CONSIDERATION AND ADOPTION OF THE REPORT

Draft report of the Thirty-Eighth Meeting of the Scientific Group under the London Convention and the Ninth Meeting of the Scientific Group under the London Protocol

INTRODUCTION

1.1 The thirty-eighth meeting of the Scientific Group under the London Convention and the ninth meeting of the Scientific Group under the London Protocol were convened at the headquarters of the International Maritime Organization, London, from 20 to 24 April 2015 under the chairmanship of Dr. Gi-Hoon Hong (Republic of Korea).

1.2 The joint session was attended by delegations from Contracting Parties to the London Convention, Contracting Parties to the London Protocol and observers from intergovernmental and non-governmental organizations in consultative status as listed in document LC/SG 38/INF.1.

Opening of the meetings

1.3 The Chairman opened the proceedings by welcoming all participants to the joint session of the Scientific Groups under the London Convention and Protocol.
1.4 Dr. Stefan Micallef, Director, Marine Environment Division, IMO, welcomed all delegates to the joint session, and highlighted the important role that science plays in sustainable management of the marine environment. In this context, the Scientific Groups should continue to provide key advice and guidance to the governing bodies of the London Convention and Protocol.

1.5 In response, the Chairman stressed the Scientific Groups' role to deliver scientific knowledge and reasoning to the governing bodies to advance the common cause of the protection of the marine environment from all sources of pollution.

Adoption of the agenda

1.6 The agenda (LC/Sg 38/1) was adopted. The Scientific Groups also adopted a timetable for the meetings, as amended (LC/Sg 38/1/1, annex 2). The agenda, as adopted, with a list of documents considered under each agenda item, is set out in document LC/Sg 38/INF.

2 WASTE ASSESSMENT GUIDANCE

Guidance on the development of action lists and action levels for wastes or other matter

2.1 The Scientific Groups recalled that following the adoption of the Guidance on the development of action lists and action levels for dredged material (in 2008) and the Guidelines for the development of action lists and action levels for fish waste (in 2012), the governing bodies, in 2014, endorsed the Scientific Groups' decision to establish two intersessional correspondence groups: on the development of further guidance on the development of action lists and action levels for dredged materials; and on the development of guidance of action lists and action levels for organic material of natural origin, both under the lead of Chile (LC 36/16, paragraphs 4.5.1 to 4.5.2; LC/Sg 37/16, paragraphs 2.1 to 2.11). The two activities have a target completion date of 2016.

2.2 The Chairman of the correspondence groups informed the Scientific Groups that while some information had been received from Canada and South Africa, the work in the intersessional period had been hampered by a too ambitious terms of reference. The Chairman of the correspondence groups therefore suggested a review of the original work plan to possibly re-focus and re-prioritize the work to be carried out. For example, it may be favourable to start gathering information in one region, or to focus the work on one of the waste streams before continuing with the others.
2.3 The delegation of Canada stated that they had prepared a draft guidance for developing action lists and action levels for organic material that they could provide as a starting point for the development of this guidance.

2.4 Following a brief discussion, the Groups agreed to establish a Working Group on Waste Assessment Guidance, under the lead of the United States, to refine and update the terms of reference given to the correspondence groups. It was decided to give the full terms of reference for this working group at the end of the agenda item.

**National action levels and their application**

2.5 The Scientific Groups, having noted that there were no documents submitted under this sub-agenda item, decided to integrate this topic into the sub-topic of "Review of the usefulness and accessibility of the guidelines, as well as their practical implementation" at their next joint session.

**Keep under review all generic and specific guidelines**

2.6 It was recalled that in 2009 the Scientific Groups, having recommended improving the effectiveness, and application of all the WAGs, examined the framework and approach to all Specific Waste Assessment Guidelines during 2010-2012. In 2013, the governing bodies adopted the Scientific Group's recommendations regarding introductory texts to both the Generic WAG and the Specific WAGs explaining their use, and instructed the Secretariat to include this text in revised versions of the WAGs (LC 35/15, paragraph 3.12.3). It was noted that a new, updated Guideline publication, incorporating the changes, had recently been published by IMO (IMO IA531E).

