



OIL SPILL MANAGEMENT SYMPOSIUM

Building Knowledge, Bridging Stakeholders



Organised in
collaboration with:



Programme

16 May 2026, Saturday

- 9.30 am **Registration**
- 10.05 am **Welcome Remarks**
by Ms. Hwang Yu-Ning, Chief Executive Officer, National Parks Board (NParks)
- Opening Address**
- 10.10 am *by Guest-of-Honour Mr. Alvin Tan, Minister of State,
Ministry of National Development & Ministry of Trade and Industry*
- 10.15 am **Opening Talk: Marine oil spills – same same, but different**
by Mr. David Champion, Head of Singapore Office, Senior Technical Adviser, ITOFF
- Oil Spill Response at Sea in Singapore: Overview and Upcoming Initiatives**
- 11.00 am *by Mr. David Foo, Deputy Chief Executive (Operations and Technology) &
Chief Data Officer, Maritime and Port Authority of Singapore (MPA)*
- 11.35 am **Lunch**
- Oiled Wildlife Response - An Overview**
- 12.45 pm *by Mr. Michael Ziccardi, Associate Director of Global Programs,
Oiled Wildlife Care Network (OWCN)*
- Health and recovery of macrobenthic communities in the Southern Islands after the June 2024 oil spill**
- 1.30 pm *by Dr. Tan Koh Siang, Principal Research Fellow,
Tropical Marine Science Institute (TMSI), National University of Singapore (NUS)*
- Microbial degradation of oil pollution on Singapore's sandy beaches**
- 2.15 pm *by Prof. Stephen Pointing, Professor, National University of Singapore (NUS)*
- 3.00 pm **Refreshments**
- Applying ecotoxicology techniques to assess environmental stress - engaging citizen scientists in the effort**
- 3.30 pm *by Dr. Beverly Goh, Senior Lecturer,
National Institute of Education (NIE), Nanyang Technological University (NTU)*
- 4.20 pm **Panel Discussion: Our collective and collaborative response to oil spills**
- 5.00 pm **Closing Remarks**
by Dr. Yap Him Hoo, Deputy Chief Executive Officer, National Parks Board (NParks)

Programme

17 May 2026, Sunday

9.00 am **Registration**

9.30 am **Emcee's Introduction**

9.40 am **Virtual Talk: Science Communication in a Crisis**
by Dr. Christopher Reddy, Senior Scientist, Woods Hole Oceanographic Institution (WHOI)

10.40 am **International Legal Framework of Oil Spill Incidents at Sea**
by Dr. Zhen Sun, Principal Research Fellow, Centre for International Law (CLE), National University of Singapore (NUS)

11.30 am **Lunch**

Workshops

Oil Spill Response Workshop: Talk and Field Demonstration

12:30 pm **Oil Spill Response Talk**

2:00 pm **Bus to Pasir Ris Park**

3:00 pm **Oil Spill Response Field
Demonstration**

4:30 pm **Debrief**

5:00pm **End of Symposium**

Communication and Stakeholder Engagement in a Crisis (Discussion Forum)

12.30 pm **Perspective from the Ground
– Science Communication in
Action**

2.00 pm **Refreshments**

2.30 pm **Fireside chat -
Communicating Facts
without Causing Alarm**

4.00 pm **End of Symposium**



About the symposium

Singapore's busy waters and coastlines support a diverse mix of maritime, ecological, and recreational functions. To preserve this delicate balance, managing oil spills effectively is crucial and must be grounded in science, sustainable processes, and long-term measures.

NParks' Oil Spill Management Symposium will bring together agencies, industry partners, researchers, and community stakeholders to discuss Singapore's oil spill management practices and their longer-term impact on our marine ecosystems and biodiversity.

It will feature talks, panel discussions, and workshops on topics such as oil spill impact research, oil spill response and monitoring capabilities, governance, science communication, and wildlife care.

