

## ISCO & THE ISCO NEWSLETTER

The ISCO Newsletter is published weekly by the International Spill Control Organisation, a not-for-profit organisation supported by members in 45 countries. ISCO has Consultative Status at IMO, Observer Status at IOPC Funds and is 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 IMO, UNEP, EC and other organisation.

## ISCO COMMITTEE & COUNCIL

ISCO is managed by an elected executive committee members of which are **Mr David Usher** (President, USA), **Mr John McMurtrie** (Secretary, UK), **Mr Marc Shaye** (USA), **Mr Dan Sheehan** (USA), **M. Jean Claude Sainlos** (France), **Mr Kerem Kemerli** (Turkey), **Lord Peter Simon Rickaby** (UK), **Mr Li Guobin** (China), **Captain Bill Boyle** (UK) and **Mr Dennis van der Veen** (The Netherlands).

The Register of ISCO Members is maintained by **Ms Mary Ann Dalglish** (Membership Director). She is also responsible for collecting membership dues.

The Executive Committee is assisted by the non-executive ISCO Council composed of the following national representatives – **Mr John Wardrop** (Australia), **Mr Osman Tarzumanov** (Azerbaijan), **Mr John Cantlie** (Brazil), **Dr Merv Fingas** (Canada), **Captain Davy T. S. Lau** (China, Hong Kong), **Mr Li Guobin** (China, Mainland), **Mr Darko Domovic** (Croatia), **Eng. Ashraf Sabet** (Egypt), **Mr Torbjorn Hedrenius** (Estonia), **Mr Pauli Einarsson** (Faroe Islands), **Prof. Harilaous Psaraftis** (Greece), **Captain D. C. Sekhar** (India), **Mr Dan Arbel** (Israel), **Mr Sanjay Gandhi** (Kenya), **Chief Kola Agboke** (Nigeria), **Mr Jan Allers** (Norway), **Capt. Chris Richards** (Singapore), **Mrs Fatima B. Shaik** (South Africa), **Dr Ali Saeed Al Ameri** (UAE), **Mr Kevin Miller** (UK) and **Dr Manik Sardessai** (USA).

For more info on Executive Committee and Council Members go to [www.spillcontrol.org](http://www.spillcontrol.org)

## INTERNATIONAL DIRECTORY

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[RESPONSE ORGANISATIONS](#)

[TRAINING PROVIDERS](#)

## International news

For more information on the events featured below, click on the banner



## ANTARCTIC OCEAN TO HOST WORLD'S LARGEST MARINE SANCTUARY



*Photo: Adelie penguins stand atop ice near the French station at Dumont d'Urville in East Antarctica, January 22, 2010. REUTERS/Pauline Askin/File*

October 28 - Twenty-four countries and the European Union agreed on Friday to create the world's largest marine park in the Antarctic Ocean, covering a massive 1.55 million square km (600,000 square miles) of ocean.

The Commission for the Conservation of Antarctic Marine Living Resources, meeting in Hobart, Australia, said the Ross Sea marine park would be protected from commercial fishing for 35 years.

The Ross Sea is seen as one of the world's most ecologically important oceans. *gCaptain* [Read more](#)

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## International news (continued)

### ENVIRONMENTAL DAMAGE AS A WEAPON OF WAR? OPEN SOURCE INDUSTRIAL RISK ANALYSIS OF THE MOSUL BATTLE

October 27 - The start of the operation to retake Mosul from the Islamic State (IS) has seen unprecedented use of environmental pollution as a means to hinder the advancing of troops and as an apocalyptic scorched earth tactic. In June 2016, when Iraqi forces were approaching the city of Qayyara, in Ninewa province, IS set alight dozens of oil wells, and flooded the streets with crude oil. The oil has also polluted the Tigris river, a source of drinking water and lead to an accumulation of health problems.

Thousands of civilians and armed forces were exposed to the noxious fumes from the burning oil wells, which have been on fire now for for almost 4 months. Meanwhile, local environment faced severe pollution from the crude oil and the burned oil particles, rendering local agricultural lands useless, and affecting livestock. NASA's LANDSAT8 has been instrumental in monitoring smoke plumes as they spread across the Ninewa plains. *TWRN.org* [Read more](#)

### OCTOBER 2016 IOPC FUNDS' MEETINGS

October 25 - The governing bodies of the International Oil Pollution Compensation Funds (IOPC Funds) held meetings from Monday 17 to Thursday 20 October 2016 at the headquarters of the International Maritime Organization (IMO) in London.

Seventy States, representing 63 Member States of the 1992 Fund, 25 Member States of the Supplementary Fund and 7 observer States, as well as 13 observer organisations, attended sessions of the 1992 Fund Assembly, the 1992 Fund Executive Committee and the Supplementary Fund Assembly. A brief summary of the key decisions taken is available [here](#) *IOPC Funds*

## International news (continued)

### PROJECT POSOW II: WHERE ARE WE ?



October 21 - Within the framework of the POSOW II, the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) in co-operation with DG-MARINWA, organized the National Pilot Training Course on Preparedness for Oil-Polluted Shoreline Clean-up and Oiled Wildlife Response, which was held in Antalya, Turkey, between 11 and 13 October 2016.

