

ISCO & THE ISCO NEWSLETTER

The International Spill Control Organization, a not-for profit organization dedicated to raising worldwide preparedness and co-operation in response to oil and chemical spills, promoting technical development and professional competency, and 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 and observer Status at the International Oil Pollution Compensation Funds

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HEADLINE INTERNATIONAL NEWS

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ADDRESSING SHIP-TO-SHIP OIL TRANSFERS AND TANKERS IN THE "DARK FLEET"

April 4 - The dangerous practice of ship-to-ship transfers in the open ocean, as well as the methods used to obscure ship identities and turning off AIS transponders, were discussed by the Legal Committee of the International Maritime Organization (IMO). The committee was meeting for its 110th session (LEG 110) at IMO Headquarters in London (21-26 March).

The Committee considered a document submitted to the session which raised awareness of the consequences and concerns for the global liability and compensation regime of the increase in ship-to-ship transfers in the open ocean. The Committee noted that these undermined the spirit of the regulation of ship-to-ship operations of tankers as prescribed by IMO's International Convention for the Prevention of Pollution from Ships (MARPOL).

The Committee was informed that a fleet of between 300 and 600 tankers primarily comprised of older ships, including some not inspected recently, having substandard maintenance, unclear ownership and a severe lack of insurance, was currently operated as a 'dark fleet' or 'shadow fleet' to circumvent sanctions and high insurance costs. This increased the risk of oil spill or collision. This could also result in a participating shipowner evading its liability under the relevant liability and compensation treaties (e.g. International Convention on [Civil Liability for Oil Pollution Damage](#) (CLC) and the International Convention on Civil Liability for [Bunker Oil Pollution Damage](#) (Bunkers Convention)) in the case of other ships, placing also an increased risk on coastal States and the [International Funds for Compensation for Oil Pollution Damage](#).

Following the discussion, the Committee considered that ship-to-ship transfers in the high seas were high risk activities that undermined the international regime with respect to maritime safety, environmental protection and liability and compensation needed to be urgently addressed. IMO / [Read more](#)

ISCO AMBASSADORS

(Members with special responsibilities in specified geographical areas)

Carlos Sagrera Latin America (Spanish speaking)
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Photo courtesy of UNDP - Euronav's VLCC Nautica departed China on the first leg of its voyage to Yemen to replace the FSO Safer

April 6 - Euronav's VLCC tanker the Nautica has departed for Yemen in the first step toward transferring the oil stored aboard the decaying FSO Safer to a new storage arrangement. UN officials are calling the tanker's departure a key step while however cautioning that they still need to raise a significant amount of money to complete the first, emergency phase of the operation. The Maritime Executive / [Read more](#)

April 6 - Secured last month by the UN Development Programme (UNDP), the Nautica was in drydock in Zhoushan, China, for regular maintenance and modifications. The vessel is expected to arrive in early May. The Safer has been moored about nine kilometers off Yemen's Ras Isa peninsula since 1988 and could explode or break up at any time. While the project has received significant international support, the spiraling cost for VLCCs, in a market affected by the war in Ukraine, and other factors, means more funding is needed to complete the emergency phase of the plan. As of 4 April, the UN had received firm commitments for \$95 million. The total budget for this first phase is \$129 million, leaving a gap of \$34 million. "The sailing of the vessel that will take on the Safer's oil brings us closer to preventing a catastrophe," said David Gressly, the UN Resident and Humanitarian Coordinator for Yemen, who has led on UN system-wide efforts on the Safer since September 2021. "The UN family, including UNDP, UNEP, IMO, OCHA, WFP, member states, private companies and the public have all played a part in the UN-coordinated plan. We have the best available technical expertise and political support from all sides. Donors have been generous. We just need the final piece of funding this month to ensure success." UNDP / [Read more](#)

INTERNATIONAL AND REGIONAL NEWS

ITOPF ATTENDS NOSCA CLEAN OCEANS SEMINAR 2023

March 30 - Senior Technical Advisor, Duarte Soares and Technical Support Coordinator, Shania Hughes made a trip to Bodo, Norway to take part in the NOSCA Clean Oceans Seminar.

Duarte gave a presentation on the role of ITOPF in spill response, with a focus on several recent case studies. Q&A sessions took place throughout the first day of the seminar where Duarte and Shania were able to share knowledge and experience with other participants. The week rounded off with an exercise run by OKEA, demonstrating the use of sweeping arms, current busters and booms. ITOPF / [Press Release](#)

CANDIDATES FOR SECRETARY-GENERAL OF IMO

April 3 - Seven IMO Member States have each nominated a candidate for the post of Secretary-General of the International Maritime Organization (IMO). The term of the current incumbent, Mr. Kitack Lim of the Republic of Korea, expires on 31 December 2023. IMO / [Details of Candidates and Election Procedure](#)

WORKSHOP ON THE 2010 HNS CONVENTION

April 5 - On the 3 and 4 April 2023, a workshop on the 2010 HNS Convention was held at the International Maritime Organization (IMO). The event was organised by Canada in co-operation with IMO and the IOPC Funds.

It was attended by over 200 representatives from States and industry who participated either in person or remotely, and focussed on assisting States in their work towards ratification of the 2010 HNS Protocol, with particular emphasis on preparing implementing legislation and HNS cargo reporting.

IOPC Funds / [Read more](#) Related report from [ITOPF](#)

EURONAV TANKER DEPARTS FOR YEMEN TO REPLACE DECAYING FSO SAFER



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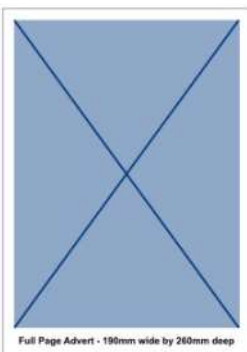
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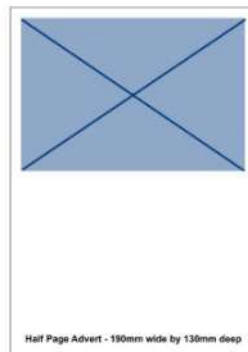
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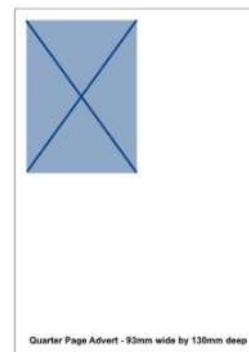
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What is the ISCO Newsletter?

ISCO's weekly newsletter is focused in international, regional and national news that is of interest to professionals, companies and organisations involved in oil and chemical spill control and the emerging field of CBRN incident response.

