



## ISCO & THE ISCO NEWSLETTER

The International Spill Control Organization, a not-for profit organization dedicated to raising worldwide preparedness & co-operation in response to oil and chemical spills, marine & freshwater pollution by plastics, promoting technical development and professional competency, & to providing a focus for making the knowledge and experience of spill control professionals available to Intergovernmental, Governmental, NGO's and interested groups and individuals. ISCO holds consultative status at the International Maritime Organisation & observer Status at the International Oil Pollution Compensation Fund

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## INTERNATIONAL & REGIONAL NEWS

PLEASE CLICK ON THE BANNERS BELOW FOR MORE INFORMATION

## COALITION OF NATIONS CALL FOR \$12B PLAN TO SAVE PLANET'S CORAL REEFS

A coalition of 45 nations has announced a pledge to raise \$12 billion to help protect and preserve coral reefs around the world.



Above: Barque Canada Reef, Spratly Islands (Photo courtesy of NASA)

The International Coral Reef Initiative, a government and NGO coalition founded in the 1990s, has launched a multi-part plan to save 50,000 square miles of tropical coral reefs around the planet. The "Coral Reef Breakthrough" calls for four major actions: doubling the area of coral under effective protection; raising \$12 billion for conservation; speeding up coral restoration and climate adaptation for 30% of degraded reefs by 2030; and stopping drivers of coral loss, like land-based pollution, destructive development and overfishing.

The Maritime Executive / [Read more](#)

## GLOBAL FRAMEWORK AGREED IN BONN SETS TARGETS TO ADDRESS HARM FROM CHEMICALS AND WASTE

30 September 2023 – The Fifth International Conference on Chemicals Management (ICCM5) concluded today in Bonn, Germany, with the adoption of a comprehensive global framework that sets concrete targets and guidelines for key sectors across the entire lifecycle of chemicals.

## ISCO AMBASSADORS

(Members with special responsibilities in specified geographical areas)


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competence and commitment, and can give  
you a significant advantage in today's  
competitive environment. All who have the  
relevant qualifications and the required level  
of experience can apply for Professional  
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grade of membership reflects an individual's  
professional training, experience and  
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(MISCO) or FELLOWSHIP (FISCO)

## INTERNATIONAL & REGIONAL NEWS (CONTINUED)

A unique international negotiating process – where representatives from governments, the private sector, Non-Governmental Organizations, intergovernmental organizations, youth, and academia participated at the same level – resulted in the historic decision to establish the “Global Framework on Chemicals – For a planet free of harm from chemicals and waste.”  
UNEP / [Read more](#)

## NEWS FROM AROUND THE WORLD

### AUSTRALIA: CELEBRATING 50 YEARS OF THE NATIONAL PLAN FOR MARITIME ENVIRONMENTAL EMERGENCIES

October 3 - A landmark national agreement, that works to keep Australia's oceans safe from pollution, is marking its 50th anniversary.

The National Plan for Maritime Environmental Emergencies (National Plan) sets out arrangements, policies and principles for the management of maritime environmental emergencies, including oil and other toxic and hazardous spills.

The Australian Maritime Safety Authority (AMSA) is responsible for managing the National Plan, which came into effect on 1 October 1973. The National Plan applies throughout Australia's exclusive economic zone, and covers all coastal waters, offshore islands and territories. AMSA / [Read more](#)

### BELIZE TO LAUNCH PROJECT TO MAKE BIOFUEL FROM SEAWEED CLOGGING CARIBBEAN COASTS

October 3 - Belize is developing a pilot project to convert the masses of foul-smelling sargassum seaweed swamping its pristine beaches into biofuel, its prime minister said in a statement published by regional Caribbean bloc CARICOM on Tuesday.

Many Caribbean countries depend economically on drawing travelers from around the world to their white sand beaches, but since 2010 heaps of rotting seaweed have been massing on the shores for reasons scientists do not yet fully understand but suspect are related to climate change. Reuters / [Read more](#)

### BRAZIL: IBAMA REINFORCES AID IN ENVIRONMENTAL EMERGENCY ACTIVITIES IN AMAZONAS

October 4 - Ibama reinforced aid to environmental emergency activities resulting from the drought in the State of Amazonas. Currently, 134 firefighters from the

Institute are working to contain the flames that reach the metropolitan region of Manaus and the south of the state. The teams are divided into the municipalities of Manaus, Apuí and Humaitá and the Indigenous Lands of Tenharim Marmelos and Andira Marau (on the border with Pará). IBAMA / [Read more](#)

### CANADA: GOVERNMENT OF CANADA COMMITS \$12.5 MILLION IN FUNDING IN NEW COLLABORATION WITH PHILANTHROPIC ORGANIZATIONS TO SUPPORT ENVIRONMENTAL LITERACY PROJECTS ACROSS CANADA

October 4 - Canada is committed to providing young Canadians with the knowledge and skills they need to better understand and cope with the triple threat of climate change, biodiversity loss, and pollution.

Today, the Honourable Steven Guilbeault, Minister of Environment and Climate Change, announced that the Government of Canada will invest \$12.5 million from the Environmental Damages Fund's Climate Action and Awareness Fund in an innovative partnership with the philanthropic community to help grow environmental literacy across Canada. The funding will support projects that will increase the scientific knowledge and environmental literacy of young Canadians, their educators, and families, as part of the long-term solutions to tackle climate change. A portion of the funding will be dedicated to Indigenous-led initiatives. Environment & Climate Change News / [Read more](#)





# Marine Pollution Control Worldwide Problem Solvers Since 1968

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## ISCO-OceanPact Brazil International Seminar

### *Maritime Pollution and 21st Century Oil Spills*

Lessons Learned for Brazil &  
Latin America Preparedness,  
Response and Crisis  
Management

*Case Studies*



**Rio de Janeiro**  
**27 October 2023**

CLICK ON THE ABOVE ADVERTISEMENTS FOR MORE INFORMATION

### GERMANY: GEF CEO STATEMENT ON GERMANY'S CONTRIBUTION TO BIODIVERSITY FUND

September 30- [This contribution](#) to the Global Biodiversity Framework Fund reflects Germany's continued leadership for the environment, building on its record of strong support for action on biodiversity, climate change, and pollution at the Global Environment Facility. It is also significant as, combined with already-announced commitments to the fund by Canada and the United Kingdom, the GBFF has now passed the \$200 million mark, which will allow for its operationalization. The GEF / [Read more](#)

### INDIA: HAS THE INDIAN GOVERNMENT MANAGED TO CLEAN THE GANGA AT LAST?

September 29 - In 2014, the Indian government launched the latest in a long line of projects to clean the Ganga's waters, but in the city of Varanasi it shows mixed results. Varanasi, a city of 3.6 million, is also the constituency of Indian prime minister Narendra Modi, who came to power in 2014. He promised a cleaner Ganga through his governance and policies, and his government promptly launched its flagship Namami Gange programme, which champions a "scientific" approach to curbing the river's pollution and bolstering conservation and rejuvenation efforts. The Third Pole / [Read more](#)

### ITALY: BARCOLANA SEA SUMMIT

October 6 – From ATRAC in Croatia -

On the 4th of October 2023, ATRAC attended an event in Trieste that was organized during the Barcolana Sea Summit. This event was organized to raise awareness about the importance that the sea has to people, the effect that climate change has on the environment, and the extreme weather conditions it causes. After the introduction to the topic, a round table was held in which Jeremy Rifkin, an activist and expert on the topic at hand, participated. The round table portion of this event concluded with a conversation about the NAMIRS project and a discussion about the expressed opinions. ATRAC / [Read more](#)

### JAPAN AND FIJI: JAPAN PROVIDES MSAF \$1.6M FUNDING FOR THE PROCUREMENT OF OILSPILL PREVENTATIVE EQUIPMENT

October 6 - The Japanese Government will provide funding of \$1.6 million to the Fiji government to support the procurement of Oil Spill Preventative Equipment for the Maritime Safety Authority of Fiji under its 'Economic Social Development Programme'. While signing the Memorandum of Understanding, Minister for Work and Transport, Ro Filipe Tuisawau thanked the Government of Japan for their provision in maintaining our ocean clean by providing Oil Spill equipment that will benefit the future generation of Fiji. Fiji Village / [Read more](#)

### MEXICO: PRESIDENT HINTS AT NEW CLEANUP PLAN FOR TOXIC RIVER SPILL

October 4 - Mexico's president announced that he expects to have a new action plan in the next couple weeks to better address a toxic spill that fouled a river nine years ago and was blamed on one of the country's top mining and transportation companies.