The REMPEC in co-operation with the Agence Nationale de Protection de l'Environnement (ANPE), organized the same National Pilot Training Course on Preparedness for Oil-Polluted Shoreline Clean-up and Oiled Wildlife Response, in Tunis, Tunisia, between 11 and 13 October 2016.

The training targeted representatives of the Civil Protection, local authorities and NGOs who could be involved, under the supervision of the competent authorities, on a voluntary basis, in oil spill response operations.

The main objectives of this event were to train trainees on oil-polluted shoreline assessment, oil-polluted shoreline clean-up, oil spill waste management, oil spill volunteers management, oiled wildlife response and fishermen's support in oil spill response to strengthen local cooperation. Lecturers are the trained trainers during last sessions held last April in Brest, France. *REMPEC* [Source document](#)

### MEPC 70 MULLS ARCTIC HEAVY FUEL OIL REGULATION

October 28 - As the IMO Marine Environment Protection Committee (MEPC70) meeting came to a close on Friday, environmental groups have shown optimism about a potential ban on heavy fuel oil (HFO) use in the Arctic.

## International news (continued)

After three papers on HFO, and one on Arctic food security were presented on Friday, several Arctic countries along with IMO Secretary-General Kitack Lim stated that they shared the view that the risks needed further consideration. The IMO will add new work on the regulation of HFO to its program, and set a deadline for completion of this work in order to consider a phase out of Arctic HFO use by 2020. *The Maritime Executive* [Read more](#)

Related report - [UN maritime body listens to Arctic Indigenous voices](#) *IMO News*

## MEDITERRANEAN OIL INDUSTRY GROUP LAUNCHES NEW WEBSITE

01 October 2016, MOIG launched the development of its new website proving its continuous efforts on innovation and improvements to maintain an International website in keeping with enhancement technology and growing awareness for the information needs for its members, technical partners and visitors. The new website will be bi-lingual English and French and allows members direct interaction with MOIG secretariat and access to Key activities, newsletters, Oil Spill Response resources data, Drills and Exercises, Workshop and Training, Membership, library and links on social networks etc.... The Website will be ready on 31th October 2016. *MOIG* [Read more](#)

## Incident reports from around the world

### USA: SUNOCO LOGISTICS PIPELINE SPILLS GASOLINE IN PENNSYLVANIA: MEDIA

October 21 - A Sunoco Logistics Partners LP pipeline spilled about 1,300 barrels of gasoline into the Susquehanna River in Lancaster County, Pennsylvania, on Friday, according to local media.

The pipeline breach was caused by heavy flooding in Lycoming County, which lies in the north-central region of Pennsylvania, LancasterOnline reported. *Reuters* [Read more](#)

### ARGENTINIA: TUG SINKING AND OIL SPILL



October 24 – News received from ISCO Member, Carlos Sagrera MISCO – herewith links for news about the sinking of the tug Don Pancho in San Lorenzo, Paraná River (Argentina). The enclosed links with the media news shows some photos with protective booms and some slicks of oil in the direction of the current. Best regards, Carlos

[http://www.clarin.com/sociedad/hundio-barco-derramo-petroleo-Parana\\_0\\_1674432614.html](http://www.clarin.com/sociedad/hundio-barco-derramo-petroleo-Parana_0_1674432614.html)

[https://noticias.terra.com.ar/sociedad/se-hundio-un-barco-y-derramo-petroleo-en-el-rio-parana-una-gran-mancha-oscura-avanza-hacia-rosario-donde-estan-en-alerta\\_76e6f5abc6b9be5bab9868112a94b67c1b19qwn.html](https://noticias.terra.com.ar/sociedad/se-hundio-un-barco-y-derramo-petroleo-en-el-rio-parana-una-gran-mancha-oscura-avanza-hacia-rosario-donde-estan-en-alerta_76e6f5abc6b9be5bab9868112a94b67c1b19qwn.html)

<https://www.rosario3.com/noticias/Intentan-remover-petroleo-del-rio-tras-el-hundimiento-de-un-barco-20161024-0009.html>

### USA: OKLAHOMA, PENNSYLVANIA PIPELINES SPILL OIL AND GASOLINE OVER WEEK-END

October 25 - An oil spill in Oklahoma forced the shutdown of a major, 850,000-barrel per day pipeline system that supplies crude oil to Texas refineries. The incident follows another pipeline rupture in Pennsylvania, where 55,000 gallons of gasoline poured into a river.

As of Monday, the Seaway Crude Pipeline Co. has resumed pumping at its 450,000-barrel-a-day (bpd) Loop (twin) pipeline, which was shut down “as a safety precaution” following the spill at a parallel pipeline. “Vacuum trucks are being used to recover the crude oil and return it to storage tanks onsite,” the company said in a statement Monday, as clean-up operations continued. *RT.com* [Read more](#) Related reports – [Insurance Journal](#) [Reuters](#)

### CANADA: RESPONSE CONTINUES FOR B.C. TUG SPILL

October 25 - Salvage response efforts continue for the sunken ATB tug Nathan E. Stewart, which grounded and went down near Bella Bella, B.C. on October 13.