Through the Newsletter and its other activities, ISCO is disseminating information on new developments – technical advances, legislation, events and other matters that affect the international spill response community.

**To receive a copy of the new media pack please contact
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By advertising in the ISCO Newsletter you will be directly supporting the work of ISCO and helping to ensure the continuation of this publication. ISCO is 100% dependent on the support of the international spill response community it serves.

REMINDER - ISCO AT CLEAN WATERWAYS CONFERENCE

ISCO will be attending the Clean Waterways Conference being held on 11-13 April in Denver, CO, USA. You are invited to visit the ISCO booth (Booth No. 316) where ISCO Committee Member, Dr Larissa Montas, will be on hand to give you details of our activities and how you can benefit by becoming a member of our international community.

ISCO Member, Ed Levine, who will be on the panel of the session on Crisis Leadership will be helping Dr Montas in introducing ISCO. The Crisis Leadership session is being chaired by Jim Elliot and is scheduled for 1 pm on 12th April.

IMO POLLUTION PREVENTION & RESPONSE (PPR 10) SUB COMMITTEE MEETING – 24th to 28th APRIL, 2023

Readers please note the correct dates given above. Your Editor apologises for the erroneous information given in last week's newsletter. The preparation of the newsletter is always carried out under pressure and within a very limited time frame. Mistakes can happen. While searching for details of the PPR 10 agenda your editor accidentally opened a page with details of the PPR 9 agenda. He apologises most sincerely for any confusion caused.

ISCO's London Ambassador, Matthew Sommerville, will be representing ISCO at the IMO PPR 10 Meeting and a report will be published as soon as possible after the meeting.

ISCO EXECUTIVE COMMITTEE REMOTE MEETING ON 6th APRIL 2023

Short Report – Good progress was reported in regard to resolution of succession issues following on the death last year of our late President, Mr David Usher. Mr Ed Levine and Mr Rupert Bravery were welcomed as new members of the Executive Committee. It was agreed that Mr Flavio P. de Andrade will be appointed as ISCO's representative in Brazil at a ceremony to take place at the event later this year. Planning meetings are ongoing in regard to the Brazil seminar and more information will soon be released. Discussion regarding a new appointment for Mr Wu Yue in China was deferred pending further discussion and clarification. Discussion of the three documents submitted by Mr John Wardrop – Meetings Schedule, Draft President and Secretary-General Roles - was deferred to allow more time for EC members to study and submit comments. A more detailed report will follow later. [Thanks to Ed Levine for providing notes]

NEWS REPORTS FROM AROUND THE WORLD

NIGERIA: OIL SPILL: Ogoni YOUTHS LAUD GOVT OVER ONGOING CLEAN-UP EFFORTS

April 5 - Ogoni Youth Federation (OYF) Worldwide, an umbrella body of Ogoni youths in Rivers State, has thanked the Federal Government for the ongoing clean-up of Ogoni land. The association gave the commendation on Tuesday, April 4, 2023, when it gave an Award of Outstanding Performance to the Minister of Environment, Mr Mohammed Abdullahi, in Abuja.

The President-General of OYF, Chief Legborsi Yamaabana, who presented the award, said it was in recognition of Abdullahi's keen interest and commitment to implementing the United Nations Environment Programme (UNEP) report on Ogoniland. Yamaabana also said the gesture was an expression of gratitude over the success of the Hydrocarbon Pollution Remediation Project (HYPREP). [EnviroNews Nigeria/ Read more](#)

SOUTH AFRICA RECOGNIZES WASTE PICKERS' CONTRIBUTION

March 30 - As the world marks International Day of Zero Waste on Thursday, South Africa is taking steps to ensure that those collecting recyclables from homes and rubbish dumps register so they will be eligible for benefits such as higher payments for the items they collect. Authorities say this is necessary because the work they do contributes to the economy and helps fight against climate change. Vicky Stark reports for VOA from Cape Town, South Africa. Camera: Shadley Lombard. [VOA / Watch video](#)

UK: HER ROYAL HIGHNESS THE PRINCESS ROYAL VISITS NEWLY REFURBISHED CEFAS LABORATORY TO MARK OVER 120 YEARS OF MARINE SCIENCE IN LOWESTOFT

March 29 - Today, HRH The Princess Royal visited the newly developed and refurbished Centre for Environment, Fisheries and Aquaculture Science (Cefas) HQ building and laboratories. Her visit commemorated Cefas' long-standing commitment to marine science in Lowestoft and marked the formal opening of the new HQ building.

For over 120 years, Cefas have been at the forefront of marine science research, playing a critical role in advancing our understanding of the marine environment. During her visit, The Princess Royal met a range of Cefas colleagues to gain insights into

NEWS REPORTS FROM AROUND THE WORLD (CONTINUE)

Cefas' work. From scientists specialising in fisheries, marine climate change, pollution, and emergency response; to staff who were pivotal in delivering the new building programme. CEFAS / [Read more](#)

USA: ORPHANED OIL WELLS ARE ONE PROBLEM; INACTIVE WELLS ARE POTENTIALLY MUCH BIGGER

March 29 - Louisiana has over 20,000 inactive oil and gas wells. Louisiana leaders took a victory lap last week for their quick work in plugging 100 orphaned oil and gas wells in just two months. But even that pace may be just barely enough to keep up and doesn't address over 20,000 other wells that could present environmental and safety risks. Gov. John Bel Edwards and Louisiana Department of Natural Resources (DNR) Secretary Tom Harris announced last week that contractors completed work on 103 orphaned well sites in the Shreveport and Monroe areas this year. Louisiana Illuminator / [Read more](#)

USA: EXECUTIVE ORDER 14091 AND THE EPA'S AMENDED EMERGENCY RESPONSE POLICIES

March 31 - Recently, two Federal policies have been released that could have a significant effect upon environmental remediation and the emergency response procedures and policies of the Environmental Protection Agency (EPA). The recent train derailment in Palestine, Ohio, may bring them into sharper focus. The regulated community may find it useful to take notice of these directives. Executive Order 14091, "Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government," was published in the Federal Register on February 22, 2023. (See 88 FR 10825.) Mondaq / [Read more](#)

USA: LATEST NEWS REPORTS FROM NOAA OR&R

April 3 – Please click on the links below to download and read the latest news from NOAA OR&R

[Director of NOAA Marine Debris Program Testifies at Congressional Hearing on Save Our Seas 2.0 Amendments Act](#)

On Thursday, March 23, the Committee on Natural Resources, Subcommittee on Water, Wildlife and Fisheries held a [hearing\(link is external\)](#) on [H.R. 886\(link is external\)](#) (the "Save Our Seas 2.0 Amendments Act") and three other bills.