President Andres Manuel Lopez Obrador told reporters at a regular government press conference that funds allocated by conglomerate Grupo Mexico ([GMEXICOB.MX](#)) for cleanup and remediation appeared to be insufficient, adding that meetings over the next few days should yield a new "proposal" that officials will present to the company. Reuters / [Read more](#)

### NIGERIA: MARPOL AND THE STATE-SANCTIONED DESTRUCTION OF CRUDE OIL-CARRYING VESSELS ON NIGERIAN WATERS

September 28 – MARPOL Annex 1 is the relevant instrument for this article because its provisions are relevant to the current trend of the setting ablaze of oil-carrying vessels by Nigerian security agencies in Nigerian waters which causes the discharge of oil and other hazardous substances from those vessels into the marine environment and, thereby, polluting the waters.

Nigeria has in recent years witnessed a humongous wave of crude oil theft which has negatively impacted the country's revenue and by extension the economy. In a bid to curb this menace, the government set up a joint task force comprising Nigerian security agents and private contractors and saddled it with task of combatting crude oil theft and vandalization of oil pipelines.

While the activities of the operators of the oil and gas industry have turned Nigeria into an environmental emergency as far as marine pollution is concerned, the Nigerian security agencies have willfully made themselves particeps criminis in the perpetration of this environmental disaster with their current propensity for setting ablaze oil-carrying vessels accused or suspected of crude oil theft in Nigeria. Mondaq / [Read more](#)

### NIGERIA: WEBINAR TRAINING ON THE 2010 HNS CONVENTION FOR NIGERIA

October 3 - The IOPC Funds were delighted to be invited by the Nigerian Maritime Administration and Safety Agency (NIMASA), to deliver a webinar and training exercise on the 2010 HNS Convention on 29 September 2023. The event was attended by some 20 representatives from various Departments within the Agency, including those working within a dedicated HNS Unit. The Agency reported that the Unit was working on preparations for Nigeria to ratify the 2010 HNS Convention and had already organised two interactive meetings with key stakeholders in Nigeria on the Convention. IOPC Funds / [Read more](#)



### NORWAY: CLEAN OCEANS ARENA

October 4 - Join us for two enriching days in Bergen with panel discussions, networking and knowledge exchange, for everyone working to reduce and prevent marine plastic pollution!

Clean Oceans Arena will gather national and international representatives from the entire value chain. We invite legislators, equipment manufacturers, clean-up organizations, technology developers, representatives from fishing and aquaculture industries, recycling companies and any other organizations contributing to clean oceans, to take part.

We want our attendees to focus on sharing, learning and networking. The price includes attendance to all presentations and panel discussions, all meals, a conference dinner and comfortable accommodation at the Quality Hotel Edvard Grieg. Of course, we are a single-use plastic-free event!

Your invitation can be found [here](#). A preliminary program is available [here](#) and will be updated continuously.

### TUNISIA: KERKENNAH TIER 1 OIL SPILL RESPONSE EXERCISE N°2



September 21 - The Kerkennah Tier 1 Oil Spill Response Exercise N°2 was jointly organized by Thyna Petroleum Services (TPS) ; member ; and the Mediterranean Oil Industry Group (MOIG) in Cercina field in Kerkennah Island-Tunisia.

The theoretical part was held in Ennakhla Hotel in Kerkennah Island in which TPS gave an introduction on its activities, the exercise objectives, the oil spill scenario, the combatting strategy and safety induction. MOIG delivered a presentation on the evaluation form that was used by observers to assess the exercise.

To oversee the management of the exercise, an Exercise Steering Committee "ESC" was formed and composed of representatives from TPS and MOIG. Seven (07) "ESC" meetings were performed to define and discuss the scale, the oil spill scenario, the designation of the management, the check of OSR equipments, the logistics in order to track the development process of the exercise. MOIG / [Read more](#) (Photo courtesy of MOIG)

### UK: WATER POLLUTION AND CONSTRUCTION: CAUSES, REMEDIES AND REPERCUSSIONS

Septembr 28 - [Watch our video series "Environmental law in practice" for an introduction to key issues such as air, water, waste, habitat and biodiversity management.](#)

Water pollution and construction: What are the main causes?

Water pollution incidents often arise on construction sites if proper planning and procedures are not put in place. There are typically three sources of pollution from construction sites which can impact on watercourses: silt pollution; the release of hydrocarbons or chemicals; and the release of other site waste into the water such as litter or building materials.

Forward planning and the operation of water management procedures can reduce the risk of a significant pollution event. Mondaq / [Read more](#)

## NEWS FROM AROUND THE WORLD (CONTINUED)

### USA: LATEST NEWS REPORTS FROM NOAA OR&R

October 2 – Please click on the links below to download and read the latest news from NOAA OR&R

#### [NOAA Convenes with Indo-Pacific Partner Nations for Oil Spill Response Workshop](#)

OR&R's Emergency Response Division assisted with a Hawaii Oil Spill Response Workshop, sponsored by the U.S. Indo-Pacific Command (USINDOPACOM), held in Honolulu on September 18-22.

#### [International Working Group Meets to Develop Monitoring Program for Microplastics in the Great Lakes](#)

On September 12-13, 2023, the NOAA Marine Debris Program attended and presented at an [International Joint Commission \(IJC\)](#) (link is external) workshop on developing a monitoring framework for microplastics in the Laurentian Great Lakes. The NOAA Marine Debris Program's Great Lakes Regional Coordinator, Haley Dalian, and Research Coordinator, Carlie Herring, participated in the workshop, which was held in Ann Arbor, Michigan.

### USA: LAKE SUPERIOR STATE UNIVERSITY'S CENTER FOR FRESHWATER RESEARCH EXPANDS INTERNATIONAL RESEARCH EFFORTS

October 4 - Lake Superior State University's Center for Freshwater Research and Education (CFRE) is moving forward with its expansion plans and inviting international allies to join in new research initiatives. The CFRE, a relatively new addition to the university, specializes in research regarding the Great Lakes and other freshwater sources.

By partnering with the U.S. Coast Guard National Center of Expertise, which opened a location within CFRE last year, the research center is able to collaborate and pool resources, allowing for expanded research parameters and job creation. CFRE has plans to launch a new research program that involves the Coast Guard center and international allies. This program will be based in a new building on the CFRE site, expanding into city property. [Energy Portal](#) / [Read more](#)

## PEOPLE IN THE NEWS

### ITOPF WELCOMES JENNY EDWARDS TO THE TEAM



October 3 - We are delighted to welcome Jenny Edwards to the team as our Company Secretary (Designate) and Director of Governance.