## Incident reports from around the world (continued)

The Stewart sank with about 60,000 gallons of diesel on board, in addition to 500 gallons of lube oil and nearly 1,000 gallons of oily bilge water. About 6,600 gallons of diesel was pumped off the tug before it went under. A status report Monday indicated that the total amount of fuel removed now stands at 30,000 gallons.

In a joint statement Tuesday, the vessel's owner, government officials, salvors and the local First Nations community said that a dive inspection revealed two damaged tanks – the lube tank and the bilge waste tank. After twelve days of response efforts in challenging weather conditions, salvors have pumped hundreds of gallons of an oily mixture out the lube tanks, but they found the bilge tank to be filled with nothing but seawater. *The Maritime Executive*

[Read more](#)

## News reports from around the world (countries listed in alphabetical order)

### AUSTRALIA: FRASER ISLAND OIL SPILL: DRONES SEARCH FOR 'FUGITIVE OIL' AS CLEAN-UP WINDS DOWN

October 24 - Drones will be sent out to check for any remaining oil around world heritage-listed Fraser Island as the clean-up of the world's largest sand island winds down. Rangers first spotted oil patties ranging in size from 10-cent piece to a five-dollar note washed ashore on a 60-kilometre stretch of the sand island's eastern coastline last Monday.

*Brisbane Times* [Read more](#)

### CANADA: B.C. LOCALS 'INFURIATED' BY NATHAN E. STEWART RESPONSE

October 27 - British Columbia locals are up in arms over the Canadian Coast Guard's response to an oil spill following the grounding of an American tug and barge in B.C.'s Inside Passage near Bella Bella.

The tug Nathan E. Stewart, owned by Houston-based Kirby Corp., was pushing the petroleum barge DBL 55 when it ran aground at the entrance to Sea Forth Channel on Athlone Island on October 13. Although the barge was empty of cargo, marine diesel from the tug was released into the water and spread along nearby coastlines.

On Wednesday, Minister of Fisheries, Oceans and the Canadian Coast Guard, Dominic LeBlanc, released a statement saying that oil pumping from the tug had been completed, and the operation will now shift focus to salvaging of the tug and barge.

But Marilyn Slett, Chief Councillor of Bella Bella's Heiltsuk First Nation, released a statement slamming the Minister's words as 'nothing further from the truth.' *gCaptain* [Read more](#)

### CHINA: NEWS RECEIVED FROM ITOPF

October 24 - Last week ITOPF's China Liaison Officer, Rose Ying, attended the Energy China Forum 2016 6th Asia-Pacific Shale Gas Summit from 17-19 October in Shanghai. This provided opportunities for networking with government entities and representatives from industry and academia to raise awareness of the services ITOPF offers.

*ITOPF* [Read more](#)

### FINLAND: WRECK REMOVAL CONVENTION RATIFIED



October 27 - Finland has become the 32nd State to ratify IMO's Nairobi International Convention on the Removal of Wrecks. The treaty, which entered into force in 2015, provides the legal basis for States to remove, or have removed, shipwrecks that may threaten the safety of lives, goods and property at sea, as well as the marine environment.

The Convention was adopted in 2007 and its Contracting States currently represent just over 60% of the world's merchant fleet tonnage. Ms. Lolan Margaretha Eriksson, Ministerial Counsellor, Ministry of Transport and Communications of Finland, met IMO Secretary-General Kitack Lim to deposit the instrument of ratification (27 October). [IMO News](#)

## News reports from around the world (continued)

### GIBRALTER: OIL SPILL EXERCISE AT PORT

October 25 - Key staff at the Gibraltar Port Authority (GPA) held a series of Oil Spill related exercises last week, in conjunction with Oil Spill Response Limited (OSRL).

OSRL, based in Southampton, and with stations world-wide, is the tier 3 oil spill response company contracted by the GPA.

Brightside Services Ltd is contracted by OSRL as the Tier 1 and 2 responder locally and actively took part in all programmed exercises.

*Gibraltar Chronicle* [Read more](#)



### ISRAEL: BRIMROSE, FILE X AWARDED GRANT FOR OIL SPILL DETECTION TECHNOLOGY

October 25 - The Israel-U.S. Binational Industrial Research and Development Foundation (BIRD) has awarded acousto-optic technology provider Brimrose Corp. and its partner File X Ltd. an \$800,000, two-year grant to develop a new generation of hyperspectral imagers for oil spill identification.