[One Year Later: The Tug Western Mariner Oil Spill in Alaska](#)

On March 21, 2022, the Tug *Western Mariner* ran aground in Neva Strait, north of Sitka, Alaska, resulting in a [diesel oil spill\(link is external\)](#). OR&R has been providing support for the response and damage assessment for the spill since the incident occurred.

[NOAA Publishes Puerto Rico Marine Debris Emergency Response Guide](#)

On March 29, the NOAA Marine Debris Program, within the Office of Response and Restoration, released the "[Puerto Rico Marine Debris Emergency Response Guide](#)." The guide is a product of a collaborative process with territorial and federal agencies. This work aims to improve preparedness for responding to marine debris after disasters in Puerto Rico.

PEOPLE IN THE NEWS

LEENA YLÄ-MONONEN WILL BE THE NEW EXECUTIVE DIRECTOR OF THE EUROPEAN ENVIRONMENT AGENCY



Photo courtesy of EEA: Leena Ylä-Mononen and Laura Burke on 23 March 2023,

March 23 -Congratulations to Leena Ylä-Mononen currently holding the position of Director General at the Finnish Ministry of the Environment for having been selected on 23 March as next Executive Director of the European Environment Agency by the Management Board. EEA is looking forward to working with the new Executive Director to further strengthen the role of EEA and its Eionet network in support of Europe's environment and climate policies. ISPR / [Read more](#) Press Release from [European Environment Agency](#)

NEW CHIEF SCIENTIST APPOINTED TO LEAD CEFAS

Photo courtesy of CEFAS: Prof. Stentiford takes over from Professor Stuart Rogers

March 30 - Today, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) appointed Professor Grant Stentiford as its new Chief Scientist. Prof. Stentiford brings with him over 20 years of experience in marine science research and management. He has led the International Centre of Excellence in animal health, published over 170 scientific papers, and advised various national and international organisations on the identification and impact of aquatic animal diseases in farmed and wild environments. CEFAS / [Read more](#)



NEWS FROM ISCO MEMBERS

Corporate Members of ISCO can 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

ABS AND TEXAS A&M GROW GLOBAL STRATEGIC RELATIONSHIP



Photo Caption (left to right): Dr. Dimitris Lagoudas, TAMU; Chuck Kemper, ABS; Dr. John E. Hurtado, TAMU; Dr. Sharath Girimaji, TAMU; Dr. Kevin McSweeney, ABS (Photo Courtesy Texas A&M Engineering Com (Texas A&M is an Industry Partner of ISCO)

March 27 - Research Powerhouse Created by Uniting ABS’ Deep Maritime Domain Expertise and Texas A&M’s Academic Excellence. ABS and Texas A&M University (TAMU) are expanding their unique global strategic relationship with a \$2.5m donation to endow the Ocean Engineering Department Chair and fund a new ABS Laboratory for Ocean Innovation. The Maritime Executive / [Read more](#)

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 now a regular contributor to this section in the ISCO Newsletter.

The innate toxicity of plastic pellets (nurdles) in the marine environment currently under debate may depend on the angle and magnitude of the lens used to focus on the issue. Diverging opinions aside, although plastics in general are considered to be a biochemically inert material, science based studies confirm plastic pellets have a tendency to adsorb toxic chemicals including persistent organic pollutants, and trace metals. Plastic pellets differ from other marine debris that accumulate pollutants, with regards to their chemical composition and chemical additives incorporated during the manufacturing process. Confounding factors associated with assessing the potential harm of plastic pellets, are multiplied when the pellets are spilled together with recognized harmful substances. A better understanding is needed to inform spill response and waste disposal operations, among others. In the coming weeks we endeavour to inform our readers about new developments regarding this issue.

Plastic pellets and microplastics were collected Sarakkuwa beach, Sri Lanka, prior to and after the MV X-Press Pearl maritime accident. Pre disaster sand samples were contaminated with fragmented microplastics. Post disaster sand collected up to 2 meters deep, in some locations, was highly contaminated with plastic pellets and partially burned microplastics. Sand collected after the maritime accident showed notable contamination with Molybdenum and Chromium than that of the pre disaster sand. More details available here:

<https://www.researchgate.net/publication/363503900> Contamination and distribution of buried microplastics in Sarakkuwa beach ensuing the MV X-Press Pearl maritime disaster in Sri Lankan sea

Usually, studies have assessed the environmental effects of marine microplastic pollution. In recent years, a few studies have focused on the transport and fate of plastic pellets. Scientists used data gathered during the 2017 Durban Harbour plastic pellet spill in South Africa to model pellet dispersion. The study considered dispersion processes including wind, ocean currents, and waves. It was found that the pellets remained in specific sections of the coast for long periods, and that sporadic wind events were required to move them into new coastal areas. The results underscore that pollution of the ocean is not a localized activity. Matter discharged at one point will disperse over a wide area, significantly further away than the area of recovery operations. The full text of the study and more details available here:

https://www.researchgate.net/publication/333448323_Nurdle_drifters_around_South_Africa_as_indicators_of_ocean_structures_and_dispersion AUTHORS EMAIL DATES EDITOR

As exemplified by the two articles above, plastic pollution by pellet spills affect the marine environment, the livelihoods of local communities and the economy long into the future. Pellets spills have the potential to do widespread damage well beyond the boundary of a single country. For example, pellets spilled in the 2017 South Africa incident, spread thousands of kilometers to the coastline of western Australia. Our final contribution to this issue, is a report published by the prestigious Nicholas Institute for Energy, Environment & Sustainability. The Nicholas Institute is part of Duke University and its wider community of world-class scholars. Plastic pollution in the ocean is a global problem that requires cooperation from a wide range of groups: governments, producers, consumers, researchers, and civil society. Governments have a particular role to play in helping to solve this problem, by virtue of their core regulatory powers. This study aims to synthesize the policy response of governments to the global plastic pollution problem, as a basis for more rigorous monitoring of progress (as called for in Resolution 4/6 of the 2019 United Nations Environment Assembly (UNEA) meeting) and to inform future public policies. More information and the full report are available here: <https://nicholasinstitute.duke.edu/publications/20-years-government-responses-global-plastic-pollution-problem>

RECENT INTERESTING PEER-REVIEWED OIL SPILL PUBLICATIONS



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

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.