Jenny holds a first-class honours degree from Newcastle University in Classics, is a qualified primary school teacher and has been a practising solicitor in England & Wales since 2003. Prior to joining ITOPF in 2023, she spent ten years working as a corporate/commercial lawyer before moving into the not-for-profit sector where she has held senior roles such as General Counsel, Company Secretary and Director of Governance & Legal Affairs. [ITOPF](#) / [Read more](#)

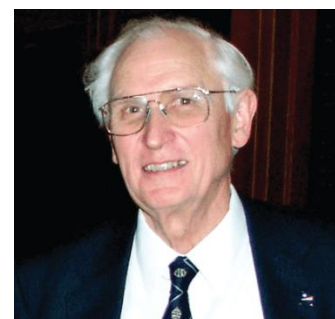
## OBITUARY

### CAPTAIN DAVID BRUCE

Captain David J.F. Bruce, Permanent Representative of the Republic of the Marshall Islands (RMI) to the International Maritime Organization (IMO), and Senior Deputy Commissioner of Maritime Affairs, RMI Maritime Administrator, has passed away.

IMO Secretary-General Kitack Lim said: "It is with great sadness that we have learned of the passing of Captain David Bruce, who represented the Republic of the Marshall Islands at IMO, as Permanent Representative, since 2002 – but whose links with IMO go back nearly 50 years.

Captain Bruce was a great friend to IMO and to all of us. His deep insights into maritime issues were guided by his long experience at sea since the late 1950s and onshore with maritime administration and ship registries since 1972". [IMO](#) / [Read more](#)



## NEWS FROM ISCO MEMBERS – AN ISCO MEMBERSHIP BENEFIT

*Corporate Members of ISCO can benefit by submitting news about new products and services in the "News from ISCO Members" section of the ISCO Newsletter. This is a free facility for Members. Given that the ISCO Newsletter has a large and highly targeted readership in over 60 countries, it's a cost-effective way to promote your company. If you have some news you would like to share with readers of the ISCO Newsletter, send it to [John.McMurtrie@spillcontrol.org](mailto:John.McMurtrie@spillcontrol.org)*

Members who would like to place a regular advertisement in the ISCO Newsletter can also benefit from preferential discounted rates. For more info please contact Mike Watson at [mike@mwadigital.com](mailto:mike@mwadigital.com) He will be happy to help you.

### NEW VIDEO PRESENTATION OF CEDRE

This week, and on the occasion of its 45th anniversary this year, Cedre will unveil its new institutional film and invite you to discover or rediscover its 6 fields of activity. Discover now the short version of our new corporate film - <https://youtu.be/CArWPIMw0SI?si=2626-WMck-y1JKyP>

### FROM HALENHARDY – “PREPARING FACILITIES FOR WINTER”

Join us on Wednesday, October 25, 2023, at 10 AM for our upcoming webinar, where we'll explore the importance of identifying winter risks and creating effective plans to ensure everyone's safety in the cold, icy months. [More information](#)

## NURDLES - PREVENTION, CLEAN-UP TECHNOLOGY AND ONGOING R&D WORK



*The ISCO Executive Committee is looking into how our organisation can assist by co-operating with others in promulgating better prevention and response capabilities that can be adopted on a worldwide basis.*

*Readers of the ISCO Newsletter are invited to contribute information that can be shared within our community and help to improve our capability to counter this pollution in more effective ways.*

*ISCO Committee Member, Dr Larissa Montas, is a contributor to this section in the ISCO Newsletter.*

Dr. Larissa Montas attended the Nurdles/Plastic Pellets Response workshop held on September 6 & 7, 2023 at the NOAA Center for Weather & Climate Prediction (NCWCP), in College Park, Maryland. The workshop was a success and the attendees were very enthusiastic about the next steps following the workshop outcomes. A report has been prepared and has been sent it over to the workshop organizers for approval of the content. It will be published here ASAP.

## RECENT INTERESTING PEER-REVIEWED OIL SPILL PUBLICATIONS

### A COLUMN CREATED BY DR. MERV FINGAS, MEMBER OF ISCO COUNCIL FOR CANADA



This is part of a weekly column which provides the references and abstracts of new peer-reviewed scientific publications on oil spills. These references are selected on the basis of those papers that provide new insights into the fate, effects and control of oil spills. Readers may choose to obtain the full publications and to do so, one of three methods is suggested; contact your library, search the internet with the DOI (digital object identifier) provided, or search the internet for the exact title. These are given in the order of likely success in obtaining the article. Merv Fingas, ISCO Colleague.

### 247. Fire and Oil Led to Complex Mixtures of PAHs on Burnt and Unburnt Plastic during the M/V X-Press Pearl Disaster

James B.D., Reddy C.M., Hahn M.E., Nelson R.K., de Vos A., Aluwihare L.I., Wade T.L., Knap A.H., Bera G.  
(2023) ACS Environmental Au,  
DOI: 10.1021/acsenvironau.3c00011

**ABSTRACT:** In May 2021, the M/V X-Press Pearl container ship burned for 2 weeks, leading to the largest maritime spill of resin pellets (nurdles). The disaster was exacerbated by the leakage of other cargo and the ship's underway fuel. This disaster affords the unique opportunity to study a time-stamped, geolocated release of plastic under real-world conditions. Field samples collected from beaches in Sri Lanka nearest to the ship comprised nurdles exposed to heat and combustion, burnt plastic pieces (pyroplastic), and oil-plastic agglomerates (petroplastic). An unresolved question is whether the 1600+ tons of spilled and recovered plastic should be considered hazardous waste. Due to the known formation and toxicity of combustion-derived polycyclic aromatic hydrocarbons (PAHs), we measured 20 parent and 21 alkylated PAHs associated with several types of spilled plastic. The maximum PAH content of the sampled pyroplastic had the greatest amount of PAHs recorded for marine plastic debris (199,000 ng/g). In contrast, the sampled unburnt white nurdles had two orders of magnitude less PAH content. The PAH composition varied between the types of spilled plastic and presented features typical of and conflicting with petrogenic and pyrogenic sources. Nevertheless, specific markers and compositional changes for burning plastics were identified, revealing that the fire was the main source of PAHs. Eight months after the spill, the PAH contents of sampled stray nurdles and pyroplastic were reduced by more than 50%. Due to their PAH content exceeding levels allowable for plastic consumer goods, classifying burnt plastic as hazardous waste may be warranted. Following a largely successful cleanup, we recommend that the Sri Lankans re-evaluate the identification, handling, and disposal of the plastic debris collected from beaches and the potential exposure of responders and the public to PAHs from handling it. The

maritime disaster underscores pyroplastic as a type of plastic pollution that has yet to be fully explored, despite the pervasiveness of intentional and unintentional burning of plastic globally.

**248. Life history and population dynamics of the enigmatic tanaid *Chondrochelia dubia* (Tanaidacea: Leptocheliidae) in a tropical seaweed bed**

Alves R.V.A., Frédou F.L., Craveiro N., Eduardo L.N., Rosa Filho J.S.  
 (2023) *Scientia Marina*, 87 (1), art. no. e059,  
 DOI: 10.3989/scimar.05322.059

**ABSTRACT:** The present study describes the population dynamics and life history parameters of the enigmatic tanaid *Chondrochelia dubia* collected in Paiva Beach, tropical coast of Brazil. The region was impacted by a large, unexpected oil spill from August to October 2019. Samples were taken monthly between July 2019 and July 2020 in beds of the red seaweed *Jania capillacea*. The abundance of individuals was negatively correlated with monthly rainfall, with higher abundances in drier months. There was an unexpected significant drop in abundance in September, possibly caused by contact with the crude oil, but the population recovered fully within two months. The parameters of the von Bertalanffy growth equation, calculated for the first time for the species, were  $L_{inf}=5.26$  mm;  $k=3.36$  year<sup>-1</sup>;  $t_0=0.0$ . Compared with other studies, the specimens are very small ( $2.04 \pm 0.95$  mm in length), females reach sexual maturity very early ( $L_{50}=2.3$  mm), and natural mortality is high ( $Z=M=5.77$  year<sup>-1</sup>), indicating an opportunistic life strategy. This study reinforces the bioindication potential of *C. dubia* and the use of bootstrapped length-based methods to estimate key population parameters in small marine invertebrates.