The joint program, entitled "Real-Time AOTF-based Hyperspectral Imaging System for Pollution Detection," relies heavily on foundational technology from Brimrose, using its acousto-optic tunable filter technology for fast wavelength scanning speeds of up to 16,000 wavelengths/s and the ability to precisely focus in on one wavelength. File X, based in Ness Ziona, Israel, is providing advanced software for the project, which will allow the new instrument to match the real-time wavelength image with images from a built-in database. *Photonics.com* [Read more](#)

### LEBANON: LAUNCH OF TRAINING PROGRAMME



October 25 – News received from ITOPF - David Campion attended a ceremony to mark the launch of the Lebanese National Oil Spill Contingency Plan (NOSCP) in Beirut on 10th October 2016. ITOPF had previously provided feedback on the draft plan at the request of REMPEC.

The ceremony was followed by week's training course for all stakeholders on different aspects of spill response. It was organised by the Lebanese Petroleum Association at the request of the Ministry of Public Works and Transport and led by international and local consultants.

ITOPF provided an overview of its role, highlighting recent incidents and delivering greater insight into the legal and financial framework surrounding ship-source spills. *ITOPF* [Read more](#)

### NIGERIA: FG ADOPTS OIL SPILL TRAJECTORY MODELLING TO PROTECT MARINE ENVIRONMENT

October 26 - The Federal Government has adopted the application of oil spill trajectory modelling to respond to oil spill incidents as a way to reduce and prevent the impact in the marine environment.

The Minister of Environment, Amina Mohammed, speaking at the National Oil Spill Detection and Response Agency (NOSDRA) workshop on oil spill trajectory modelling yesterday in Abuja emphasized the need to prevent and respond to oil spill in the country, considering its devastating impacts on the environment, health and livelihoods of the both rural and urban communities.

Mohammed, represented by the Director- General of NOSDRA, Peter Idabor explained that the use of oil spill modelling techniques in predicting the direction of movement of spilled oil in the marine environment is a laudable innovation *Daily Trust* [Read more](#)



## TUNISIA: NATIONAL PILOT TRAINING COURSE, 11-13 OCTOBER 2016



Within the framework of the POSOW II, the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) in co-operation with the Agence Nationale de Protection de l'Environnement (ANPE), organized the National Pilot Training Course on Preparedness for Oil-Polluted Shoreline Clean-up and Oiled Wildlife Response, which was held in Tunis (Parc Urbain Ennahli), Tunisia, between 11 and 13 October 2016.

The training targeted representatives of the Civil Protection, local authorities and NGOs who could be involved, under the supervision of the competent authorities, on a voluntary basis, in oil spill response operations.

The main objectives of this event were to train trainees on oil-polluted shoreline assessment, oil-polluted shoreline clean-up, oil spill waste management, oil spill volunteers management, oiled wildlife response and fishermen's support in oil spill response to strengthen local cooperation. Lecturers are the trained trainers during last TtT sessions held last April in Brest, France. Please visit [www.posow.org](http://www.posow.org) for more information. REMPEC

## TUNISIA: PRACTICAL EXERCISE: OILED SHORELINE SURVEY AND CLEANUP 24 NOVEMBER 2016, ZARZIS-TUNISIA

06 September 2016, the Management Committee launched an invitation to its members and technical partners to participate in the practical exercise: Oiled Shoreline Survey and Cleanup which will be held on 24 November 2016 in MARETAP Terminal and ECUMED Base in Zarzis City located on the coast of the Mediterranean Sea in South-Eastern Tunisia. The event will be organized jointly by Cedre, REMPEC, ISPRA, DG-MARINWA, FEPORTS, AASTMT, MOIG, MARETAP and ECUMED Petroleum and will open on Thursday, 24th November 2016 at 08:15 hours and expected to close on the same day at 12:00 hours.

This event is a part of the project for Preparedness for Oilpolluted Shoreline Cleanup and Oiled Wildlife interventions (POSOW II) co-funded by the European Union under the Union Civil Protection Mechanism. The main objectives of this event are to improve the Preparedness and Response to marine pollution in the Mediterranean Region and develop training for volunteers. To register for this event, please complete the Registration Form, and returned to [houcine.mejri@moig.org.tn](mailto:houcine.mejri@moig.org.tn) or [info.moig@planet.tn](mailto:info.moig@planet.tn) at your earliest convenience but not later 07tn of November 2016. MOIG [Read more](#)

## TURKEY: NATIONAL PILOT TRAINING COURSE, 11-13 OCTOBER 2016

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## UK: CONSERVATION AND WILDLIFE GROUPS WARN OF 'SEVERE THREAT' FROM SHIP-TO-SHIP OIL TRANSFER PLANS AT THE MOUTH OF THE CROMARTY FIRTH

October 27 - A COALITION of conservation and wildlife groups has said it believes an internationally important area for dolphins and seabirds is under "severe threat" from proposals to carry out ship-to-ship (STS) oil transfers.

The group – made up of Whale and Dolphin Conservation (WDC), the Marine Conservation Society (MCS), the Scottish Wildlife Trust (SWT), RSPB Scotland, WWF Scotland and the National Trust for Scotland – claimed the



## News reports from around the world (continued)

Cromarty Firth Port Authority's (CFPA) assessment of its plans to undertake the transfers in the open sea at the mouth of the Cromarty Firth was inadequate, and fell far short of what is required under the EU habitat directive.