84. Environmental fate of polycyclic aromatic hydrocarbons (PAHs) in different layers of tar balls in the Bohai Sea, China

Wang, C., Zhang, Z., He, S., Tang, J., Wang, R., Liu, X.
(2023) Journal of Cleaner Production, 403, art. no. 136803,
DOI: 10.1016/j.jclepro.2023.136803

ABSTRACT: Several tar balls were transversely cut to investigate the fate of polycyclic aromatic hydrocarbons (PAHs) in different layers of tar balls under natural conditions. The highly recalcitrant C₃₀ $\alpha\beta$ -hopane was used as an internal biomarker to quantify the weathering levels of different PAHs compounds. The data showed that the values of 16 parent PAHs and their alkylated PAHs in the surface layer were lower than that in the center layer of tar balls, which indicated that the surface layer of tar balls were suffered more serious degradation. In addition, the loss rates of different isomers of the same series were almost the same, indicated that the degradation rate of different isomers in the same series was the same. Despite some degradation, the relative diagnostic ratios of alkylated PAHs in the different layers of the tar balls remained stable. Compare the loss rate of parent and alkylated PAHs, it revealed that the loss rates increased with the increase of alkylation degree. This is the first report on the fate of PAHs in different layers of tar balls. This study provides a quantitative analysis of the PAHs in different layers of tar balls under natural conditions, which is very important for understanding the fate of oil spills.

85. Anthropogenic petroleum signatures and biodegradation in subantarctic Macquarie Island soils

Houlahan, S.B., Errington, I., Hose, G.C., King, C.K., George, S.C.
(2023) Chemosphere, 325, art. no. 138395,
DOI: 10.1016/j.chemosphere.2023.138395

ABSTRACT: Special Antarctic Blend (SAB) diesel is the main fuel used on Macquarie Island and has been identified as the primary contaminant in several past spill events. This study evaluates the environmental impact of petroleum spills at high latitudes, in the

soils of subantarctic Macquarie Island. Soil samples were collected from seven locations, including the “fuel farm” and main powerhouse that have been contaminated by petroleum in the past, and five reference locations, away from station infrastructure and from any obvious signs of contamination. Soils were solvent extracted and analysed using gas chromatography-mass spectrometry. The results show that both contaminated and uncontaminated sites contained a suite of different chain-length hydrocarbons. The more contaminated samples from the fuel farm and main powerhouse contained higher concentrations and a greater range of hydrocarbons that typically indicate numerous spills of varying ages. The hydrocarbon signature of samples collected near the fuel farm and at some of the main powerhouse sites was typical of SAB diesel. However, the hydrocarbon signature at other main powerhouse sites suggest contamination with a heavier fuel with different characteristics, including lower pristane/phytane ratios. Traces of C21–C35 cyclic biomarkers in the spill sites may be derived from additional heavier fuels, and include a signature characteristic of crude oil derived from marine carbonate source rocks. Reference samples had lower concentrations of hydrocarbons, and these were dominated by high molecular weight n-alkanes with an odd-carbon-number predominance, typical of higher-plant derived lipids. Some reference samples also contained geochemical signatures that suggest that they too were contaminated by fuel oil. Variable levels of biodegradation of fuels in soils are consistent with a heterogeneous site and a relatively slow rate of biodegradation. The occurrence of fresh spilled fuel overprinting biodegraded fuel from earlier spills is compelling evidence of multiple spills and complex mixing in the environment.

86. The influence of ocean acidification and warming on responses of *Scylla serrata* to oil pollution: An integrated biomarker approach

Baag, S., Mandal, S.

(2023) Comparative Biochemistry and Physiology Part - B: Biochemistry and Molecular Biology, 266, art. no. 110847, DOI: 10.1016/j.cbpb.2023.110847

ABSTRACT: Anthropogenic activities primarily combustion of fossil fuel is the prime cause behind the increased concentration of CO₂ into the atmosphere. As a consequence, marine environments are anticipated to experience shift towards lower pH and elevated temperatures. Moreover, since the industrial revolution the growing demand for petroleum-based products has been mounting up worldwide leading to severe oil pollution. Sundarbans estuarine system (SES) is experiencing ocean warming, acidification as well as oil pollution from the last couple of decades. *Scylla serrata* is one of the most commercially significant species for aquaculture in coastal areas of Sundarbans. Thus, the prime objective of this study is to delineate whether exposure under ocean warming and acidification exacerbates effect of oil spill on oxidative stress of an estuarine crab *S. serrata*. Animals were separately exposed under current and projected climate change scenario for 30 days. After this half animals of each treatment were exposed to oil spill conditions for 24 h. Oxidative stress status superoxide dismutase (SOD), catalase (CAT), glutathione S-transferase (GST), lipid peroxidation (LPO level) and DNA damage (Comet assay) were measured. Augmented antioxidant and detoxification enzyme activity was noted except for SOD but failed to counteract LPO and DNA damage. The present results clearly highlighted the detrimental combined effect of OWA and pollution on oxidative stress status of crabs that might potentially reduce its population and affect the coastal aquaculture in impending years.

87. The influence of temperature in sea urchin embryo toxicity of crude and bunker oils alone and mixed with dispersant

DeMiguel-Jiménez, L., Bilbao, D., Prieto, A., Reinardy, H.C., Lekube, X., Izagirre, U., Marigómez, I.

(2023) Marine Pollution Bulletin, 189, art. no. 114786, DOI: 10.1016/j.marpolbul.2023.114786

ABSTRACT: This investigation deals with how temperature influences oil toxicity, alone or combined with dispersant (D). Larval lengthening, abnormalities, developmental disruption, and genotoxicity were determined in sea urchin embryos for assessing toxicity of low-energy water accommodated fractions (LEWAF) of three oils (NNA crude oil, marine gas oil –MGO-, and IFO 180 fuel oil) produced at 5–25 °C. PAH levels were similar amongst LEWAFs but PAH profiles varied with oil and production temperature. The sum of PAHs was higher in oil-dispersant LEWAFs than in oil LEWAFs, most remarkably at low production temperatures in the cases of NNA and MGO. Genotoxicity, enhanced after dispersant application, varied depending on the LEWAF production temperature in a different way for each oil. Impaired lengthening, abnormalities and developmental disruption were recorded, the severity of the effects varying with oil, dispersant application and LEWAF production temperature. Toxicity, only partially attributed to individual PAHs, was higher at lower LEWAF production temperatures.

88. Experimental Study on Spread and Burning Characteristics of Continuous Spill Fire Leaked from a Point Source under Different Slopes

Sun, X., Huang, H., Zhao, J., Zhang, X., Song, G.

