

May 28-29, 2014 — Halifax, Nova Scotia Canada



PROGRAM

Fifth International Dialogue on Underwater Munitions

Hosted by:

The International Dialogues on Underwater Munitions (IDUM) and The
Chief Inspectorate of Environment Protection, Poland

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Welcome to the **Fifth International Dialogue on Underwater Munitions**

Dear delegates,

I would like to take this opportunity to welcome everyone to the 5th International Dialogue on Underwater Munitions. This year we find ourselves back in Halifax at St Mary's University to discuss Underwater Munitions on a global scale. On the east coast of Canada there are more than 3000 documented underwater munitions sites. Many of these sites are in rich fishing grounds that seriously threaten the sustainability and health of our fish stocks including food security on a local and global scale.

The International Dialogue on Underwater Munitions (IDUM) is collaborating with international leaders and organizations to better understand the socio-economic impact on both human health and environment from years of decaying underwater munitions. The organization is facilitating this through international diplomacy via national and international programs, dialogues, conferences, workshops, committees, senate hearings, and international commissions.

Most notable international efforts are those of the Governments of Lithuania and Poland. Lithuanian leadership efforts on cooperation resulted in the passing of the United Nations Resolution on Sea Dumped Chemical Weapons in December 2010 and again in 2013. While Poland's developed the Umbrella Project for Dumped Chemical Munitions in the Baltic Sea. Also of interest was the Third Review Conference of the Organization for the Prohibition of Chemical Weapons (OPCW), Chemical Weapons Convention (CWC) which, after nineteen years, saw Sea Dumped Chemical Weapons (SDCW) included in the Convention. IDUM, in cooperation with Lithuania and Poland, conducted side events at the OPCW to create a platform for voluntary cooperation on SDCW's. Of most interest was the CHEMSEA Findings which identified impact on fish in and around munitions sites in the Baltic Sea.

IDUM will move forward from the International Scientific Advisory Board (ISAB) on Sea Dumped Chemical Weapons (SDCW) with the development of the International Technology Advisory Board (ITAB) on Sea Dumped Munitions (SDM). The development of the ITAB is to support a policy, science and technology approach toward clean-up and to include all classes of underwater munitions. Underwater munitions are "point source" emitters of pollution. Remove them from the water and you remove the pollution.

I would like to wish everyone a successful dialogue and hope to personally discuss underwater munitions with all delegates. Thank you for your time and consideration.

Sincerely,

Terrance P. Long CPSM. SSM. CD.
Chairperson, IDUM

**Fourth
International
Dialogue on
Underwater
Munitions**

May
28-30
2014

Halifax, NS

WELCOME

Terrance P. Long

Chairperson, Sea Dumped Chemical Weapons Side Event, Founder, Chairman of the Board of Director and Chief Executive Officer (CEO), International Dialogues on Underwater Munitions (IDUM).

Mr. Long a munitions expert and retired Canadian Military Engineer served in Canada, Asia, Africa and Europe specializing



in Explosive Ordnance Disposal (EOD) completing EOD programs at Canadian Forces School of Mechanical Engineering; Canadian Forces School of Aerospace and Ordnance Engineering; NATO Advance EOD British Army School of Ammunition United Kingdom and Northern Ireland; Hazardous Materials Technician Maritime Environmental Training Institute; Master's Program in Project Management, Saint Mary's

University, Nova Scotia. Mr. Long served with United Nations Peacekeeping Forces Middle East and United Nations Offices and Commission on Afghanistan. Mr. Long risk managed SDW's deep water projects for US Chemical, Conventional and Radiological Weapons; he received the Coin of The Deputy Assistant Undersecretary of the US Army for Health, Safety and Environment for Service of Excellences and General's Letter of Accreditation for EOD Post Blast Investigation. He appeared at United Nations Second Committee on Sea Dumped, Nov 2010 with Lithuanian Diplomats to provide an overview of the strategic, economic, environmental, and social aspects of the United Nations Resolution on Sea Dumped Chemical Munitions. He's written papers on underwater munitions including proving three commentaries and co-editor for two special editions of the Marine Technology Society Journal (MTSJ) on The Legacy of Underwater Munitions Worldwide: Policy and the Science of Assessment, Impacts and Potential Responses.