Presentation

16 MAY, 10.15 AM (GMT + 8)

Marine Oil Spills – Same same, but different



Mr. David Campion

*Head of Singapore Office,
Senior Technical Adviser
ITOPF*

Pollution from ships can arise in multiple forms, with potential sources including fuel, cargo, operational wastes, and ballast water. Oil pollution—whether present as fuel or cargo—encompasses a wide range of physical and chemical properties, each requiring distinct response strategies for both clean-up operations and the assessment of environmental impacts. The ongoing development and increasing adoption of low-sulphur fuels and biofuel alternatives further expands the diversity and complexity of potential spill scenarios.

About the speaker

David joined ITOPF in November 2014 and holds a BSc in Marine Biology and an MSc in Tropical Coastal Management. He has attended multiple incidents in Europe, the Middle East, Africa, Asia, and North and South America dealing with a range of oils and other pollutants and has been involved with the initial response work as well a range of issues including impacts to fisheries and tourism as well as the overall environmental impact assessment of pollution.

In 2023 David was seconded to lead the ITOPF's inaugural satellite office in Singapore, following which a number of significant incidents occurred across the Asia Pacific region including Thailand, Philippines, Taiwan, Indonesia, Samoa and of course the MARINE HONOUR oil spill in Singapore in 2024.

Presentation

16 MAY, 11.00 AM (GMT + 8)

Oil Spill Response at Sea in Singapore: Overview and Upcoming Initiatives



Mr. David Foo

*Deputy Chief Executive (Operations and Technology) and Chief Data Officer
Maritime and Port Authority of Singapore
(MPA)*

This presentation by the Maritime and Port Authority of Singapore (MPA) provides an overview of oil spill incidents at sea in Singapore and the response measures in place. It also highlights emerging technologies to enhance spill response and monitoring capabilities, as well as new fuels being introduced here for international shipping.

About the speaker

David Foo joined the Maritime and Port Authority of Singapore in July 2017 and served in various senior management roles, and assumed the appointment of Deputy Chief Executive for Operations and Technology in April 2025.

He oversees all maritime and port operations and technology initiatives under MPA's purview, and is accountable for operations transformation and planning, engineering, hydrographic and marine services, IT and OT systems as well as cybersecurity and data governance.

Prior to joining MPA, he served in the Republic of Singapore Navy for more than 27 years and held various senior staff and command appointments, including in the submarine squadron.

Presentation

16 MAY, 12:45 PM (GMT + 8)

Oiled Wildlife Response - An Overview



Dr. Michael Ziccardi

*Associate Director of Global Programs
Oiled Wildlife Care Network (OWCN)*

Oil spills can have devastating impacts on the environment, and quick and effective responses are essential to protecting the environment and saving affected animal lives. Depending on the location and characteristics of the spill, thousands of animals can be impacted, with injuries that can rapidly progress to death without rescue and emergency treatment. During this talk, we will discuss the multi-factorial effects that oil (and oil spill response) can have on the health of wildlife species, and how rapid and effective emergency responses can save lives. Specifically, the system that the state of California has developed (the Oiled Wildlife Care Network) will be highlighted as an effective system to equip, train, and deploy staff and volunteers to provide the best achievable care to wildlife in need.

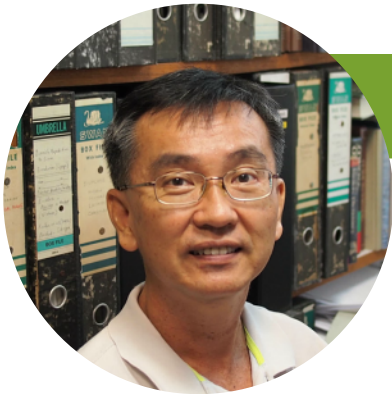
About the speaker

Dr. Ziccardi is currently the Director of the Karen C. Drayer Wildlife Health Center, Associate Director of Global Programs for the Oiled Wildlife Care Network, Director of the California Veterinary Emergency Team, and Health Science Clinical Professor for the School of Veterinary Medicine, UC Davis. He received his DVM, MPVM, and PhD in epidemiology from UC Davis, and has been an oil spill response veterinarian and coordinator since 1996, responding to more than 90 spills in the US and abroad. He has also worked as Executive Director of the One Health Institute, and Director of the OWCN.