They also claimed the plans threaten nationally and internationally important sites for wildlife.

The proposed location is in the Moray Firth Special Area of Conservation (SAC) for bottlenose dolphin, and the proposed Moray Firth Special Area of Protection for a range of seabirds. Other European protected sites they say could be harmed by the operations include the Cromarty Firth, Inner Moray Firth and the Moray and Nairn Coast Special Protection Areas, as well as the Culbin Bar SAC. *The National* [Read more](#)

## USA: WEST VIRGINIA - CLEAN WATER ACT (CWA) HAZARDOUS SUBSTANCES SPILL PREVENTION PUBLIC INPUT MEETING: WEDNESDAY, NOVEMBER 2, CHARLESTON, WV

October 26 - The Clean Water Act Section 311(j)(1)(C) requires that EPA issue regulations "establishing procedures, methods, and equipment and other requirements for equipment to prevent discharges of . . . hazardous substances. . . from onshore facilities. . . and to contain such discharges."

EPA plans to host three opportunities during 2016 for interested parties to provide relevant information for EPA to consider when developing a proposed rulemaking addressing hazardous substances under CWA 311(j)(1)(C).

An in-person public input meeting will be held in Charleston, WV on November 2, 2016 at the West Virginia Department of Environmental Protection (WVDEP) Headquarters Office, Cooper's Rock Room, 601 57th Street SE, Charleston, WV 25304. The meeting will be held from 5:00 PM to 7:00 PM, EDT.

This meeting offers interested parties the opportunity to provide their views on topics they believe the EPA should consider during the proposed rulemaking development. These topics may include prevention of discharges of hazardous substances, and the containment of such discharges, from onshore facilities; or methodologies and technologies for preventing such discharges. Speakers will be allowed up to 5 minutes each to present verbal comments. EPA will make every effort to accommodate all registered speakers. EPA will not respond to the presentations, or questions, during the meeting.

Registration is required to attend the meeting. You may pre-register through November 1, 2016. When registering, you should indicate whether or not you plan to speak. While onsite (walk-in) registration will be available, seating for those that register onsite is limited and on a first-come, first-served basis. Pre-registration is encouraged: <https://www.eventbrite.com/e/cwa-hazardous-substances-spill-prevention-public-input-meeting-registration-27945135653?aff=es2>

Two additional meetings are scheduled to be held online: November 29, from 10:00 AM to 12:00 PM EST; December 1, from 2:00 PM to 4:00 PM EST. *US EPA* [Thanks to Margaret Gerardin]

## ISCO News

### REMINDER – CLEAN GULF STARTS ON TUESDAY 1<sup>st</sup> NOVEMBER

ISCO will be at booth 226 in the Exhibition Area. ISCO President David Usher and Membership Director Mary Ann Dalgleish will be on hand to meet you and tell you about the exciting new developments going on at ISCO. You will be able to visit many ISCO member companies too at Clean Gulf.

## Obituary

### IN MEMORIAM: ADM. ROBERT KRAHEK, 20TH COMMANDANT OF THE U.S. COAST GUARD



News received from LT Sarah Janero on Tuesday, September 25, 2016 - "It is with sadness that we inform you of the recent death of one of our former leaders, Adm. Robert E. Kramek, who passed away on Oct. 20, 2016.

Adm. Kramek served as the Coast Guard's 20th commandant from 1994 through 1998, during which time he significantly expanded the Coast Guard's global reach and influence as commandant, including directing active participation in the combined service/international anti-narcotic smuggling operations Frontier Shield and Gulf Shield, along with other law enforcement operations.

More than that though, Adm. Kramek was a true servant leader and a continuous mentor throughout his life". [Read more](#)

## K9 SCAT ON A RIVER SPILL IN CANADA – AN ARTICLE CONTRIBUTED BY DR. ED OWENS



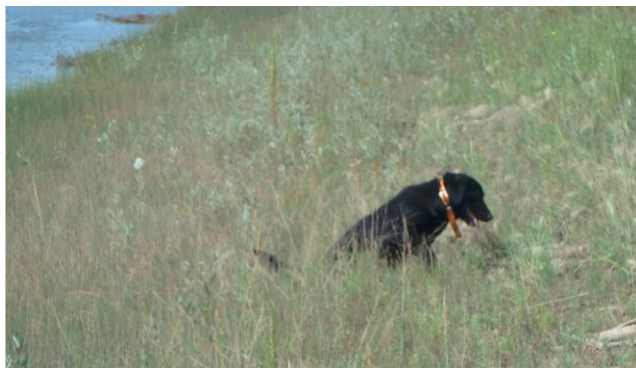
Dr. Owens is the President of Owens Coastal Consultants and is an internationally recognized expert on oil spill shoreline response. He has conducted oil spill related missions as a United Nations Expert Consultant for the International Maritime Organization on (IMO) projects in the Caribbean, South America, and Africa and was a technical consultant for the UN Claims Commission on the 1991 Gulf War claims.