Appointments: EOD Centre Chief Canadian Forces Base Toronto; United Nations Development Program; Scientific Committee Polish Naval Academy Marine Safety & Security Year Book; International Scientific Advisory Board (ISAB) on Sea Dumped Chemical Weapons (SCW's) The Hague. He appeared at Commissions, Committees, Conventions and Senate Hearings SCW's: Canadian Senate Standing Committee on Fishery and Oceans; Canada-Nova Scotia Offshore Petroleum Board; Observer Helsinki Commission HELCOM - MUNI Ad Hoc Working Group on Sea Dumped Chemical Weapons Baltic Sea; OSPAR Commission for protection and conserving of North-East Atlantic Ocean; Organisation for the Prohibition of Chemical Weapons (OPCW) Chemical Weapons Convention (CWC) Open Forum; Key Note Speaker Germany Minimizing Risks for the Environment in Marine Ammunition Removal in the Baltic and North Sea (MIREMAR). Mr. Long is Associated Partner and Co-Director for Chemical Munitions Search & Assess (CHEMSEA) project for the Baltic Sea Region,

Founder and Chairman of IDUM and President of Wentworth Environmental Inc. (WEI).

Dr. Andrzej Jagusiewicz

Chief Inspector of Environmental Protection in Poland, Co-Chairman, International Dialogue on Underwater Munitions (IDUM)

PhD in environmental engineering, economist and global/EU negotiator. His mission is spreading the synergetic and ecosystem-based approach to achieve good environmental status in terrestrial and marine ecosystems.



A graduate of the Environmental Engineering Department at the Warsaw University of Technology (1964), Post-Graduate Foreign Trade Studies at the Warsaw School of Commerce (1971) and the Summer School of Renewable Energy Sources at the University of PARISVII (1974).

In 1976 he earned a doctoral degree in atmospheric pollution forecasting at the Wroclaw University of Technology. He speaks fluently English, French and Russian.

For 40 years of his professional career he has held responsible positions in government administration, United Nations organs, scientific institutions, business, the Polish Parliament and non-governmental organizations.

A co-founder of the industry constructing dust control facilities in Poland and the Institute of Environmental Protection. Almost half of his life he has worked abroad, among others, for Electricite et Gaz de France in Paris, the company PRAT-DANIEL S.A. also in Paris and the United Nations Economic Commission for Europe in Geneva.

A Polish representative in various negotiating and political bodies in the United Nations and the European Commission, among others, the CAFE Steering Committee, the Air Quality Committee and the Advisory Council of the Global Monitoring for Environment and Security (GMES) program, HELCOM Convention, the Executive Body of the UNECE Convention on Long-Range Transboundary Air Pollution (also its Vice-Chair) and the first ever Polish Marine Director. Presently the Vice-Chair of the Bureau of the Management Board of the European Environmental Agency serving for the second 3-year term.

Moreover, an expert of the United Nations and the European Commission (TAIEX), a member of the Scientific Committee of the French periodical "Pollution Atmospherique" and a university lecturer. The member of the Scientific /Programming Committee of the French journal "Pollution atmosferique" and the Polish review "AURA".

Numerous publications on various aspects of environmental protection in the era of globalization and regionalization, including the European integration in UN publications and

foreign, mostly French and English periodicals, including the Marine Technology Journal.

A co-author of the book in English "Cleaning the Air" published in November 2004 by the United Nations and a co-editor and co-author of the publication released by the Monitoring Library entitled "The 25 years of the UNECE Convention on Long-Range Transboundary Air Pollution" and The Indicative Report on the State of the Environment in Poland vis a vis the Community Background both in Polish and English. He does not belong to any political party. Married, the father of a son and two daughters.

Mr. Jens Sternheim

Ministry of Energy, Agriculture, the Environment and Rural Areas of Schleswig-Holstein

Jens Sternheim has reached nearly 40 years of employment with the public administration of the Federal State of Schleswig-Holstein, North of Germany. During his service he gained experience in several leading positions, including project management and supervising a state agency.