Presentation

16 MAY, 1:30 PM (GMT + 8)

Health and recovery of macrobenthic communities in the Southern Islands after the June 2024 oil spill



Dr. Tan Koh Siang

*Principal Research Fellow
Tropical Marine Science Institute (TMSI)
National University of Singapore (NUS)*

An allision near Pasir Panjang Terminal on 14 June 2024 spilled 400 tonnes of fuel oil into the Singapore Strait, affecting Southern Islands' coastlines. To evaluate the impact on macrofauna (marine organisms 0.5-2 mm), sediment samples were collected from Bendera Bay and Eagles Bay, both visibly affected. Quarterly monitoring of total petroleum hydrocarbons (TPH) and macrofauna showed a general decrease over time, with site-specific variation. Bendera Bay had higher TPH levels and was dominated by polychaetes, while Eagles Bay had more amphipods. Initial analyses suggest that opportunistic species are recolonising deeper sediment layers.

About the speaker

Dr Tan Koh Siang is Principal Research Fellow and Head of the Marine Biology and Ecology Laboratory at the Tropical Marine Science Institute (TMSI). He obtained his PhD (Zoology) at the National University of Singapore in 1996 and was a postdoctoral scholar at the Swire Institute of Marine Science, University of Hong Kong before joining TMSI in 1997. His research interests focus on the systematics, biology and feeding ecology of tropical marine molluscs, with occasional forays into sponge taxonomy and seawall ecology.

Presentation

16 MAY, 2:15 PM (GMT + 8)

Microbial degradation of oil pollution on Singapore's sandy beaches



Prof. Stephen Pointing

*Professor
National University of Singapore (NUS)*

The 2024 Marine Honour oil spill near Singapore allowed researchers to study tropical marine microbes' response to petroleum contamination. Using field surveys, lab experiments, and genomic analyses, they found that microbial communities quickly shifted to include oil-degrading species, which maintained elevated functional capabilities for at least six months. While tidal redistribution was the primary factor for oil depletion on beaches, microbial degradation accounted for up to 40% of oil removal -- influenced by oxygen availability in beach sands. Ongoing research aims to integrate microbial contributions into coastal resilience strategies and optimise bioremediation pathways for oil-contaminated sands.

About the speaker

Professor Pointing holds a PhD and MBA from the UK and for the past thirty years he has developed an international research programme in environmental microbiology across the Asia-Pacific region. Based at the National University of Singapore since 2023, his current research focuses on the response of microbial communities to environmental stress and pollution in tropical marine and hydrothermal systems. The work combines fundamental and translational approaches, with a focus on leveraging microbial processes for pollutant bioremediation and developing microbial indicators of environmental change.

Presentation

16 MAY, 3:30 PM (GMT + 8)

Applying ecotoxicology techniques to assess environmental stress - engaging citizen scientists in the effort



Dr. Beverly Goh

*Senior Lecturer
National Institute of Education (NIE)
Nanyang Technological University (NTU)*

As part of the Ecotoxicology Biomonitoring of Oil Impacts using Marine Molluscs 1-year study, field-collected mollusc samples were tested for ecotoxicology biomarker expression at the cellular, biochemical and molecular levels. Additionally, 100 volunteers were trained to apply a few biomarker observations in five workshops conducted in NIE over 2 months (Aug – Oct 2025). From December 2025, a selection of volunteers have been accompanying research personnel in monthly field sampling, as well as contributing to sample processing in the laboratory. Field data analysed (that also included contributions from volunteers) indicate that cellular, biochemical and molecular biomarkers used could discriminate between sites, indicating the sensitivity of these biomarkers in molluscs that could indicate environmental condition.