(2023) International Journal of Environmental Research and Public Health, 20 (5), art. no. 4323, DOI: 10.3390/ijerph20054323

ABSTRACT: Liquid fuel is widely used in industry and transportation. Liquid fuel leakage usually results in some spill fire accidents. In this paper, the effect of slope on the spread and burning behaviors of continuous spill fire from a point discharge source was studied by experiments. The flame spread rate, burning rate, heat convection at the bottom surface, flame feedback radiation, and flame height were analyzed. The results show that the spread area has an increasing trend with the slope, and the length of the spread area increases obviously, while the width of spread area shows an opposite trend. Moreover, the burning rate and the flame height of the steady stage decreases significantly with the slope increase, which can be attributed to the increase of heat convection between the fuel layer and bottom for the larger slopes. Subsequently, a burning rate model for the steady stage is built considering fuel layer heat loss and validated by the current experimental data. This work can provide guidance for the thermal hazard analysis of liquid fuel spill fires from a point source.

89. Vulnerability of biological resources to potential oil spills in the Lower Amazon River, Amapá, Brazil

Araújo, E.P., de Abreu, C.H.M., Cunha, H.F.A., Brito, A.U., Pereira, N.N., da Cunha, A.C.
(2023) Environmental Science and Pollution Research, 30 (12), pp. 35430-35449.
DOI: 10.1007/s11356-022-24592-3

ABSTRACT: Ships that transport oil or derivatives on the Lower Amazon River waterway are at a considerably high risk of suffering spills, with severe environmental and socioeconomic consequences. The present study is aimed at modeling and simulating the oil dispersion and magnitude of these accidents in terms of the vulnerability of biological resources, considering two oil types most often transported by medium-sized tankers in the region (S500 and S10). The study method was as follows: (a) secondary data were collected from local species, and the coastal sensitivity index (CSI) was calculated, obtained from Brazil's Letters of Environmental Sensitivity to Oil Spill (Cartas de Sensibilidade Ambiental ao Derramamento de Óleo (SAO)); (b) ship traffic information was obtained from Brazil's Statistical Yearbook of Waterway (Anuário Estatístico Aquaviário (ANTAQ)); (c) modeling and numerical simulation of oil spills in water were performed, in order to investigate dispersion scenarios (SisBaHia); (d) three numerical scenarios of oil plume dispersion (in May and November) were integrated to assess species vulnerability in three zones of environmental interest (I, II, and III). Some species identified in zone II were considered to be the most vulnerable (fish, plankton, aquatic mammals, amphibians, aquatic invertebrates, trees, and plants), with the mammal *Sotalia fluviatilis* being at risk of extinction (Gervais & Deville, 1853). The simulated scenarios showed that contingency plans should have a minimum response time of 3 h and a maximum response time of 72 h to prevent the oil plumes from dispersing as far as 170 km longitudinally, depending on the zone, season, and tidal phase. Thus, a total of 62 sites of biological resources were identified in the literature recorded from 2016. Considering them, 324 species of flora and fauna were recorded, distributed in the following seven groups: (i) 49 tree and plant species, (ii) 37 amphibian species, (iii) 2 aquatic invertebrate species, (iv) 23 invertebrate species, (v) 1 aquatic mammal species, (vi) 95 fish species, and (vii) 117 planktonic species. A failure to respond to these accidents would impact immense intact aquatic areas and ecosystems, with unpredictable consequences for local biodiversity conservation.

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
- 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

Members who would like to be listed here, please contact your editor – john.mcmurtrie@spillcontrol.org

CERTIFICATE IN ALTERNATIVE FUELS – LLOYDS MARITIME ACADEMY

Online, Starting 25 April 2023 Delivered by digital learning over 14 weeks. [Visit website for more info](#)

USA: Elastec Fall Workshop, New Harmony, Indiana, 3-5 October 2023. [More Info](#)

UPCOMING EVENTS

TO VIEW UPCOMING EVENTS CLICK ON [HTTPS://SPILLCONTROL.ORG/UPCOMING-EVENTS/](https://spillcontrol.org/upcoming-events/)

To see ALL of the posted events you will need to click on “LOAD MORE” at the foot of each opened “upcoming events” page. Event organisers are requested to notify ISCO immediately if a listed event is cancelled or postponed. Your Editor does his best to keep the listing up-to-date but it should not be assumed that listed events have not been cancelled or postponed. It is recommended that you check with event organisers before finalising your attendance plans. Please advise the Editor if any of the entries require correction or updating. If you are holding an event you would like to be featured here, please send details to John.mcmurtrie@spillcontrol.org

APRIL 2023

- USA – CLEAN WATERWAYS CONFERENCE & EXHIBITION, DENVER CO, 11-13 APRIL 2023
- AUSTRALIA – FROM ALGA “Lessons learnt: Underground Petroleum Storage Systems Contamination Clean-up”, Adelaide, Tuesday 18th April 2023
- WEBINAR FROM UK SPILL & IRELAND ASSOCIATION – “SUSTAINABLE SPILL RESPONSE”, WEDNESDAY 19 APRIL, 1500 BST
- IMO POLLUTION PREVENTION & RESPONSE (PPR 10) MEETING, 24-28 APRIL, 2023

MAY 2023 & ONWARDS

- WEBINAR – ExxonMobil Oil Spill Response Knowledge Transfer – “Why Science Matters: How Decision Makers use Science during Spill Response, Hosted by Ed Levine, 2nd May 2023
- CROATIA – ADRIASPILLCON Conference & Exhibition, Opatija, 16-18 May 2023
- CANADA – 45th Technical Seminar on Environmental Contamination & Response, Edmonton, Alberta, 4-6 June, 2023
- AUSTRALIA – University of NSW, “Bioremediation Symposium”, 7th June 2023
- TUNISIA – Regional Workshop on Waste Management & Water Treatment, 9-10 May 2023
- FRANCE - European Maritime Day, Brest, France, 24-25 May, 2023
- UK: Hazmat 2023 Conference, 24-25 May 2023
- AUSTRALIA – Risk Assessment Symposium, Adelaide, 22 June 2023
- USA – Elastec Fall Workshop. New Harmony. Indiana, 3-4 October 2023
- UK – Seatrade Maritime Salvage & Wreck Conference, 6-7 December 2023

WHEN YOU OPEN THE UPCOMING EVENTS PAGE YOU WILL SEE MORE UPCOMING EVENTS

SOME OTHER INFO AND UPCOMING EVENTS

Australia – April 26 & 27 – PFAS Training & Workshop, University of Technology, Sydney – [More info](#)
USA: May 8, 2023 - APICOM GM Meeting, Santa Barbara, CA, Location - MSRC's facility at Carpinteria
Recordings of past ExxonMobil OSR Knowledge Transfer Webinar Recordings – [Access and Download](#)