Two K9 SCAT teams were deployed by Husky Energy on a river spill to the North Saskatchewan oil spill continuously between 11th August and 15th October.

The two canines were trained on oil detection prior to the incident and imprinted with the spilled oil on site prior to deployment.

The dogs completed over 60 boat-based field team days of effort and surveyed more than 250 km of river bank, out of the nearly 1,750 km surveyed.

Typically, the dogs searched 2 km of river bank for every linear kilometer of river.



The work was conducted off leash in a range of sediment and vegetated environments, along cut banks, and in some instances being directed from the bow of a boat.

The team included a professional handler and an experienced SCAT Team Lead.

All “alerts” were documented on a variation of the standard SCAT form, fixed by way-points, and photographed.

Search track lines were recorded to ensure full coverage.

The primary use of K9 SCAT was to clear areas in downstream reaches with little or no oil.

On many missions, the SCAT team was accompanied by a “clean as you go” (CAYG) operations boat and the oiled materials immediately removed.

As well as proving to be a valuable and efficient component of the SCAT program, the canines performed an important secondary role as “good ambassadors” to clear First Nation lands along the river.

The canines are trained and handled by K2 Solutions, Inc. and are part of the OCC-led SCAT program.

More information: Click on Dr Owens’ website at <http://owenscoastal.com/>

Note from Editor: ISCO Members can also find a great deal of information in the Members’ Area of the ISCO Website. You need to log in and then open the Technical & Reference section.

Click on Oil Spill Response and Scroll down to the bottom of the page to find SHORELINE CLEANUP ASSESSMENT TECHNIQUE (SCAT) where you can find manuals, forms, publications, shoreline SCAT plans and cultural resources.





## EVALUATION

### A new series of articles contributed by Mark Francis of Oil Spill Solutions



Mark Francis has been involved with the oil industry since 1975. He attended his first oil spill in 1976, the Tanker Elaine V incident. He became head of response for inland spills within the UK for British Petroleum E & P in 1980 for 10 years responding to well, storage tank and pipeline spills throughout the UK. Over the next 25 years he continued to build his international operations experience and has also specialised in spill response training, delivering IMO and other courses in more than 20 countries.

## Part 4

### The Bonn Agreement Oil Appearance Code

Since the colour of the oil itself as well as the optic effects is influenced by meteorological conditions, altitude, angle of observation and colour of the sea water, an appearance cannot be characterised purely in terms of apparent colour and therefore an 'appearance' code, using terms independent of specific colour names, has been developed.

The Bonn Agreement Oil Appearance Code has been developed as follows:

- In accordance with scientific literature and previously published scientific papers,
- Its theoretical basis is supported by small scale laboratory experiments,
- It is supported by mesoscale outdoor experiments,
- It is supported by controlled sea trials,
- It is supported by operational experience.

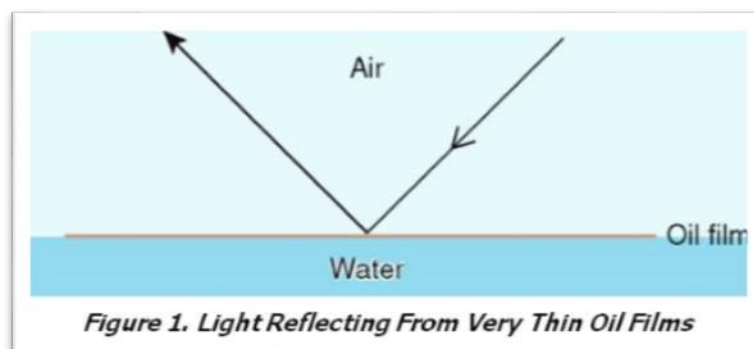
Due to slow changes in the continuum of light, overlaps in the different categories were found. However, for operational reasons, the code has been designed without these overlaps.

Using thickness intervals provides a biased estimation of oil volumes that can be used both for legal procedures and for response.

Again for operational reasons grey and silver have been combined into the generic term 'sheen'.

Five levels of oil appearances are distinguished in code detailed in the following table:

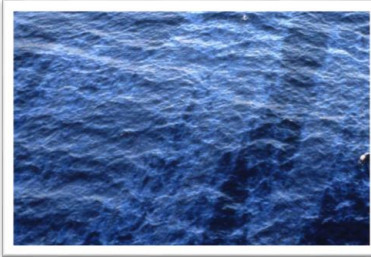
#### **Code 1 Sheen (silvery/grey) 0.04 to 0.30 $\mu\text{m}$ 40 – 300 Litres per $\text{km}^2$**



The very thin films of oil reflect the incoming white light slightly more effectively than the surrounding water (fig 1) and will therefore be observed as a silvery or grey sheen. The oil film is too thin for any actual colour to be observed.

All oils will appear the same if they are present in these extremely thin layers.