About the speaker

Dr. Beverly Goh is an ecotoxicologist and studies the effects of environmental change on marine organisms. She believes that science can be made real through experiential and activity-based learning and applies these methods in teaching biodiversity and conservation. As a Senior Lecturer at Singapore's National Institute of Education, Nanyang Technological University, her research efforts focus on facilitating Citizen Science through using marine organisms to monitor marine environmental health. The biomarker techniques developed forms her core research that aims to identify signals from nature to serve as important early warning signs of environmental stress.

Panel Discussion: Our collective and collaborative response to oil spills

Moderator



Dr. Karenne Tun

*Group Director, National Biodiversity Centre,
National Parks Board (NParks)*

Panelists



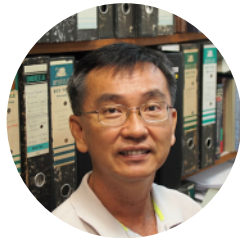
Mr. David Champion

*Head of Singapore Office, Senior
Technical Adviser
ITOPF*



Dr. Beverly Goh

*Senior Lecturer
National Institute of Education (NIE)
Nanyang Technological University (NTU)*



Dr. Tan Koh Siang

*Principal Research Fellow
Tropical Marine Science Institute (TMSI),
National University of Singapore (NUS)*

Presentation

17 MAY, 9:40 AM (GMT + 8)

Science Communication in a Crisis



Dr. Christopher Reddy

*Senior Scientist
Woods Hole Oceanographic Institution (WHOI)*

Dr Christopher Reddy had the rare opportunity to collaborate, inform, and advise various interested parties after the 2010 explosion of the Deepwater Horizon drilling rig in the Gulf of Mexico. Dr Reddy learned a lot about the environmental chemistry of oil spills and even more about himself, the role of academia during a crisis, and how the world operates. Based on these experiences, he will identify the main challenges scientists face during an environmental crisis when clear, consistent communication is crucial. Then, he will offer advice on navigating the maze of conflicting interests to deliver actionable information.

About the speaker

Christopher Reddy is a chemical oceanographer at the Woods Hole Oceanographic Institution. His research focuses on the environmental fate of oil spills and organic pollutants.

He has published over 240 peer-reviewed manuscripts. In recognition of his contributions to understanding marine oil pollution, a hydrocarbon-degrading microbial genus, “Candidatus Reddybacter,” was named in his honor. Reddy has testified before the United States Congress five times, is frequently interviewed by national and international media, and is the author of *Science Communication in a Crisis: An Insider’s Guide*.

Reddy earned a BS in chemistry from Rhode Island College and a PhD in chemical oceanography from the University of Rhode Island.

Presentation

17 MAY, 10:40 AM (GMT + 8)

International Legal Framework of Oil Spill Incidents at Sea



Dr. Zhen Sun

*Principal Research Fellow
Centre for International Law
National University of Singapore (NUS)*

Oil was the first marine pollution type regulated internationally, stemming from ships, offshore platforms, and land-based activities. The legal framework is organized around these sources, with vessel-source pollution having the most comprehensive regulations, while offshore and land-based pollution regulations are less cohesive. This presentation reviews the international laws governing oil spills from ships and offshore activities, highlighting the 1982 United Nations Convention on the Law of the Sea, shipping regulations by the International Maritime Organization, and relevant regional treaties in Southeast Asia. It concludes with a note on the significant legal gaps in liability and compensation for offshore oil spill incidents.

About the speaker

Dr. Zhen Sun is Principal Research Fellow with the Ocean Law and Policy team at the Centre for International Law, National University of Singapore. She was formerly Associate Professor (Research/Ocean Sustainability, Governance & Management) at the WMU-Sasakawa Global Ocean Institute, World Maritime University, and Research Fellow at CIL. Her research spans the law of the sea, international shipping regulation, gender equality in ocean governance, climate action, and marine environmental protection. She leads major research programmes, teaches and supervises at undergraduate and postgraduate levels, and publishes widely on ocean law and governance.