MESSAGES FROM EVENT ORGANISERS

USA: COLORADO - CLEAN WATERWAYS 2023, DENVER, 11-13 APRIL, 2023

Clean Waterway takes place this week at the Hilton Denver City Center Hotel in Denver, CO, on April 11-13. [Registration](#) [Agenda](#).
[Updated information received on 8th February](#) [Preview the speaker & session officer line-up for clean waterways 2023](#)
[View Conference Programme](#)

CROATIA: ADRIASPILLCON 2023, OPATIJA, 16th - 18th MAY, 2023

ADRIASPILLCON 2023 will be held in Opatija, Croatia, between 16 and 18 May 2023 and is being organized by ATRAC - Adriatic training and education centre for accidental marine pollution preparedness and response, with the support of the Ministry of Maritime Affairs, Transport and Infrastructure. The Conference, complemented with an exhibition of relevant products and services, aims at providing a forum for exchange of experience and knowledge in the fields of prevention, preparedness for and response to accidental marine pollution by oil and other hazardous and noxious substances (HNS), among the participants from the Adriatic region and their counterparts from other parts of Europe and the Mediterranean.

All the relevant information is now available on the Conference website <https://adriaspillcon.com/>.

CANADA: 45TH AMOP TECHNICAL SEMINAR ON ENVIRONMENTAL CONTAMINATION AND RESPONSE: EDMONTON, 6-8 JUNE 2023

The Seminar provides a forum for professionals working in the field of oil and hazardous materials spills. The forum facilitates the transfer of scientific results and is intended to link research and the operational community. All submitted papers are peer-reviewed by scientific and technical experts. The Technical Seminar features plenary sessions of 10- or 20-minute presentations on spill-related topics including Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE). Sessions will begin at 8:00 a.m. each

MESSAGES FROM EVENT ORGANISERS (CONTINUED)

day. The presentations are followed by a 5- or 10-minute question and answer period. Sessions may also conclude with Speaker's Corner presentations at which results of more recent research can be discussed without an associated paper. Government of Canada / [Seminar Information](#)

AUSTRALIA: BRISBANE - SPILLCON 2023: 11-15 SEPTEMBER 2023

The Australian Institute of Petroleum (AIP) and the Australian Marine Oil Spill Centre (AMOSC) invite you to attend the international oil spill conference for the Asia-Pacific region, Spillcon 2023. Spillcon 2023 will bring together local, regional and global environmental and shipping representatives across industry, government and non-government organisations to provide an avenue to discuss issues including causes and prevention, preparedness, response management and environmental issues. Spillcon 2023 has been confirmed for 11 – 15 September 2023 at the Brisbane Convention and Exhibition Centre, Queensland, Australia. This website will be regularly updated with further information for sponsors, exhibitors and delegates. <https://www.spillcon.com/>

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

Now Accepting Reservations for Exhibit Space and Sponsorships for CLEAN GULF 2023 - Make an impact on buyers from oil & gas, maritime, rail, environmental companies and regulatory agencies with an exhibit space or sponsorship at the [CLEAN GULF Conference & Exhibition](#). Attendees at CLEAN GULF are looking for new products, services, and technologies to help them better prepare or respond to a hazardous spill or environmental emergency. Clean Gulf Conference & Exhibition | November 7-9, 2023 | Henry B. Gonzalez Convention Center | San Antonio, TX [Registration Now Open for CLEAN GULF 2023 + Sessions Announced!](#)

USA: IOSC 2024 CALL FOR PAPERS AND POSTERS

The International Oil Spill Conference (IOSC) brings together the broadest range of global oil spill response professionals to discuss the latest research, technology, and resources impacting our community today. Submit a proposal to become a leader at our next convening in New Orleans, Louisiana, May 13 - 16, 2024. The IOSC is looking for technical and policy papers and posters under five general categories: Preparedness, Prevention, Remediation, Response, Restoration. [More info](#)
You are invited to submit a proposal by April 24, 2023 for either a paper or poster presentation. [More info](#)

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 EPA Tech Direct <https://clu-in.org/techdirect/archive/> and USA Federal Contracts Updates <https://clu-in.org/Federal-Contract-Opportunities> European Maritime Safety Agency invitations to tender are often posted in The EMSA Newsletter <https://www.emsa.europa.eu/newsroom/newsletters.html>

TEXAS GENERAL LAND OFFICE (GLO) – OIL SPILL PREVENTION & RESPONSE DIVISION (OSPR) FUNDING OPPORTUNITY

The GLO OSPR Research & Development Program's Request for Applications has been posted to the GLO website here: <https://www.glo.texas.gov/coast/grant-projects/osr/index.html>

Applications are managed through SurveyMonkey Apply (SMA). First time SMA users will need to create an account. Navigate to the Oil Spill R&D portal to get started. If you have any questions, contact me at brent.koza@glo.texas.gov. Brent Koza, State Scientific Support Coordinator, Research & Development, Texas General Land Office. [Thanks to Helena Rowland, ISCO Committee]

US NAVY - WORLDWIDE US NAVY TRAINING OPPORTUNITY FOR SMALL BUSINESS.

The Naval Facilities (NAVFAC) Expeditionary and Engineering Warfare Center (EXWC) has a requirement for instructors to provide on-site instruction, including materials and logistics, of oil spill response training courses at Navy and Marine Corps activities or facilities worldwide. These courses fulfill Navy and Federal regulations – particularly OPNAV M5090.1 Chapter 39, Oil and Hazardous Substance Spill Prevention and Response, and 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. [More info](#)