The professional occupation regarding questions of UXO und DMM started in 2005, when he



was commissioned as officer in charge of the State EOD and bomb disposal service. From that year on Sternheim was in several positions responsible for dumped munitions. Jens Sternheim designed the German road map to find good solutions with respect

to the wide spectrum of concern induced by sea dumped munitions and its traditional way to be disposed of. Communication, designed as long distance dialogue and transparency of almost all available information are two main pillars of his plan. Therefore the internet sites www.underwatermunitions.de were established and are maintained by his unit.

Jens Sternheim is the chairman of the German cross administrative expert working group "Underwater Munitions" which serves as coordination body in the Federal Republic of German and supporting activities in all States by sharing knowledge and exchanging information about incidents with munitions immediately. The annually published update report about "Munitions

in German Marine Waters - Stocktaking and Recommendations" is another important product of the working group.

Dr. Thomas Stock

DYNASAFE Germany GmbH

PhD in chemistry. Trained as analytical chemist with background in chemical toxicology. Since 1985 closed to questions of chemical disarmament and arms control. Between 1988 and 1996 Project



Leader and Program Manager of the CBW Research Programme at SIPRI (Stockholm International Peace Research Institute). Work focussed on: chemical weapons, old and abandoned chemical weapons, destruction technologies, environmental aspects,

waste disposal technologies, and verification techniques and technologies.

After 1996 in private industry in different positions, such as Project Leader and Sales Manager. Since 2002 with DYNASAFE, Swedish born company, as Sales Manager, Project Manager and now Managing Director of DYNASAFE Germany. Performing several CW related projects.

Expertise in: chemical warfare agents, old and abandoned chemical weapons, destruction of explosives, thermal off-gas treatment and other waste treatment processes, destruction technologies, analytical chemistry, toxicology, arms control and disarmament, chemical disarmament and project management.

Published extensively on CW destruction, OCV and ACW, chemical disarmament and technology aspects.

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SPEAKERS



General Assembly

Distr.: General
21 January 2014

Sixty-eighth session

Agenda item 19

Resolution adopted by the General Assembly on 20 December 2013

[on the report of the Second Committee (A/68/438)]

68/208 Cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea

The General Assembly,

Recalling its resolution 65/149 of 20 December 2010,

Recalling also the relevant recommendations of the United Nations Conference on the Human Environment, held in Stockholm in June 1972,¹

Noting the relevant provisions of Agenda 21, adopted at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, in June 1992² and reaffirmed in the Plan of Implementation of the World Summit on Sustainable Development (Johannesburg Plan of Implementation), adopted in Johannesburg, South Africa, in September 2002,³ and the outcome document of the United Nations Conference on Sustainable Development, entitled “The future we want”, adopted in Rio de Janeiro, Brazil, in June 2012,⁴

Reaffirming the United Nations Convention on the Law of the Sea, which provides the legal framework for ocean activities, and emphasizing its fundamental character, conscious that the problems of ocean space are closely interrelated and need to be considered as a whole through an integrated, interdisciplinary and intersectoral approach,

¹ See *Report of the United Nations Conference on the Human Environment, Stockholm, 5–16 June 1972 (A/CONF.48/14/Rev.1)*, part one.

² *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

³ *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August–4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

⁴ Resolution 66/288, annex.

⁵ United Nations, *Treaty Series*, vol. 1833, No. 31363

Recalling relevant international and regional instruments such as the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction,⁶ the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter,⁷ the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region,⁸ the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean,⁹ the Agreement on the Protection of the Marine Environment and the Coastal Area of the South-East Pacific,¹⁰ the Convention on the Protection of the Marine Environment of the Baltic Sea Area¹¹ and the Convention for the Protection of the Marine Environment of the North-East Atlantic,¹²

Taking note of the ministerial declaration of the Baltic Marine Environment Protection Commission (Helsinki Commission) adopted in Copenhagen on 3 October 2013, in which the signatories recognized the need for forward-looking options for solutions and an assessment of the environmental risks posed by, inter alia, munitions dumped at sea, welcomed the 2013 report of the ad hoc expert group to update and review the existing information on dumped chemical munitions in the Baltic Sea and agreed to produce, by 2015, a one-off thematic assessment of the environmental risks of hazardous submerged objects, also utilizing the 2013 report on dumped chemical munitions,