Workshop

Oil Spill Response Workshop: Talk and Field Demonstration

Conducted by **OSRL**

Join OSRL experts for a comprehensive workshop and field demonstration on oil spill response operations. The workshop session begins with a presentation on industry best practice for managing oil spill incidents, various response strategies, decision making process for selecting appropriate response equipment and ends with sharing of real-world challenges faced through selected case studies. This will be followed by a live field demonstration where participants will gain further understanding of what oil spill responders go through during a shoreline equipment deployment- by looking at oil spill response equipment up close and engaging in experiential elements that offer a glimpse of what it feels like to be an oil spill responder.

Schedule

12:30 pm **Oil Spill Response Talk**

- Introduction to OSRL
- Knowledge Sharing on industry good practice
- Case study: Marine Honour
- Briefing and preparation for field demonstration

2:00 pm **Bus to Pasir Ris Park**

3:00 pm **Oil Spill Response Field Demonstration**

4:30 pm **Debrief**

5:00 pm **End of Symposium**



Image credit: OSRL

Workshop

Oil Spill Response Workshop: Talk and Field Demonstration

Facilitators



Mr. Tan Zhi Hao, James

*Industry Engagement
Lead for Asia Pacific
Region
OSRL*

James, an environmental engineer, joined Oil Spill Response Limited (OSRL) as a Spill Responder in 2013. He has managed multiple oil spill incidents in the Asia Pacific region, including Papua New Guinea, India, and Singapore, taking on roles from leading operations to advising clients. Promoted to Senior Preparedness Solutions Advisor in 2019, he secured key projects, including one with the Lao PDR government to enhance oil spill response capabilities. Currently, as OSRL's Regional Engagement Lead for Asia Pacific, he leverages his experience to foster collaboration among stakeholders and promote industry best practices in the region.



Mr. Yow Lih Hern

*Singapore Response
Manager
OSRL*

Lih Hern is an emergency and crisis management expert with a chemical engineering background, specializing in oil spill preparedness and response. His career includes training and response plan development at ExxonMobil and managing a national capacity-building project for Laos' Ministry of Public Works and Transport. He has led international projects with Papua New Guinea's National Maritime Safety Authority and Brunei's Marine & Port Authority. In 2025, he returned to oversee four response teams in Singapore, ensuring high standards in response services and technical expertise.

Workshop

Communication and Stakeholder Engagement in a Crisis (Discussion Forum)

An effective oil spill response necessitates a collaborative, multi-stakeholder approach to mitigate environmental and economic damage. Achieving this requires rapid and coordinated efforts among government agencies, private industries, and international organizations. In this roundtable workshop, best approaches to communicating information to various stakeholders without causing alarm will be discussed through a series of presentations and a fireside chat involving diverse stakeholders.

Schedule

- 12:30 pm **Welcome and Introductions**
- 12:40 pm **The spill between science and public perception**
by Mr. Lester Tan, Nature Society Singapore
- 1:15 pm **A journalist's guide to effective media collaboration during environmental crises**
by Ms. Ang Qing, The Straits Times
- 1:50 pm **Refreshment**
- 2:30 pm **Fireside chat**
- Communicating Facts without Causing Alarm
 - Wrap up and Q&A
- 4:00 pm **End of Symposium**



Perspective from the Ground – Science Communication in Action

17 MAY, 12:40 PM (GMT + 8)

The spill between science and public perception



Mr. Lester Tan

*Chairman, Marine Conservation Group
Nature Society of Singapore (NSS)*

Looking at how oil spill incidents are communicated to the public in Singapore, and how people make sense of what they hear. While different spills can vary quite a lot in terms of fuel type, behaviour, and environmental impact, these differences are not always obvious to a general audience.