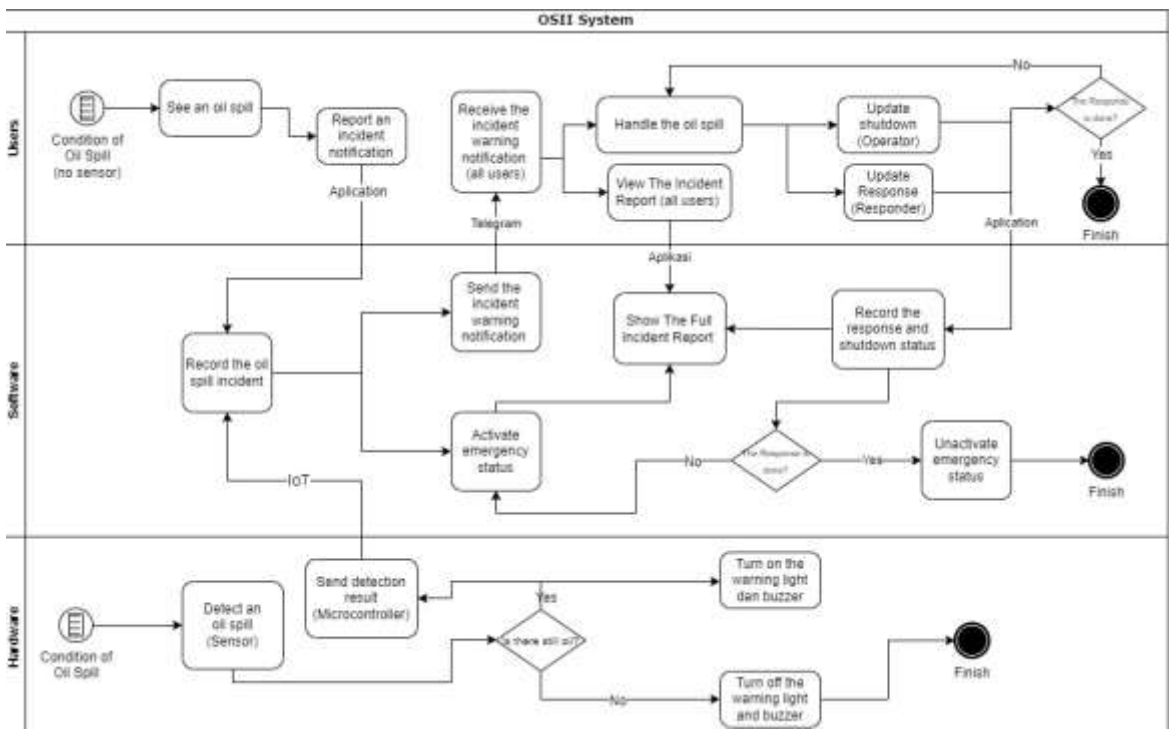
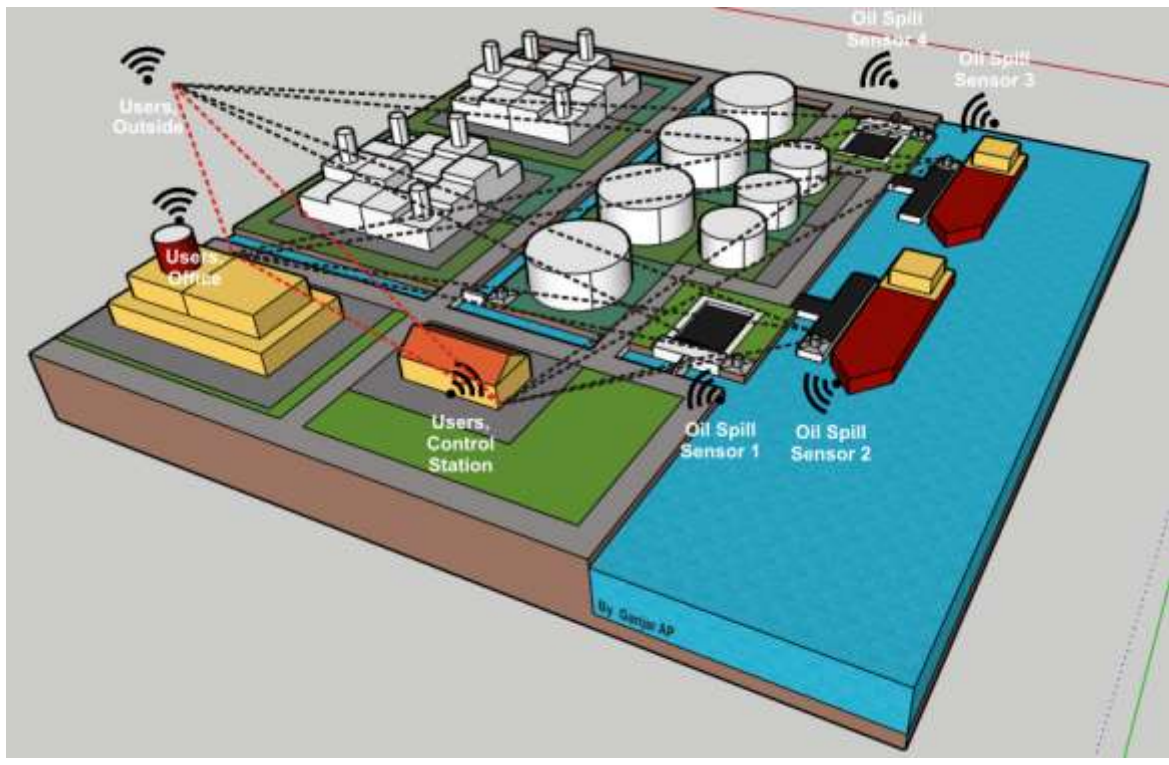
EMSA: REQUIREMENT FOR OIL SPILL RECOVERY VESSELS

In order to strengthen its response capacity network EMSA announces the launch of a procurement procedure to contract a new stand-by oil spill recovery vessels in the following areas: Baltic Sea; Canary Islands and Madeira. More details are provided in the [procurement section](#).

EARLY WARNING SYSTEM FOR OIL SPILL INCIDENT FROM GANJAR ADI PRADANA IN INDONESIA

I am interested in oil spill study due to my experience and specialty. Currently, I am doing research by design and developed an Early Warning System for Oil Spill Incident utilizing IoT and wrap it in an information system framework, this is my thesis project. I named it "OSII System" (Oil Spill Incident Information System).

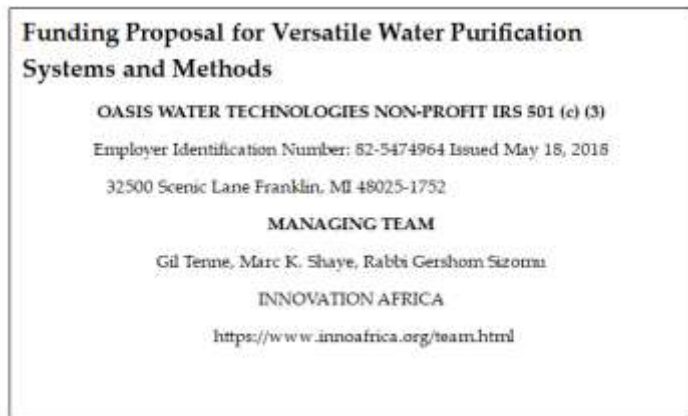
Short overview about OSII System: OSII - Oil Spill Incident Information System is an IoT-based Early Warning System for Oil Spill Incidents in industrial environment. This system consists of hardware and software components. The system hardware consists of oil detection sensor that is connected to a microcontroller and internet network. When the sensor detects oil, an incident notification will be sent by the microcontroller via internet to the system and all system users. The system software is an application that can process data and display information related to oil spill incidents. This system is expected to support related organizations or industries in order that incidents of oil spills can be identified as early as possible. This is to prevent and minimize environmental pollution due to oil spills. Picture below is an illustration of OSII System in Refinery Unit environment.