**249. Metatranscriptomic shifts suggest shared biodegradation pathways for Corexit 9500 components and crude oil in Arctic seawater**

Gofstein T.R., Leigh M.B.  
 (2023) *Environmental Microbiology Reports*, 15 (1), pp. 51 - 59,  
 DOI: 10.1111/1758-2229.13127

**ABSTRACT:** While the genes and pathways responsible for petroleum biodegradation in marine environments have received substantial attention, considerably less is known about those active in the biodegradation of the commonly applied chemical dispersant Corexit 9500. Yet, their fate in the Arctic marine environment is an increasingly important unknown. To elucidate the genes and pathways active in the biodegradation of oil and dispersants, we performed metatranscriptomic sequencing on microbial communities in Arctic seawater exposed to oil, Corexit, or both for 0, 5, and 30 days in a mesocosm incubation experiment. While oil and Corexit stimulated significantly different metatranscriptomic profiles overall, both enriched a suite of fatty acid degradation gene transcripts. Based on the gene transcripts observed and the chemical structures of Corexit 9500 surfactant components, we propose a hypothetical pathway for Corexit surfactant biodegradation in which surfactant ester groups are transformed into fatty acids that are then funnelled into the  $\beta$ -oxidation fatty acid degradation pathway. Several microbial taxa within Oceanospirillales, Pseudomonadales, and Alteromonadales were associated with either oil-only or Corexit-only exposure, potentially implicating them in the degradation of these mixtures. Metabolic gene transcripts were associated with diverse gammaproteobacterial lineages, with many genera exhibiting functional redundancy. These findings offer new insight into the potential genes, pathways, and microbial consortia involved in the biodegradation of Corexit 9500 in the Arctic marine environment.

**250. A comprehensive study on diesel oil bioremediation under microcosm conditions using a combined microbiological, enzymatic, mass spectrometry, and metabarcoding approach**

Giovanella P., Taketani R.G., Gil-Solsona R., Saldanha L.L., Naranjo S.B.E., Sancho J.V., Portolés T., Andreote F.D., Rodríguez-Mozaz S., Barceló D., Sette L.D.  
 (2023) *Environmental Science and Pollution Research*,  
 DOI: 10.1007/s11356-023-29474-w

**ABSTRACT:** This study aims at the application of a marine fungal consortium (*Aspergillus sclerotiorum* CRM 348 and *Cryptococcus laurentii* CRM 707) for the bioremediation of diesel oil-contaminated soil under microcosm conditions. The impact of biostimulation (BS) and/or bioaugmentation (BA) treatments on diesel-oil biodegradation, soil quality, and the structure of the microbial community were studied. The use of the fungal consortium together with nutrients (BA/BS) resulted in a TPH (Total Petroleum



Hydrocarbon) degradation 42% higher than that obtained by natural attenuation (NA) within 120 days. For the same period, a 72 to 92% removal of short-chain alkanes (C12 to C19) was obtained by BA/BS, while only 3 to 65% removal was achieved by NA. BA/BS also showed high degradation efficiency of long-chain alkanes (C20 to C24) at 120 days, reaching 90 and 92% of degradation of icosane and heneicosane, respectively. In contrast, an increase in the levels of cyclosiloxanes (characterized as bacterial bioemulsifiers and biosurfactants) was observed in the soil treated by the consortium. Conversely, the NA presented a maximum of 37% of degradation of these alkane fractions. The 5-ringed PAH benzo(a)pyrene, was removed significantly better with the BA/BS treatment than with the NA (48 vs. 38 % of biodegradation, respectively). Metabarcoding analysis revealed that BA/BS caused a decrease in the soil microbial diversity with a concomitant increase in the abundance of specific microbial groups, including hydrocarbon-degrading (bacteria and fungi) and also an enhancement in soil microbial activity. Our results highlight the great potential of this consortium for soil treatment after diesel spills, as well as the relevance of the massive sequencing, enzymatic, microbiological and GC-HRMS analyses for a better understanding of diesel bioremediation.

## **251. Formation of oil-particle aggregates in the presence of marine algae**

Qi Z., Wang Z., Yu Y., Yu X., Sun R., Wang K., Xiong D.  
(2023) Environmental Science: Processes and Impacts,  
DOI: 10.1039/d3em00092c

**ABSTRACT:** After an oil spill, the formation of oil-particle aggregates (OPAs) is associated with the interaction between dispersed oil and marine particulate matter such as phytoplankton, bacteria and mineral particles. Until recently, the combined effect of minerals and marine algae in influencing oil dispersion and OPA formation has rarely been investigated in detail. In this paper, the impacts of a species of flagellate algae *Heterosigma akashiwo* on oil dispersion and aggregation with montmorillonite were investigated. This study has found that oil coalescence is inhibited due to the adhesion of algal cells on the droplet surface, causing fewer large droplets to be dispersed into the water column and small OPAs to form. Due to the role of biosurfactants in the algae and the inhibition of algae on the swelling of mineral particles, both the oil dispersion efficiency and oil sinking efficiency were improved, which reached 77.6% and 23.5%, respectively at an algal cell concentration (Ca) of  $1.0 \times 10^6$  cells per mL and a mineral concentration of 300 mg L<sup>-1</sup>. The volumetric mean diameter of the OPAs decreased from 38.4  $\mu\text{m}$  to 31.5  $\mu\text{m}$  when Ca increased from 0 to  $1.0 \times 10^6$  cells per mL. At higher turbulent energy, more oil tended to form larger OPAs. The findings may add knowledge about the fate and transport of spilled oil and provide fundamental data for oil spill migration modelling.

## **SCIENCE & TECHNOLOGY (**

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## **MARINE PLASTIC MAY BE BREEDING GROUND FOR ANTIBIOTIC-RESISTANT BACTERIA**

Marine plastic waste may serve as a vector for the spread of antimicrobial resistance (AMR) from pathogenic bacteria, either to shellfish or directly to humans who are bathing in the sea or taking part in other recreational activities. “The bacteria contained in sewage and wastewater discharged from households, hospitals and factories will form biofilms on plastic surfaces in the sea”, explains Gunhild Hageskal, who is a Senior Research Scientist at SINTEF. “Such bacteria may already possess resistant properties, but in any event, bacterial biofilms are known to act as incubators for antimicrobial resistance. The reason for this is that bacteria readily exchange so-called mobile genetic elements when assembled in large numbers at a single location”, she says. The Maritime Executive / [Read more](#)

## **PERMEABLE REACTIVE BARRIER CONFIGURATION FOR CONTAMINATED GROUNDWATER REMEDIATION – DESIGNING; INSTALLATION, AND MODELING: A REVIEW**

Groundwater is a valuable resource whose purity is necessary for human survival. It serves as a significant source of water for household, industrial, and agricultural purposes. Traditional groundwater pollution remediation technologies include pump & treat, phase extraction, aeration gas of groundwater, bioremediation, and chemical oxidation. Permeable reactive barrier is one of the most key technology being developed as alternatives to the pump and manage method for the remedying contaminated groundwater. An overview on the groundwater significant as important sources for water, sources of groundwater contamination, transport of contaminants, and groundwater remediation technologies have been discussed in this paper. In addition to reactive media, the design and installation of PRBs of funnel-gate configurations and their application as a remediation technique have been covered in this review. Finally reaction mechanisms in groundwater, contaminant transport governing equation, isotherms sorption models, kinetic sorption models, breakthrough curves modeling have been presented in this review. Ecoet / [Read more](#)

ISCO-OceanPact Brazil International Seminar  
 Maritime Pollution and 21st Century Oil Spills  
 (Rio de Janeiro, October 2023)

## *The Wakashio Oil Spill*

*Responding to a VLSFO spill, Covid 19  
 and the  
 Role of Civil Society and International Support*  
**Mauritius 2020**

**Author: Matthew Sommerville**  
**Spectrum Spill Services Limited**  
**ISCO Executive committee, FISCO, and London Ambassador**

This short Case Study examines the world first Very Low Sulphur Fuel Oil (VLSFO) incident and the associated response by Mauritius's people with limited international support during the global Covid-19 pandemic.