Noting the national, regional and international activities, including scientific research,¹³ data collection and sharing, awareness-raising, reporting on encounters and technical advice, related to munitions dumped at sea, inter alia, in the frameworks of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the Convention for the Protection of the Marine Environment of the North-East Atlantic and the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean,

Emphasizing that, in the report on the Third Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (the Third Review Conference), adopted at The Hague on 19 April 2013, the States parties to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction were invited to support voluntary sharing of information, raising awareness and cooperation on this issue,

Noting that Member States, international and regional organizations and civil society have undertaken activities to discuss and promote the issues related to waste originating from chemical munitions dumped at sea, including international cooperation and the exchange of experiences and practical knowledge, in particular at the International Workshop on Environmental Effects Related to Waste

⁶ Ibid., vol. 1974, No. 33757.

⁷ Ibid., vol. 1046, No. 15749.

⁸ Ibid., vol. 1506, No. 25974.

⁹ Ibid., vol. 1102, No. 16908.

¹⁰ Ibid., vol. 1648, No. 28325.

¹¹ Ibid., vol. 2099, No. 36495.

¹² Ibid., vol. 2354, No. 42279.

¹³ See, for example, the Baltic Sea research project entitled “Chemical Munitions, Search and Assessment (CHEMSEA)”, which is conducting research on environmental effects related to chemical munitions dumped at sea.

Originating from Chemical Munitions Dumped at Sea, held on 5 November 2012 in Gdynia, Poland,

Noting also the concerns about the potential long-term environmental effects related to waste originating from chemical munitions dumped at sea, including their potential impact on human health and safety and on the marine environment and resources,

Recognizing the mandates and capacities of competent United Nations system entities in the fields of marine environment monitoring, research and information sharing, as well as pollution preparedness and response,¹⁴

1. *Takes note* of the report of the Secretary-General,¹⁵ including the views submitted and contained therein;

2. *Notes* the importance of raising awareness of the environmental effects related to waste originating from chemical munitions dumped at sea;

3. *Invites* Member States and relevant international and regional organizations to keep under observation the issue of the waste originating from chemical munitions dumped at sea, to continue outreach efforts to assess and increase awareness of environmental effects related to that issue and to cooperate, including by strengthening existing efforts within regional seas conventions and other international, regional and subregional activities related to risk assessment, monitoring, information gathering, risk prevention and response to incidents;

4. *Encourages* voluntary sharing of information on waste originating from chemical munitions dumped at sea through conferences, seminars, workshops, training courses and publications aimed at the general public and industry in order to reduce related risks;

5. *Also encourages* partnerships between Governments, industry and civil society for raising awareness, reporting and monitoring of waste originating from chemical munitions dumped at sea;

6. *Invites* Member States in a position to do so to consider providing assistance and sharing expertise aimed at building capacities related to risk assessment, monitoring, information gathering, risk prevention and response to incidents resulting from waste originating from chemical munitions dumped at sea;

7. *Invites* the Secretary-General to continue to seek the views of Member States and relevant regional and international organizations on cooperative measures to assess and increase awareness of the environmental effects related to waste originating from chemical munitions dumped at sea, also with a view to exploring the possibility of establishing a database¹⁶ and options for the most appropriate institutional framework for such a database, as well as identifying the appropriate intergovernmental bodies within the United Nations system for further consideration

¹⁴ Competent United Nations system entities include, inter alia, the United Nations Environment Programme, the International Maritime Organization, the Intergovernmental Oceanographic Commission and the Secretariat.

¹⁵ A/68/258.

¹⁶ Such a database could contain relevant and voluntarily shared information on, inter alia, the location of dumping sites, the type, quantity and, to the extent possible, the current condition of chemical munitions, the recorded environmental impact, best practices on risk prevention and response to incidents or accidental encounters and destruction or impact reduction technologies, including by means of data collection and management.

and implementation, as appropriate, of the cooperative measures envisaged in the present resolution, building on and without duplicating existing activities, and with a view to achieving efficiency and synergies, taking into account the mandates and capacities of relevant international and regional organizations;

8. *Also invites* the Secretary-General to submit to the General Assembly at its seventy-first session a report on the matters covered in the present resolution, prepared using responses of Member States and relevant regional and international organizations, as well as other available information.