SPECIAL REQUEST

UGANDA WATER PURIFICATION PROJECT – FROM MARC K. SHAYE, HON.FISCO

Unreliable water systems requiring immediate intervention/modernization in Uganda.



OUR BEGINNING - Oasis Water Purification Systems-Non-Profit was borne out of the compelling need to assist the people of Puerto Rico during the aftermath of Hurricane Maria. Since that original success with the "Water Wagon," the Oasis team enhanced its efforts to use innovative technologies to address other challenges requiring purified water.

The "team" since the operation in Puerto Rico, has expanded to include experts from the United States and Israel. We are now locked and loaded.

THE CURRENT CHALLENGE - The current initiative is in Uganda, one of the poorest countries in the world. The village of Nabugoye is our target area for Uganda. Assessment of needs, designing of water purification systems, and modernization are marked:

"URGENT NEEDS" - Work to these ends has begun as the team of professional experts has assessed the existing circumstances facing the village: this includes an in-depth survey which is available upon request. Funds raised will achieve humanitarian goals, for relief and ongoing modernization for the village impoverished by insufficient clean water. The resilience of the village community will thrive with your support. The management team, using the survey, is confident that it's realistic funding goal for design and installation would equate to approximately \$100,000 (One Hundred Thousand US Dollars).

ACTION OBJECTIVES

- a. Install a new well (100 meters)
- b. Install new tanks and expand water storage capacity (existing tanks are insufficient for gravity fed concept)
- c. Augment piping needs to supplement and expand distribution.
- d. Solar panels required to maximize effectiveness of the system.

Management team has concerns for water quality and ongoing lab control assistance. These will be appropriately addressed. Training for ongoing operational needs must be provided following installation.

Donors will receive periodic reports from the Management Team.

TEAM BIOGRAPHIES AVAILABLE UPON REQUEST. Thank you for your support. Mark Shaye. shayemk@aol.com

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/>

PHILIPPINES: MT PRINCESS EMPRESS OIL SPILL UPDATES

April 2 - Salvors Begin Oil Containment and Removal for Princess Empress Wreck - The Philipping Coast Guard and a Japanese salvor have begun a bagging operation to seal off leaks from the sunken tanker Princess Empress, one month after the vessel went down south of Luzon. A supplier from the United Kingdom provided specialized bags for the purpose, which will be installed using an ROV from the Japanese salvage vessel Shin Nichi Maru. The bagging operation is a preliminary step in the remediation process. After sealing identified leaks, the salvors will use hot tapping to siphon off the tanker's fuel oil cargo. The Maritime Executive / [Read more](#)

USA: PENNSYLVANIA – US COAST GUARD REPORT

March 30 - Coast Guard provides oversight for remaining response operations following the release of hazardous material near Bristol, Pennsylvania - Coast Guard personnel from Sector Delaware Bay continue to provide oversight alongside Pennsylvania Department of Environmental Protection for remaining clean-up operations Thursday following the release of a latex finishing material Friday night due to a mechanical failure at the Trinseo facility in Bristol. US Coast Guard News / [Read more](#)

VIETNAM: OIL SPILL LEAVES 10-KM TRAILS ON CENTRAL VIETNAM BEACH

April 1 - Trails of oil spills have stretched around 10 km of a beach in Phu Yen's Tuy Hoa Town, suspected to have originated from a vessel offshore. Nguyen Cong Thanh, deputy chairman of the Tuy Hoa People's Committee, said the city has requested its environment department and other relevant authorities to resolve the problem. VN Express / [Read more](#)

BAY OF BISCAY: CONTAINERS LOSS

April 4 - 0930 UTC UPDATE: Four 40-containers are spotted drifting in the area where AVILA lost containers, so the ship it seems, lost more than 2 containers.

Apr 4: Container ship AVILA lost 2 containers overboard in Bay of Biscay some 12 nm off Cape Busto, Spain, in the afternoon Mar 31. The ship was en route from Bilbao to Vigo, but after containers loss in adverse weather conditions, she was diverted to Gijon, probably to secure shifted containers stacks. Lost containers weren't found, presumably they sank. Containers are loaded with tires and plastic package materials. Maritime Bulletin / [Read more](#)

SOUTH KOREA: OIL SPILL FROM THE SHIP ARRIVING FROM RUSSIA

April 5 - An oil spill was reported at Pohang port, Korea, in the afternoon Apr 5, from container ship which berthed at Yeongilman container terminal Pohang, in the morning Apr 5. Leak occurred during moving bunker oil from one tank to another, most probably during ballasting process. Cleansing under way, the ship is surrounded by booms. The ship wasn't identified, but according to all data, it's JI ZHE 1, she arrived at Pohang in the morning Apr 5 from Vladivostok Russia. Maritime Bulletin / [Read more](#)

GREECE: OIL SPILL AT THESSALONIKI PORT ALARMS GREEK AUTHORITIES



Photo courtesy of Thessalonika Port Authority - Authorities deployed floating dams to prevent the oil spill from spreading.

April 7 - An oil spill from a cargo ship in the Port of Thessaloniki on Thursday has alarmed authorities who are racing against time to prevent pollution from spreading further.

Although the spill is relatively small, covering an area of approximately seventy square meters, authorities activated the emergency plan by deploying floating dams and by using absorbent materials in the polluted area.

Greek Reporter / [Read more](#)

GIBRALTER: OS 35 WRECK SHIFTS IN STORMS RELEASING ADDITIONAL OIL

April 7 - The Gibraltar Port Authority (GPA) is confirming that a high surf caused by a storm further shifted the wreck of the bulker OS 35 resulting in the vessel completely breaking into two sections. The damage caused by the waves also further released oil from the wreck that washed up on beaches on the east side of the British colony and has also been reported crossing the bay to Spain.

While the salvage teams believed they had recovered all the oil in the bulker that sunk last year just offshore after hitting another vessel at the entrance to Gibraltar harbor, authorities had warned that there were small residual amounts of oil in unreachable sections of the ship. The Maritime Executive / [Read more](#)

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