## Special feature (continued)



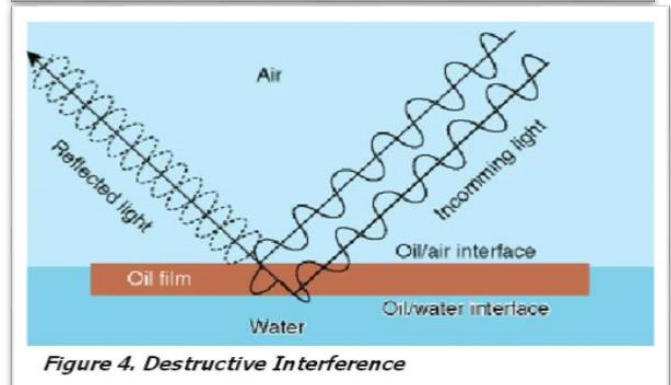
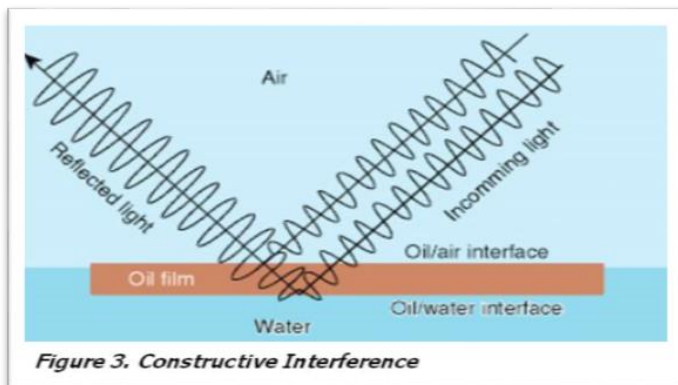
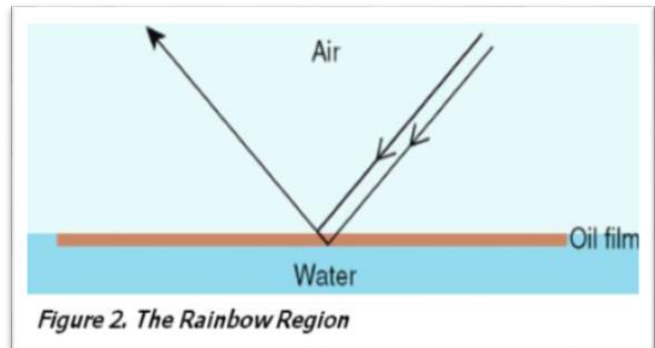
Under some oiling conditions even thicker films may not be observed.

Above a certain height or angle of view the observed film may disappear.

### Code 2 Rainbow 0.30 to 5.0 $\mu\text{m}$ 300 – 5000 Litres per $\text{km}^2$

Rainbow oil appearance represents a range of colours: yellow, pink, purple, green, blue, red, copper and orange; this is caused by constructive and destructive interference between different wavelengths (colours) that make up white light.

When white light illuminates a thin film of oil, it is reflected from both the surfaces of the oil and of the water (fig 2).



If the light waves reinforce each other the colours will be present and brighter (fig 3)

Constructive interference occurs when the light that is reflected from the lower (oil / water surface) combines with the light that is reflected from the upper (oil / air) surface.

During destructive interference the light waves cancel each other out and the colour is reduced in the reflected light and appears darker (fig 4).



Oil films with thicknesses near the wavelength of different coloured light, 0.2  $\mu\text{m}$  – 1.5  $\mu\text{m}$  (blue, 400nm or 0.4  $\mu\text{m}$ , through to red, 700nm or 0.7  $\mu\text{m}$ ) exhibit the most distinct rainbow effect. This effect will occur up to a layer thickness of 5.0  $\mu\text{m}$ .

All oils in films of this thickness range will show a similar tendency to produce the 'rainbow' effect.

A level layer of oil in the rainbow region will show different colours through the slick because of the change in angle of view. Therefore if rainbow is present, a range of colours will be visible.

*Note: The author wishes to acknowledge the use of photos from ITOPF in Part 3 of this series. These were from Technical Information Paper No 1. The ITOPF Technical Information Papers are excellent and can be found at [http://www.itopf.com/knowledge-resources/documents-guides/category/technical-information-paper-tips/?tx\\_itopfdocsguides\\_itopfdocsguides%5BcurrentPage%5D=2#filter\\_top](http://www.itopf.com/knowledge-resources/documents-guides/category/technical-information-paper-tips/?tx_itopfdocsguides_itopfdocsguides%5BcurrentPage%5D=2#filter_top)*