*71st plenary meeting
20 December 2013*

On Monday, May 26, 2014

St Mary's University, Halifax, NS, Canada		
TIME	ACTIVITY	
0900 - 1700	NATO Science for Peace and Security (SPS) MODUM	CLOSED MEETING Secunda Marine Boardroom

On Tuesday, May 27, 2014

St Mary's University, Halifax, NS, Canada		
TIME	ACTIVITY	
0900 - 1300	NATO Science for Peace and Security (SPS) MODUM	CLOSED MEETING Secunda Marine Boardroom
1300 - 1600	PRE-REGISTRATION FOR 5TH IDUM	Secunda Marine Boardroom
1300 - 1600	NATO Science for Peace and Security (SPS) MODUM	OPEN MEETING Secunda Marine Boardroom Must Register Space is limited

Day I: Wednesday, May 28, 2014

St Mary's University, Halifax, NS, Canada		
TIME	ACTIVITY	
0730 - 1200	OPENING REGISTRATION	FRONT LOBBY OF SCOTIABANK THEATER
0830 - 0930	<p>SESSION MODERATOR: Terrance P. Long</p> <p>WELCOMING REMARKS</p> <p>Mr. Terrance P. Long Chairman, International Dialogue on Underwater Munitions & International Technology Advisory Board (ITAB) on Sea Dumped Munitions (SDM)</p> <p>Mrs. Rita Kazragiene Minister Counselor and Deputy Chief of Lithuanian Mission to the United Nations & Lead Sponsor Country for United Nations Resolution Sea Dumped Chemical Munitions</p> <p>Mr. Jens Sternheim, Germany Ministry of Energy, Agriculture the Environment and Rural Areas, Chairman of the cross administrative expert circle "Sea Dumped Munitions" (BLANO) Germany</p>	Loyola Room

TIME	ACTIVITY	
	Dr. Andrzej Jagusiewicz Chief Inspectorate of Environmental Protection Poland & Co-Chairman, IDUM	
0930 - 1000	SESSION CHAIR: Terrance P. Long Mr. Geoffrey Carton, United States Munitions Disposal Operations in US Waters CALIBRE Systems, Inc, USA	Scotiabank Theater
1000 - 1030	COFFEE BREAK & NETWORKING - BOOTHS	Loyola Room
1030 - 1200	SESSION CONTINUES Mr. Jens Sternheim, Germany <i>Local perspective and global activities of the Land of Schleswig-Holstein in German Marine Waters</i> Ministry of Energy, Agriculture the Environment and Rural Areas, Chairman of the cross administrative expert circle "Sea Dumped Munitions" (BLANO) Germany Mr. Uwe Wichert, Germany Retired Navy Mine Warfare Officer, <i>Historical Research and new findings</i> Mr. Jim Barton, United States Underwater Ordnance Recovery (UOR) <i>Sovereign Indemnification and Sea Dumped Munitions: Unleashing Science and Technology Through the power of shared Interested</i> Mr. Sean Scrivens P. Geo, United States Vice President, Aqua survey Inc. <i>What role should airborne gradiometers play in marine UXO surveys</i>	Scotiabank Theater
1200 - 1300	LUNCH: Guest Speaker Dr. Thomas Stock, Germany <i>Introduction to the ITAB and the Global Role for SDM's</i> Co-Chair International Technology Advisory Board (ITAB) on Sea Dumped Munitions (SDM's) Dr. Andrzej Jagusiewicz Chief Inspectorate of Environmental Protection Poland Co-Chairman, IDUM <i>Poland's UMBRELLA Munitions Project on Dumped Munitions</i>	Lunch Sponsor Chief Inspectorate of Environment Protection, Poland Loyola Room