The incident and associated response offer important lessons for those engaged in planning for future marine pollution events elsewhere particularly related to use of civil society and international support resources in new ways. For this reason, it is included as a Case Study in upcoming ISCO-OceanPact International Seminar to be held in Brazil (Rio de Janeiro, October 27, 2023).



**Background:** The 203,130 dwt Panama flagged bulk carrier Wakashio undertaking a ballast voyage from the Lianyungang, China port to load iron ore in the port of Tubarao, Brazil. The ship made a last planned stop in Singapore on 14th July 2020 to take and on bunkers. As the vessel transited on through the Indian Ocean, she deviated from the normal shipping routes bringing her track closer to the island of Mauritius. While the flag state incident report found the vessel was in good mechanical order and navigational equipment was working properly the vessel as the flag state incident report conclusions state grounded due to human factors. [Wakashio-investigation-report.pdf](#)

As a result, at 19:25 local time on Thursday, July 25, 2020 the vessel grounded near Pointe d'Esny on the southeastern corner of Blue Bay in Mauritius. With no crew injuries and no oil being lost initially it was considered that once suitable resources arrived the vessel could be refloated, and the crew remained onboard to assist in that effort. Recent experience in Mauritius with the 2016 Benita another bulk carrier grounded and refloated just 5000m from the Wakashio's location supported that potential outcome. In addition, the vessel was only partially grounded and still moving because of wind and waves. However, with the activation of the national plan and the risk of pollution identified the salvage operation focus was on the included the transfer and offload of the bunkers and other oil using a small tanker and as had been done on the Benita 1000lt ISO tanks filled on deck and lifted off by helicopter.

The chain of circumstances and events which led to the incident did not stop after the grounding and the response was complicated by further circumstances and events which provide those managing the response with new challenges, the needs to develop novel solutions and knowledge others can learn from.

These post grounding circumstances and events included:

- Spilled Products,
- Location,
- Covid 19,
- Role of Civil Society and International Support.



**Spilled Products:** In January 2020, the IMO 2020 regulation 18 for fuel oil quality, Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL) came into force. The regulation focussed on reducing sulphur in marine fuel oils and as a result sulphur oxide emissions from shipping. The change however partially reset years of knowledge on the fate, effects and response gained on the previous range of marine bunker fuels. This was offset in part with pre change studies of early examples of the new fuels. However, given the specification (ISO standard 8217) allows for variability in how a refinery achieves that specification based on its feedstocks and refinery capabilities. This combines with which depressed global demand changed the available feedstock and resulting product sold in early 2020 compared with those evaluated. In addition, the change indirectly required changes in the lubricating oils, colling systems and other ancillaries of the engines now burning VLSFO and these had not been evaluated in the same way regarding fate if spilled. The cylinder oil for example in this incident producing a sub-surface plume which booms would not stop but when once again contained, as it met the shoreline, produced a surface oil layer.



At the time of grounding the Wakashio had onboard 3894 tonnes of VLSFO, 207 tonne of Diesel and 90 tonnes of lubricants (having taken on bunkers in Singapore) plus the normal range of paints, grease, cleaning products and other small quantities of pollutants which could impacts on sensitive sites. Therefore, in spite years of global experience in marine spills those responding to the Wakashio from government, local bodies, salvors or international experts all would need to gain a new understanding of the properties, fate and potential interactions of the products spilled.

Clearly these lessons are not limited to the Wakashio and with changes in global energy production the nature of products being used, moved, and the locations where it might be shipped, stored, or spilled are changing. Further the knowledge of how these new fuels, biofuels as well as the wider range of lubricants, coolants etc will react, their fate or the containment and recovery issues which might be encounters are changing.

The potential polluter may be called on to support the response and their knowledge of the products and spill response issues. While the oil industry has become a partner with government in the response to oil spills in most countries the same situation does not exist for all the new potential and more widely distributed source of pollution or the potential polluters who operate them. A marine wind turbine contains on average 350lt of lubricants designed to resist biological and thermal breakdown and mixing with water and potentially less easy to recover with some types of skimmers. Something new to consider in exercises about what are the product to be spilled.

**The Location:** Armed with a map of Mauritius, it would be hard to pick a more environmentally sensitive area to place a grounded ship. The location on the fringe reef of Blue Bay and near two internationally recognised Ramsar sites and nationally important other sensitive fisheries, coral, and mangrove areas, as well as a wildlife (birds, reptile, and tortoise) conservation site at Ile aux Aigrettes and its clear the location could not have been more unfortunate.

Certainly, it would have been unlikely for an exercise to include shallow water, fast currents, breaking waves, corals, and no space to operate or deploy between the casualty and the multiple sensitive resources. Add to that mix that this island was once the home of the Dodo until human intervention led to its extinction and the difficulties for those managing the response are clearly multiplied. Such restrictions, condition in an exercise scenario would likely have been considered unrealistic harsh and rejected in favour of a scenario where the participants could beat the spill and protect the sensitive sites more easily.



Initial efforts focussed on the safety of the crew and the options to salvage the vessel including removing the bunker oils and removal of the sources from the location. Conventional booms were deployed to protect the nearest sites the RAMSARS although no spill was identified until the 6th of August. Then oil was released it proceed north passing the RAMSAR sites and the protection emplaced at with effort and impacting instead on the beaches, mangrove, and conservation areas further afield. Impacts on these were reduced by the vast amounts of improvised booms deployed by volunteers from civil society. By the 11th of August, an estimated 1000m3 had been lost.



Oil had been removed from the tanks at greatest risk by internal transfer, ship to ship transfer and by a constant stream of the few helicopters available in Mauritius lifting 1000lt ISO tanks. Those same helicopters served as the salvage crew transport, equipment delivery and occasional aerial survey. As a result, by the 15th of August when the broke in two the salvage operation prevented the loss of over 75% of the bunkers. Not all the ISO tanks field had been removed but they were on the now hard fixed stern section rather than the bow.

The bow section was later towed off the reef and once de-oiled (oil was removed from hatch hydraulics, winches, and other equipment) was deliberately sunk in a planned location. This action was not without comment but was done with the knowledge that the previous refloated vessel the Benita has sunk while under tow in an unplanned location and after a number of places of refuge where the bow section could be held to make safe had been considered. All of these places of refuge would have created a risk to so far unimpacted areas of the inland and required the diversion for a longer period of the tugs which were still needed to deal with the stern section on the vessel and its potential pollutants (oil, furniture, food, bedding, clothes etc contained in the accommodation block).

Again for those involved in this incident the location was a worst case scenario for those not a potential reminder of the need to train hard and fight east by ensuring exercise and training do not offer easy picks in the strategies and tactics employed but train and test people in making hard choices where no option has no impact.

**Covid 19:** While the volumes spilled on a global scale were not huge, the product, location and number of sensitive receptors mean that international assistance and support was desirable but the world in August 2020 was at the peak of the Covid-19 pandemic. Neighbouring countries answered the call, as did response organisation and the UN. Under the co-ordination of the Office for Coordination of Humanitarian Aid (UN OCHA) based in Geneva) the UN organised a mission to supplement the existing in-country UN personnel with an international team of disaster, aid, incident management, civil society, coordination, and communication experts. The author was fortunate to be being part of that team deployed as the IMO contribution of an oil spill expert from 8th August until 5th September.