**To be continued**



## Links for recent issues of other publications (in alphabetical order)

<a href="#">AMSA Aboard</a>	News from the Australian Maritime Safety Authority	August 2016
<a href="#">ASME EED EHS Newsletter</a>	News and commentary on HSE issues from George Holliday	Most recent issue
<a href="#">Bow Wave</a>	Sam Ignarski's Ezine on Marine & Transport Matters	Current issue
<a href="#">Cedre Newsletter</a>	News from Cedre in Brittany, France	July 2016
<a href="#">Celtic and Biogenie enGlobe Newsletter</a>	Technical Information on Polluted Site Remediation	Spring 2016
<a href="#">CROIERG Enews</a>	Canberra & Regions Oil Industry Emergency Response Group	Current issue
<a href="#">EMSA Newsletter</a>	News from the European Maritime Safety Agency	October 2016 issue
<a href="#">Environmental Technology Online</a>	Environmental Monitoring, Testing & Analysis	October 2016 issue
<a href="#">IMO News Magazine</a>	News from the International Maritime Organization	No 3, 2016
<a href="#">IMO Publishing News</a>	New and forthcoming IMO publications	October 2016
<a href="#">Intertanko Weekly News</a>	International news for the oil tanker community	October 28, 2016
<a href="#">JOIFF "The Catalyst"</a>	Int'l Organisation for Industrial Hazard Management	October 2016 issue
<a href="#">MOIG Newsletter</a>	News from the Mediterranean Oil Industry Group	October 2016 issue
<a href="#">NOWPAP Quarterly</a>	News from the North West Pacific Action Plan	Quarter 1, 2016 issue
<a href="#">Ocean Orbit</a>	Newsletter from the International Tanker Owners Pollution Federation	May 2016
<a href="#">OCIMF Newsletter</a>	News from the Oil Companies International Marine Forum	September 2016 issue
<a href="#">Pollution Online Newsletter</a>	News for prevention & control professionals	October 26 2016
<a href="#">Sea Alarm Foundation Newsletter</a>	Oiled wildlife Preparedness and Response news from Sea Alarm	Autumn 2015 issue
<a href="#">Technology Innovation News Survey</a>	News from US EPA – Contaminated site decontamination	September 1-15, 2016
<a href="#">The Essential Hazmat News</a>	Alliance of Hazardous Materials Professionals	Feb 29, 2016 issue
<a href="#">Transport Canada Newsletter</a>	News and articles re transport of dangerous goods in Canada	Winter 2014 issue
<a href="#">USA EPA Tech Direct</a>	Remediation of contaminated soil and groundwater	October 1, 2016
<a href="#">USA EPA Tech News &amp; Trends</a>	Contaminated site clean-up information	Spring 2016 issue
<a href="#">WMU Newsletter</a>	News from the World Maritime University	July 2016 issue

Your editor depends on regular receipt of updated links for listed publications. If these are not received, relevant entries may be discontinued.

## Events

### UPCOMING EVENTS SUMMARY

COUNTRY	2016	TITLE OF EVENT	LOCATION
For more information click on Title of Event			
USA	November 1-3	<a href="#">Clean Gulf 2016</a>	Tampa FL
USA	November 1-4	<a href="#">Emergency Preparedness, Hazmat Response Conf.</a>	Pittsburgh
MALTA	November 2-3	<a href="#">JOIFF Fire &amp; Explosion Hazard Mgmt. Conference</a>	St. Julians
UAE	November 7-10	<a href="#">Abu Dhabi Int'l Petroleum Exhibition &amp; Conference</a>	Abu Dhabi
THAILAND	November 8	<a href="#">W'shop on Int'l Liability &amp; Compensation Regime</a>	Bangkok
CHINA	November 8-9	<a href="#">5<sup>th</sup> Oil Spill Response Workshop Conf. &amp; Exhibition</a>	Beijing
AZERBAIJAN	Nov. 21-22	<a href="#">4<sup>th</sup> Conf. &amp; Exhib'n Offshore and Onshore Oil Spills</a>	Baku
COTE D'IVOIRE	Nov. 21-24	<a href="#">GIWACF W'shop on Cont'y Planning &amp; Compensat'n</a>	Abidjan
KENYA	December 4	<a href="#">3rd Session of UN Environment Assembly (UNEA-3)</a>	Nairobi
SENEGAL	December 5-7	<a href="#">GIWACAF Workshop on Dispersants and NEBA</a>	Dakar
UK	December 7-8	<a href="#">19<sup>th</sup> Annual Salvage &amp; Wreck Removal Conference</a>	London
<b>2017</b>			
USA	January 4-6	<a href="#">27th Annual, No-Spills Conference</a>	Acme, Michigan
KUWAIT	January 10-12	<a href="#">Kuwait 2nd Oil Spill Conference</a>	Kuwait
USA	March 28-30	<a href="#">2017 SCAA Annual Meeting &amp; Conference</a>	Washington DC
UAE	April 10-12	<a href="#">RECISO EnviroSpill 2017</a>	Abu Dhabi
SINGAPORE	April 25-28	<a href="#">10th Intl Chemical and Oil Pollution (ICOPCE)</a>	Singapore
USA	May 15-18	<a href="#">International Oil Spill Conference</a>	Long Beach CA
<b>2018</b>			
UK	March 13-15	<a href="#">2018 INTERSPILL Conference and Exhibition</a>	London
To request posting of an event of interest to the Spill Response Community please send details to the Editor			

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