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TIME	ACTIVITY	
1300 - 1400	<p>SESSION CHAIR: Dr. Andrzej Jagusiewicz</p> <p>Mr. Terrance P. Long, Canada Co-Director, NATO Science for Peace and Security <i>NATO Monitoring the threat of dumped munitions in the Baltic Sea (MODUM)</i></p> <p>Professor Kela Weber, Canada, Royal Military Collage (RMC) <i>Capacity Building Plan for Underwater Munitions Research in Canada</i> John McCallum^{1,2}, Iris Koch¹, Terrance Long^{3,*}, Kela Weber¹ *¹ Environmental Sciences Group, Department of Chemistry and Chemical Engineering, Royal Military College of Canada, ² Ammunition Group, Department of Chemistry and Chemical Engineering, Royal Military College of Canada, ³ Wentworth Environmental Inc., Leitches Creek, Canada</p> <p>Dr. Jacek Beldowski, Poland <i>Search and Assessment of Chemical Weapons in the Baltic Sea (CHEMSEA) Findings and Next Steps</i> OPAS</p>	Scotiabank Theater
1400 - 1500	<p>SESSION CHAIR: Jens Sternheim</p> <p>Dr. Stephen Billings, Australia Physics Black Tusk Geophysics <i>A novel high temperature tensor gradiometer system for effective mapping and characterization of underwater munitions</i> Stephen Billings, Shane Keenan, David Clark & Keith Leslie, Commonwealth Scientific & Industrial Research Org, Australia.</p> <p>Mr. Jim Kirk, United States Ocean Server <i>Unmanned Underwater Vehicles for detecting and mapping of underwater munitions</i></p> <p>Darren Mortimer & Nick Valleau, Geosoft Inc <i>Marine Geophysics - Simplifying Seabed Site Investigation with Magnetic Data</i></p>	Scotiabank Theater
1500 - 1530	COFFEE - NETWORKING - BOOTHS	Loyola Room
1530 - 1700	<p>SESSION CHAIR: Mrs. Rita Kazragiene</p> <p>Dr Thomas Lang, Germany <i>Ecological effects of chemical warfare agents in the Baltic Sea: results of the CHEMSEA project</i> T. Lang ^{*1}, N. Fricke¹, M. Faber¹, M. Brenner², K. Lehtonen³, R. Turja³, J. Baršiene⁴, L. Kotwicki⁵, J. Beldowski⁵ ¹Thünen Institute of Fisheries Ecology, Cuxhaven, Germany, ²Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany, ³Finnish Environment Institute, Helsinki, Finland, ⁴Institute of Ecology of Nature Research Centre, Vilnius, Lithuania, ⁵Institute of Oceanology Polish Academy of Sciences, Sopot, Poland</p>	Scotiabank Theater

TIME	ACTIVITY	
	<p>Professor Paula Vanninen, Finland <i>CWA biomarker analysis in CHEMSEA project</i> Finnish Institute for Verification of the Chemical Weapons Convention Department of Chemistry (VERIFIN)</p> <p>Dr. Martin Söderström, Finland <i>ENVIRONMENTAL CWA ANALYSIS IN CHEMSEA PROJECT</i> Martin Söderström¹, Annette Pettersson¹, Maaret Karjalainen¹, Olli Kostiaainen¹, Ullastiina Hakala¹, Terhi Taure¹, Matti Kuula¹, Jenny Rattfelt Nyholm², Johanna Qvarnström², Anders Östin Yvonne Nygren², Anders Östin², Stanisław Popiel³, Jakub Nawała³, Marta Szubska⁴, Jacek Beldowski⁴, Galina Garnaga⁵, Paula Vanninen¹ ¹ VERIFIN, Department of Chemistry, University of Helsinki, Finland, ² Swedish Defence Agency, Sweden, ³ Military University of Technology, Poland, ⁴ Institute of Oceanology of the Polish Academy of Sciences, Poland, ⁵ Environmental Protection Agency, Lithuania</p> <p>Dr. Anders Östin, Sweden <i>“Development of a GCMS method for the analysis of mustard gas degradation products in sediments for use in provisional on board laboratory with first responder equipment”</i> Swedish Defence Research Agency Scientist CBRN Defence and Security, FOI</p> <p>Professor J Barsiene, Lithuania <i>Genotoxicity and cytotoxicity responses in fish from chemical munitions zones of the Baltic Sea</i> J. Baršienė[*], L. Butrimaviciene¹, A. Rybakovas¹, W. Grygiel², T. Lang³, A. Michailovas¹, R. Valskiene¹, M. Stankeviciute¹, J. Greiciunaite¹, P. Eiva¹ ¹ Institute of Ecology of Nature Research Centre, Vilnius, Lithuania ² National Marine Fisheries Research Institute, Gdynia, Poland ³ vTI Institute of Fisheries Ecology, Cuxhaven, Germany</p>	
1800-2000	NETWORKING RECEPTION	Marriott Courtyard Downtown Halifax Water Front