In August 2020 countries were emerging from the first waves of lockdown and travel bans. It would only be later those new variants, second and third waves of lockdown would occur. In Mauritius, the response to the pandemic had been a suspension of all travel into the country. For an island famed for its beauty and connected tourist industry, this resulted in large numbers of people directly or indirectly employed being available at the time of the incident and driven to do what they could to protect the environment on which Mauritius its people and its economy, tourism and their jobs relied.

So, while government resources concentrated on Salvage, RAMSAR sites and points close to the wreck civil society mobilised, organised, designed, produced, and deployed an estimated 40-50km of improvised floating barrier from Baggas, plastic bottles, net, cotton, and string. These barriers did not stop all the oil, but they helped to slow the impact, protect some areas, and hold the oil while the oil recovery was organised. The use of improvised barrier was included in the national contingency plan, and they were employed by the government in response to the Betina in 2016. However, it was only a result of Covid 19 that the number of people (1000's) required to produce the booms were available.



The pandemic also impacted in the opposite way on the availability and ability to bring in outside equipment and personnel. Starting with the ship's crew, salvors, and support from neighbours and wider afield. All of whom brought the potential to introduce Covid19 to Mauritius which had been successfully managed to date because of its prompt travel ban, strong quarantine policy and proactive efforts to prevent, detect, test and contact trace all potential infections.



No small step then to consider what to do with twenty crew on the ship, salvors, response personnel and the international support, which was desired, being offered from many nations or to consider how to integrate them in a safe way with the wider community already working on the response. Solution was found and with daily testing, supervision, quarantined hotels, and other measures including the first two weeks in white Tyvek suits the government were able to allow the required support from UN, France, UK, Greece, Japan, and India to be delivered and experts to support the national response.

Again, a scenario which had not been practiced as in most exercise it is common to assume that resources and people can and will be transported to the incident location from within a region, nation or from overseas as and when needed. This policy of Tiered Response was never intended to ignore the potential or risks that resources could not be relocated but in a world of pandemic, more extreme

weather events and disrupted transport systems it may be prudent to look again at levels of needed resources, remote support, transport options and if a small number of large Tier 3 bases is better or if a larger number of smaller more distributed capabilities will offer better resilience.

While in the future we would hope not to see a repeat of the pandemic, there are reasons why we need to look to utilise new ways of working which allow, in addition to the local capabilities, access to knowledge and experience at the outset, not post travel and which avoid the costs (financial and environmental) of flights, risks or movement of people around the world.

**Role of Civil Society and International Support:** In any response there is a combination of national stakeholders and international support. The national resources are often limited to government bodies, specialist commercial companies, and civil society groups. However, in an incident there are often numbers of new people motivated to be involved and contribute to the response. In the past these may have been limited in ability to coordinate and identify other like-minded individuals.

In the wake of the Wakashio there was a rapid evolution of email, chatgroups, twitter, text and what's app communications which connected existing groups to wider groups and allowed them to coordinate 100's of volunteers, plan, identify resource needs, identify resource donors and as a result to establish an improvised boom production line, transport and deployment of the items produced. This may sound like a lot, but it downplays the complexity of what was organised as boom and later skimmer production were not simple one design but were being constantly evolved to match available resources and experience. These evolutions resulted in the incorporation of more buoyancy (plastic bottles), changed boom materials (nets giving way to donated cotton which better retained the Baggas and lighter, shorter lengths of boom more easily deployed and used in more restricted areas. The response centre was only involved on the periphery of these activities as they had started spontaneously and were short lived but became very engaged when it came to the subsequent location, recovery, transport and disassembly of the improvised booms and separation of the various waste streams.



In Mauritius beyond the idea to use improvised Baggas booms the national plan had not explored that what into the when, who, how and why they would be constructed, employed, or integrated with the other activities. Even if this had been considered it is unlikely that the plan would have envisaged the availability due to the tourism industry shut down, willingness or creativity of 1000's of people from the full spectrum of civil society to achieve what it did until it was experienced directly.

The ability with modern communications to connect, communicate with and co-ordinate hundreds or thousands of people clearly exist, and this can either been used to support the response or to communicate as an alternative to the traditional media.

In the future contingency plans, training, exercises, and incident command will need to have the ability to interface with such resources and integrate their capabilities and efforts into the wider response. At a minimum there is the need to integrate into the response teams individuals who can connect to these external civil society resources and direct them to safe and productive tasks. In the Wakashio effort were made to engage civil society once the less sensitive and publicly accessible beaches were cleaned of oil to removing the other pollution and detritus that effected beaches outside the impacted area. The lack of trust, pre incident communications and training meant that this option for a wider environmental benefit and removal of years of human contamination was not widely adopted. Again, can such training, communications and information dissemination be usefully exercised as an alternative to the routine press statement generation elements of and exercise.

### **Lessons Learned for response and preparedness.**

The Wakashio response judged by someone who has spent 40 years in the industry, was on site and in the command centre was not perfect, but it was better than many in much large nations and faced with a number of new and concentrated issues as well as no win scenarios decisions were made and action undertaken which reduce the spilled volume, reduced the impact and limited the damage caused in removing what was spilled and the subsequent recovery.

So, while it is easy to look at incident and identify remotely what was done wrong, could have been done better once armed with hindsight, free of the reality or stress of the actual decision or impact of the debate that examined the options and called this learning.

The Wakashio incident has demonstrated again that spills still happen where they are not expected and that the scenario will not always be easy, the choices simple good or bad. Exercises need to prepare incident management teams and responders for hard scenarios so that they are prepared and resilient in the face of the pressure and stress of a real event.

More useful therefore to look at the significant issues and determine honestly how your response would react, have been trained or have exercised to meet that issue and scenario and choices presented if they arose in your area of interest.

## CONTRIBUTED ARTICLE (CONTINUED)

Nonstandard -Spilled Products,  
Remote -Location,  
Global Pandemic -Covid 19,  
Integrated Resources -Role of Civil Society and International Support.

The world is engaged in a process to change how it fuels its needs and as a result, the quantities, nature, and locations where pollutants might be spilled in changing. Covid 19 has woken the world up to the need to collaborate and coordinate at local, regional, national, and international levels but also for local resilience and capabilities rather than reliance on remote or distant capabilities and sources. Global climate change mean there may be a greater need to extreme weather events in which spills may be an issue but one subservient to the needs of people and the available resources.

The ISCO-OceanPact Seminar will include lessons learned and certainly there were, in addition to the visions of the international experts. Those interested in knowing the details of the Program can access the information on the ISCO website: <https://spillcontrol.org/isco-oceanpact-Brazil-international-seminar/> and to register for direct participation in the OceanPact website: <https://oceanpact.com/isco-seminar-brazil-2023/>.

