Exercise and Mock Drill	CG DHQ-12
24-28 Nov 25	CG PRT (W), Mumbai	OPRC Level 1	(a) CG PRT (W) (b) ICG Personnel (Officers/ SOs/ EPs)
11-12 Dec 25	CG DHQ-16	PR Seminar/ Workshop/ Mock Drill	(a) CG DHQ-16 (b) VOCPA & Stakeholders.
08-12 Dec 25	CG PRT(E), Chennai	OPRC Level 3	(a) CG PRT(E) (b) ICG Officers
08-10 Dec 25	Sri Vijaya Puram	Regional Level PR Exercise	CG RHQ (A&N)
16-17 Dec 25	JSW Port Jaigad	PR Seminar/Workshop/ Table Top Exercise	(a) ICGS Ratnagiri (b) ICG and Stakeholders.

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