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Day 2: **Thursday, May 29, 2014**

Bedford Basin & St Mary's University		
TIME	ACTIVITY	
0800 - 1000	<p>TECHNOLOGY DEMONSTRATION</p> <p>Ocean Server Unmanned Underwater Vehicle IVER III AUV</p> <p>CEIA – Deep Water (Fresh/Salt) Compact Metal Detector (CMD-DW)</p>	Transport from Downtown Halifax to Bedford Basin
1000 - 1030	COFFEE – NETWORKING – DEMO	Bedford Basin
1030 - 1100	<p>TECHNOLOGY DEMONSTRATION</p> <p>Return to St Mary's</p>	Bedford Basin
1100 - 1200	<p>SESSION CHAIR: Dr. Thomas Stock, Germany</p> <p>Mr. Bob Olds, United States Business Manager, U.S. Navy Marine Mammal Program for the Detection of Sea Dumped Munitions</p> <p>Professor Paula Vanninen, Finland <i>ANALYSIS OF CHEMICAL WARFARE AGENT RELATED CHEMICALS IN TISSUE SAMPLES WITHIN THE CHEMSEA PROJECT</i> Paula Vanninen^{1*}, Maaret Karjalainen¹, Mia Halme¹, Annette Pettersson¹, Terhi Taure¹, Raisa Turja², Kari Lehtonen², Matthias Brenner³, Nicole Höher³, Nicolai Fricke⁴, Thomas Lang⁴, Johanna Qvarnström⁵, Jenny Rattfelt Nyholm⁵, Rune Berglind⁵ ¹VERIFIN, Department of Chemistry, University of Helsinki, Finland; ²Finnish Environmental Institute, Finland; ³Alfred Wegener Institute, Germany; ⁴Johann Heinrich von Thünen Institute, Germany; ⁵Swedish Defence Agency, Sweden</p> <p>Dr. Harry D. Craig, United States U.S. Environmental Protection Agency Region 10 <i>Development of a Laboratory Analytical Method for Analysis of Conventional Munitions Compounds in Marine Tissue</i></p>	Scotiabank Theater
1200 - 1300	LUNCH	Return St Mary's Loyola Room
1300 - 1400	<p>SESSION CHAIR: Professor Kela Weber</p> <p>Ms. Margo Edwards, Hawaii <i>HUMMA 2012: Techniques and Results of a Deep Water Munitions Assessment, University of Hawaii (UH), Woods Hole Oceanographic Institution and Environet</i></p> <p>Andres Cardenas-Valencia, United States <i>SRI International, Marine and Space Sensing Group</i> <i>Underwater Mass Spectrometer</i></p>	Scotiabank Theater