## TRAINING COURSES

**Training Course Providers – Please check entries below and advise editor on any necessary updates**

### USEFUL LINKS

- **INTERNATIONAL – IMO E-LEARNING PLATFORM** [e-learning platform](#)
- **AUSTRALIA – AMOSC** - <https://amosc.com.au/training/>
- **AUSTRALIA & NEW ZEALAND – ALGA** - <https://landandgroundwater.com>
- **CHINA** - <http://www.sioetc.com>
- **EUROPE –** <https://www.emsa.europa.eu/newsroom/latest-news/item/3609-emsa-training-catalogue-2019.html>
- **FRANCE - CEDRE** - [https://wwz.cedre.fr/en/content/download/10912/file/CalendrierFormation2023\\_EN.pdf](https://wwz.cedre.fr/en/content/download/10912/file/CalendrierFormation2023_EN.pdf)
- **UK & WORLDWIDE – OIL SPILL RESPONSE LTD.** - <https://www.oilspillresponse.com/training/courses/>
- **UK & WORLDWIDE – BRIGGS ENVIRONMENTAL SERVICES LTD.** - <https://www.briggsmarine.com/services/training/>
- **UK – NCEC HAZMAT ACADEMY –** [More info](#)
- **USA – TEXAS A&M UNIVERSITY – NATIONAL SPILL CONTROL SCHOOL** <https://www.tamucc.edu/research/nscs/>
- **USA – MPC, DETROIT** - <https://marinepollutioncontrol.com/services/training-and-compliance>
- **USA – ALLIANCE OF HAZARDOUS MATERIALS PROFESSIONALS** - [https://www.ahmpnet.org/events/event\\_list.asp](https://www.ahmpnet.org/events/event_list.asp)
- **USA - ELASTEC FALL WORKSHOP, NEW HARMONY, INDIANA, 3-5 OCTOBER 2023. MORE INFO**
- **CANADA - CONTAMINATED SITES HEALTH & SAFETY REFRESHER (8-HOUR HAZWOPER) – FROM ECONEXT –** [MORE INFO](#)

Members who would like to be listed here, please contact your editor – [john.mcmurtrie@spillcontrol.org](mailto:john.mcmurtrie@spillcontrol.org)

## UPCOMING EVENTS

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**The listings below give only very basic details – To get access to all information visit <https://spillcontrol.org/upcoming-events/>**

### OCTOBER 2023

- **USA – Workshop - Elastec Fall Workshop. New Harmony. Indiana, 3-4 October 2023**
- **WEBINAR – ExxonMobil Oil Spill Response Knowledge Transfer, “Environmental Effects of Oil in the Sea “, Webinar 21, 3<sup>rd</sup> October, 2023**
- **MALAYSIA – OSRL – “Subsea Forum in Malaysia”, 4th October, KL**
- **WEBINAR from ALGA – “ Natural Source Zone Depletion (NSZD) in reality and practice”, 5<sup>th</sup> October, 12.00 pm to 1.00 pm AEST**
- **FRANCE – Immersion Meeting at CEDRE – “Chemical Risk Management at Sea”, 6<sup>th</sup> October 2023**
- **WEBINAR – OSRL – “Risk Assessment and Contingency Planning” 10<sup>th</sup> October, 1400-1500 BST**



## UPCOMING EVENTS (CONTINUED)

- FRANCE – Pollutec Conference & Exhibition, Lyon Eurexpo, 10-13 October 2023
- CANADA – Remediation Technologies Symposium (REMTECH) 2023, Fairmont Banff Springs, 11-13 October 2023
- THAILAND – Economist – “Global Plastics Summit”, Bangkok, 11-12 October 2023
- WEBINAR from UK & Ireland Spill Association – “Implications of the lessons learned from the Wakashio Incident”, 18<sup>th</sup> October 2023, 1500-1630 BST
- UK – ITAC Annual Meeting, 24<sup>th</sup>-26<sup>th</sup> October, National Oceanography Centre, Southampton
- CANADA – Econext 2023 Conference, St. Johns, NL, 26<sup>th</sup> October 2023
- BRAZIL – International Seminar – ISCO & Ocean Pact Brazil “Lessons Learned for Brazil & Latin America, Preparedness, Response & Crisis Management, Case Studies”, Rio de Janeiro, 27<sup>th</sup> October 2023

### NOVEMBER 2023 & ONWARDS

- UK – UK & Ireland Spill Association Conference – Annual Conference, Dinner & Awards, 1-2 November, Nottingham
- CANADA – Forum from Transport Canada – “Fall 2023 Oceans Protection Plan (OPP), Pacific Dialogue Forum”, 2<sup>nd</sup> November 2023, 8.40-9.40 PDT
- ITALY – ECOMONDO Exhibition & Conference, Rimini, 7-12 November 2023
- UK – IOPC Funds – November 2023 Meeting of the Governing Bodies, 7<sup>th</sup> to 10<sup>th</sup> November. IMO HQ London
- WEBINAR – ExxonMobil Oil Spill Response Knowledge Transfer, “Human Health Effects of Oil in the Sea”, Webinar 22, 7<sup>th</sup> November 2023
- USA – Clean Gulf Conference & Exhibition, “Prepare, Respond and Recover”, San Antonio, TX, 7-9 November 2023
- INDIA – SPILLTECH Conference & Exhibition, 8<sup>th</sup> to 9<sup>th</sup> November 2023, New Delhi
- WEBINAR – OSRL – “Equipment and Resources for Effective Response”, 14<sup>th</sup> November, 1400-1500 GMT
- WEBINAR from UK & Ireland Spill Association – “Early lessons to be learned from the Poole Harbour incident”, 15<sup>th</sup> November 2023, 1500-1630 GMT
- WEBINAR – ExxonMobil Oil Spill Response Knowledge Transfer, “Round Table Discussion to provide Summary and Recommendations”, Webinar 23, 5<sup>th</sup> December 2023
- UK – Seatrade Maritime Salvage & Wreck Conference, 6-7 December 2023
- UK – Panel Discussion at Salvage & Wreck Conference – “Effective Casualty Management – A Joint Session with Maritime Authorities and Industry”, Wednesday 6<sup>th</sup> December, 1200-1245 GMT
- WEBINAR – OSRL – “Training, Exercises and Continuous Improvement” 12<sup>th</sup> December, 1400-1500 GMT

SOME OTHER INFO - Recordings of past ExxonMobil OSR Knowledge Transfer Webinar Recordings – [Access and Download UK & Ireland Spill Association Alternative Marine Fuels And Their Implication For Spill Response Webinar](#) is [now available to watch on YouTube](#).

## MESSAGES FROM EVENT ORGANISERS

### USA: CLEAN GULF CONFERENCE & EXHIBITION – SAN ANTONIO, NOVEMBER 7-9, 2023

New Response Professionals Program at CLEAN GULF 2023 [About this program](#)

A full, printable program is available for the 2023 CLEAN GULF Conference & Exhibition, taking place November 7-9 in San Antonio, TX. Check out the digital program and see what’s in store at this year’s CLEAN GULF! [Download the program](#)

### INDIA: SPILLTECH – “PROTECTION AND RESTORATION OF OCEAN HEALTH” NEW DELHI, 8-9 NOVEMBER 2023

The SPILLTECH Conference provides a vital forum for professionals from the international response companies, private sector, government & non- governmental organizations and academia to come together to come-out with an effective and efficient methodologies to tackle the spill challenges faced by Industries. The practical knowledge sharing, discussions on new innovation in this field and latest technological development will help to safely & effectively handle these spill situations to save marine life and save the environment. [Download the Event Brochure](#)

### USA: SAVE THE DATE FOR IOSC 2023

[International Oil Spill Conference \(IOSC\)](#) in New Orleans, May 13-16, 2024

IOSC provides a vital forum for professionals from the international response community, private sector, government, and non-

## MESSAGES FROM EVENT ORGANISERS (CONTINUED)

governmental organizations to come together to tackle the greatest challenges facing us with sound science, practical innovation, social engineering and imagination. Mark your calendars and start planning your trip to join over 1,500 attendees from over 50 countries, representing government agencies, contractors, researchers, industry, and other stakeholders as they exchange ideas and lessons learned from actual spill responses and research around the world. Stay tuned, registration details will be announced in August. We look forward to seeing you in New Orleans next year.