Because of this, public concern can remain high even when the level of risk differs. The session will explore the challenge of explaining ideas like fuel volatility, persistence, and ecological impact in a way that is accurate but still easy to understand, especially when information is evolving quickly. The talk will also touch on the strong public response during such incidents, including the willingness to help with cleanup efforts, sometimes without a full understanding of the risks involved.

Overall, the talk reflects on the importance of clear and timely communication in helping people respond more appropriately to environmental situations.

About the speaker

Lester has been a volunteer with Nature Society Singapore for about 15 years. He is currently the Chairman of Marine Conservation Group and leads the Horseshoe Crab Rescue & Research Program. With his dedication and passion going beyond the marine environment, he is constantly learning and advocating about our native wildlife and their habitats actively through citizen science. He is particularly in love with horseshoe crabs. Lester is also a commissioned member of the International Union for Conservation of Nature (IUCN) Horseshoe Crab Species Specialist Group (SSG)

Perspective from the Ground – Science Communication in Action

17 MAY, 1:15 PM (GMT + 8)

A journalist's guide to effective media collaboration during environmental crises



Ms. Ang Qing

*Environment and Science Correspondent
The Straits Times*

How does a complex environmental crisis make its way from the field to the front page? When and why do journalists send urgent queries? This presentation will demystify the bustle of Singapore's news cycle through the experiences of a journalist who has spent more than five years working at The Straits Times, with experience reporting breaking news and investigative features. The talk will unpack what the media looks out for when reporting science-related issues, referencing recent oil spill incidents and other high-profile environmental stories. Attendees will also learn concrete tips on how to better collaborate with the press.

About the speaker

Ang Qing is the Environment and Science Correspondent for The Straits Times, where she translates complex ecological and scientific issues for a mainstream audience. Holding degrees in social anthropology, law, and the social impacts of technology from the London School of Economics, she has a keen interest in the intersection of society and the environment. At The Straits Times, she covers a wide range of sustainability topics, spanning from the recent COP30 summit to local environmental incidents such as the recent oil spills and the felling of the Kranji woodland.

Workshop

Fireside chat: Communicating Facts without Causing Alarm

Moderator



Dr. Neo Mei Lin

Senior Research Fellow, Tropical Marine Science Institute (TMSI), National University of Singapore (NUS)

Dr Neo Mei Lin is a senior research fellow at the St. John's Island National Marine Laboratory, as well as a post-doctoral fellow at the NUS Reef Ecology Laboratory. Well-known for her research on giant clams, Dr Neo is also an advocate for science communication, giving talks to various schools, organisations, and volunteers in local conservation groups to promote marine conservation messages.

Panelists



Ms. Ang Qing

Environment and Science Correspondent, The Straits Times



Mr. Lester Tan

Chairman, Marine Conservation Group, Nature Society of Singapore (NSS)



Mr. Woo Wee Meng

Coordinating Director of Community Partnerships, Director of Jurong Lake Gardens Partnerships, Programmes & Visitor Services, National Parks Board (NParks)

In NParks, Wee Meng builds community partnerships across different stakeholder groups from grassroots volunteers to social enterprises to advance community stewardship for our City in Nature vision. He is concurrently in charge of partnerships, programmes, and visitor services in Jurong Lake Gardens.



Ms. Ng Lee Kiang

Member, Friends of Marine Park

Ng Lee Kiang is a passionate marine educator and co-founder of Young Nautilus, where she promotes environmental education through programmes, reaching over 10,000 participants annually. She empowers individuals to connect with nature and cultivated a community of young educators dedicated to marine conservation. She was honoured to receive 2024 Blue Water Heroes and Conservation International's 10 for Zero awards, and contributes to climate advocacy by representing Singapore youths at COP28 and through NYC Greenhacks, collaborate on recycling policy co-creation. As Friends of Marine Park volunteer, she supports outreach events and dive surveys, such as Coral and Neptune Cup Sponge projects.