TIME	ACTIVITY	
1400 - 1500	<p>SESSION CHAIR: Dr. Jacek Beldowski, Poland OPAS</p> <p>Mr. John E. Herbert, United States Leidos, MEC Project Manager Engineering Solutions Group UXO & UW-UXO Division <i>Environmentally Friendly and Safe Demilitarization of Underwater Ordnance</i></p> <p>Mr. Ayumu Kuriyama, Japan <i>Completion of Port Kanda project -The outline and lessons learned</i> CWD Project Department Nuclear & CWD Division Kobe Steel Ltd.,</p> <p>Dr. Thomas Stock, Germany Dynasafe, <i>Dynasafe Solutions for the Destruction of OCW</i></p>	Scotiabank Theater
1500 - 1530	COFFEE NETWORKING BOOTHS	Loyola Room
1530 - 1630	<p>Introduction to the International Technology Advisory (ITAB) on Sea Dumped Weapons (SDW's) <i>An open panel discussion on topics related to policy, science, technology, and responses for underwater munitions (chemical, conventional, radiological and biological). Each panelists will provide a 3 minute statement</i></p> <p>Mr. Terrance P. Long, Canada Chairman, International Dialogue on Underwater Munitions, ITAB <i>Expectations of the ITAB</i></p> <p>Dr. Andrzej Jagusiewicz, Poland Chief Inspectorate of Environmental Protection Poland, ITAB <i>The role for governments and international bodies to eradicate sea dumped munitions</i></p> <p>Dr. Thomas Stock, Germany Co-Chair ITAB <i>The Continuous Challenge from Old Chemical Weapons</i></p> <p>Professor J Barsiene, Lithuania Institute of Ecology of Nature Research Centre, Vilnius, Lithuania <i>Science consideration for the future</i></p> <p>Professor Kela Weber, Canada, Royal Military Collage (RMC), ITAB <i>The need for regional and international cooperation on sea dumped munitions</i></p>	Scotiabank Theater

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TIME	ACTIVITY	
	<p>Dr. Jacek Beldowski, Poland OPAS, ITAB <i>The role for science to ensure environment friendly recovery and disposal of sea dumped munitions</i></p> <p>Dr Asahina Kiyoshi, Japan KOBELCO, ITAB <i>Evolving from underwater detonations to environmental friendly disposal options</i></p> <p>Dr. Stephen Billings, Australia, Physics Black Tusk Geophysics, ITAB <i>The future of underwater detection technologies</i></p> <p>Mr. Uwe Wichert, Germany Retired Navy Mine Warfare Officer; ITAB <i>The need to improve and understand the value of historical research</i></p>	
1630 – 1700	<p>CLOSING REMARKS</p> <p>Mr. Terrance P. Long Chairman, International Dialogue on Underwater Munitions</p> <p>Dr. Andrzej Jagusiewicz Chief Inspectorate of Environmental Protection Poland</p>	Loyola Room

On **Friday, May 30, 2014 Economic Summit**

St Mary's University, Halifax, NS, Canada		
TIME	ACTIVITY	
0900 - 0930	REGISTRATION	Secunda Marine Boardroom
0930 – 1030	<p>OPENING PLENARY SESSION</p> <p>Mr. Terrance P. Long Chairman, International Dialogue on Underwater Munitions & International Technology Advisory Board (ITAB) on Sea Dumped Munitions (SDM)</p> <p>Dr. Andrzej Jagusiewicz Chief Inspectorate of Environmental Protection Poland & Co-Chairman, IDUM</p> <p>Mr. Jens Sternheim, Germany Ministry of Energy, Agriculture the Environment and Rural Areas, Chairman of the cross administrative expert circle “Sea Dumped Munitions” (BLANO) Germany</p>	Secunda Marine Boardroom

TIME	ACTIVITY	
1130 - 1200	Delegates break-off into Working Groups on Science, Policy and Technology and Responses	Secunda Marine Boardroom
1200 - 1300	LUNCH	St Mary's
1300- 1330	Working Groups Continues	Secunda Marine Boardroom
1330 – 1400	Results of Working Groups	Secunda Marine Boardroom
1415 - 1500	<p>Final Remarks and Closing</p> <p>Mr. Terrance P. Long Chairman, International Dialogue on Underwater Munitions& International Technology Advisory Board (ITAB) on Sea Dumped Munitions (SDM)</p> <p>Dr. Andrzej Jagusiewicz Chief Inspectorate of Environmental Protection Poland & Co-Chairman, IDUM</p> <p>Mr. Jens Sternheim, Germany Ministry of Energy,Agriculture the Environment and Rural Areas, Chairman of the cross administrative expert circle “Sea Dumped Munitions” (BLANO) Germany</p>	Secunda Marine Boardroom

Fourth International Dialogue on Underwater Munitions

May
28-30
2014
Halifax, NS

Notes:

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AGENDA

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