**Learn More about IOSC 2024** Be sure to follow IOSC on [Facebook](#), [Twitter](#), and [LinkedIn](#) for updates and announcements about #IOSC2024. Please contact [registration@iosc.org](mailto:registration@iosc.org) for questions or additional information. Interested in exhibiting or sponsorship? Please reach out to: [exhibits@iosc.org](mailto:exhibits@iosc.org)

## USA: CLEAN WATERWAYS 2024 – REGISTRATION

[Meet the 2024 CLEAN WATERWAYS Planning Committee](#) **Registration Now Open for CLEAN WATERWAYS 2024** - Registration has officially opened for the 2024 CLEAN WATERWAYS Conference, taking place at the Duke Energy Convention Center in Cincinnati, OH, April 9-11. Registration rates are at the lowest rates we will offer all year and increase by \$150 after Friday, October 27th.

[Registration information](#) April 9-11, 2024, Cincinnati, OH – “Incident Prevention & Response for Inland Regions & Waterways”  
[View the website](#)

The CLEAN WATERWAYS program is developed by a government/industry-based committee of approximately 50 professionals, and the committee is looking for leaders to help shape the conference. All abstracts submitted are reviewed for content and relevance by the committee and are selected by consensus.

## CONTRACTS, TENDERS AND BUSINESS OPPORTUNITIES

### INTERNATIONAL OPEN TENDER NOTIFICATIONS

This is a subscription service. <https://www.tender247.com/keyword/oil+spill+tenders+global>

### OTHER OPPORTUNITIES: USA & EUROPE

US Government solicitations are frequently posted in Technology Innovation News Survey <https://clu-in.org/products/tins/>

US Federal Contract Opportunities are posted at <https://clu-in.org/Federal-Contract-Opportunities>

European Maritime Safety Agency invitations to tender are often posted in The EMSA Newsletter at -

<https://www.emsa.europa.eu/newsroom/newsletters.html>

**ISCO Members can post requests for submission of invitations to tender for supplies / services in this section. The ISCO Newsletter is circulated to nearly 3,000 registered subscribers in 60 countries worldwide and represents a well targeted audience for sourcing invitations to tender. Send requests to the Editor – [john.mcmurtrie@spillcontrol.org](mailto:john.mcmurtrie@spillcontrol.org)**

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## NEW PUBLICATIONS

### ITOPF ANNUAL REVIEW 2023 & NOTICE OF AGM

ITOPF has just published its Annual Review for 2023. This report incorporates financial statements for the year ending 20th February 2023 and provides notice of our Annual General Meeting at ExxonMobil Houston Campus, USA on 16th November 2023.

ITOPF / [Read more](#)

## INCIDENT REPORTS

### MARITIME ACCIDENT REPORTS FROM THE MARITIME BULLETIN

In the Maritime Bulletin, Mikhail Voytenko regularly advises on vessel abandonments, groundings and sinkings – several every week – but, unless there is an immediate and significant release of oil or chemicals, spillages are not reported. However, many of Mikhail’s reports cover incidents that may have potential to cause pollution. To view all of his reports, visit

<https://www.maritimebulletin.net/>

### USA: NOAA OR&R INCIDENT RESPONSES FOR AUGUST 2023

Every month, OR&R's Emergency Response Division provides scientific expertise and services to the U.S. Coast Guard, ranging from running oil spill trajectories to estimate where a spill may spread; to identifying possible effects on wildlife and fisheries; to estimating how long oil may stay in the environment. We also get requests to track and model other floating objects, such as log booms or shipping containers that have broken free, whale carcasses, fish die-offs, and algal blooms.



*Above: Contractors in hazmat suits prepare to enter the fishing vessel Pacific Producer in Tacoma, Washington, on Sept. 1, 2023. Coast Guard crews from Sector Puget Sound worked with contractors to ensure all fuel, oil, and hazmat materials were removed. Image credit: USCG.*

**Here is the complete list of August's incidents. Click on the links to find out more:**

- [Grounded Drug-running Submarine](#)
- [Crude Oil Spill at Port Manatee in Tampa Bay, FL](#)
- [53-foot Motor Yacht Adrift Off Big Sur, CA](#)
- [26-foot Cabin Cruiser Sunk, Bellingham Bay, Bellingham, WA](#)
- [Hurricane Idalia, Gulf of Mexico](#)
- [38-foot Fishing Vessel Listing, Funter Bay, Angoon, AK](#)
- [Fishing Vessel Taking on Water, Westport Marina, Grays Harbor, WA](#)
- [53-foot Recreational Vessel Sunk near Seguin Island, ME](#)
- [43-Foot Vessel Sunk near Bolsa Chica Wetlands, Huntington Beach, CA](#)
- [169-Foot Fishing Vessel Leaking Anhydrous Ammonia; Tacoma, WA](#)
- [Lahaina Wildfires, Lahaina Harbor, HI](#)
- [Venting of Butane Tanks at Illegal Drug Lab, Myrtle Creek, OR](#)
- [Tug Sunk offshore from Myrtle Beach, SC](#)
- [Flooding of Mendenhall Lake and River, Juneau, AK](#)
- [Bulk Carrier Hull Breach and Spill of Marine Diesel into Lake Michigan, Manistee, MI](#)
- [Commercial Fishing Vessel Aground in Gastineau Channel, Juneau, AK](#)



### UKRAINE: HUGE FIRE ERUPTS AT OIL PIPELINE IN WEST UKRAINE

September 30 - A huge fire has erupted at an oil pipeline in the western Ukrainian region of Ivano-Frankivsk, injuring three people, emergency services said Saturday. "At 5 p.m. (1400 GMT), near the village of Strymba, Nadvirna district, an oil pipeline (150 millimetres in diameter) ruptured," Ukraine's State Emergency Service said. It said that the rupture led to an oil spill spanning an area of 100 square metres. Sharjah 24 / [Read more](#)

### IRAN: IRANIAN EXPERTS CONTAIN OIL POLLUTION OFF GANAVEH PORT ALONG GULF

September 30 - The CEO of Iran Oil Terminals Company says thanks to efforts by domestic experts, the repairing of the oil pipeline from Ganaveh coast, along the Persian Gulf, that faced some problems due to an oil leak has been successfully completed. Abbas Gharibi added that following the incident in a submarine line two miles away from Ganaveh port in September, equipment, teams and sea vessels were deployed to deal with the issue. He said the first step was to contain and prevent the spread of the oil spill in order to prevent more pollution. IFP News / [Read more](#)

### PHILIPPINES: PCG CONTAINS OIL SPILL AT PUERTO PRINCESA PORT

October 1 - The Philippine Coast Guard installed four oil spill boom segments and six bails of sorbent pads at the Puerto Princesa City Port in Palawan on Friday to contain an oil spill. The PCG response team contained the spill by 1:30 p.m. and collected approximately two drums of spilled oil from the 500-square-meter spill-affected waters. GMA News / [Read more](#)

### SOUTH AFRICA: CABLE RESTORER SINKING IN STORM RAISES OIL SPILL ALERT FOR ENDANGERED SIMON'S TOWN PENGUINS

October 1 - In the morning of Monday, 25 September, after an intense weather system hit the Cape at the weekend, the CS Cable Restorer finally sank in Simon's Town, 79 years after it was built. While the resulting oil spill is minimal, SanParks and Sancob are on alert in case nearby penguin colonies are affected. Daily Maverick / [Read more](#)

### US VIRGIN ISLANDS: CARGO SHIP RUNS AGROUND IN ST. THOMAS



*Photo:* The Bonnie G aground in St. Thomas, U.S. Virgin Islands, U.S. Coast Guard Photo

October 4 - A Vanuatu-flagged roll-on/roll-off cargo ship has run aground in adverse weather conditions just south of the airport in St. Thomas in the U.S. Virgin Islands. The incident occurred early Wednesday morning after the 195-foot Bonnie G reported taking on water, forcing the crew to abandon ship.

All 12 were subsequently rescued by a U.S. Coast Guard boat crew with no injuries reported. However, the ship reportedly has over 13,000 gallons of fuel and oil on board, sparking environmental concerns.

gCaptain / [Read more](#)

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