2.7 It was further recalled that the Scientific Groups were invited to continue to gather and review information on the usefulness and accessibility of all guidelines, as well as experience with their practical implementation, on the basis of submissions by Contracting Parties. This ongoing activity is assigned a medium priority. Topics that may be included are:

- the application of biological assessment techniques;
.2 alternative waste management options; and

.3 disposal management measures (e.g. capping).

2.8 The Scientific Groups noted six submissions by the United States on the topic, as follows:

.1 LC/SG 38/INF.17, reporting on the use of Dredged Material Management Plans (DMMPs) in the United States. The document discusses a suite of tools for more efficient development of DMMPs and management of the project following construction. The points of contact are: Cynthia Banks, Cynthia.J.Banks@usace.army.mil, and Linda Lillycrop, Linda.S.Lillycrop@usace.army.mil, United States Army Engineer Research and Development Center, United States;

.2 LC/SG 38/INF.18, presenting current research by the United States Army Corps of Engineers (USACE) to develop innovative approaches suitable for management of moderately contaminated dredged material in beneficial use placements. It was noted that by amending sediments with natural, environmentally friendly materials to provide the building blocks of specific biogeochemical reactions, broader use of dredged material as an environmental resource may be possible. Benefits associated with reducing the volumes of sediment requiring permanent disposal include preservation of existing disposal capacity, reduced associated operational costs, and realization of environmental benefits through the reuse of these materials. The point of contact is: Trudy J. Estes, trudy.j.estes@usace.army.mil, United States Army Engineer Research and Development Center, United States;

.3 LC/SG 38/INF.19, reporting on technical guidelines for evaluating, designing, implementing and monitoring in situ sediment remediation technologies, currently being prepared by the USACE for the United States Environmental Protection Agency (EPA), Office of Solid Waste and Emergency Response for use by federal and state regulatory agencies, stakeholders and remediation practitioners. The point of contact is: Paul R. Schroeder, Paul.R.Schroeder@usace.army.mil, United States Army Engineer Research and Development Center, United States;
LC/SG 38/INF.20, providing a summary report of an Engineering With Nature (EWN) approach being applied to a USACE New Orleans District project where the strategic placement of dredged material is nourishing a small island in the Atchafalaya River, Louisiana, United States. The point of contact is: Burton Suedel, burton.suedel@usace.army.mil, United States Army Engineer Research and Development Center, United States;

LC/SG 38/INF.21, presenting the development by the USACE of web-based resources dedicated to the practice of thin layer placement of dredged material for beneficial use. The Groups noted that a website has been established to house relevant information, coupled to a map-based portal, providing access to location-specific data and site-specific project information. The website is intended to address knowledge gaps in the planning, design, construction and monitoring of thin layer placement projects, with the ultimate goal of enabling broader use of thin layer placement as a dredged material disposal alternative. The point of contact is: Trudy J. Estes, trudy.j.estes@usace.army.mil, United States Army Engineer Research and Development Center, United States.; and

LC/SG 38/INF.24, providing an update in the context of the USACE initiative Engineering With Nature (EWN). The document discusses Life Cycle Assessment (LCA) for dredged material, illustrated by several case studies. The document also contains references for further reading and information. The point of contact is: Matthew Bates, Matthew.E.Bates@usace.army.mil, United States Army Engineer Research and Development Center, United States.

In the ensuing discussion, it was noted that several of the reports, as well as the tools developed for use within the United States would be of direct value to other countries too, and could be made available to interested Parties.

**Review of the Specific Guidelines for assessment of vessels**

It was recalled that in 2014, the Scientific Groups noted the progress made by IMO on the development of threshold values and exemptions applicable to the materials to be listed in inventories of hazardous materials required under the Hong Kong Ship Recycling Convention (HK SRC) and agreed to postpone the review of the Specific Guidelines for
assessment of vessels until the remaining guidance had been finalized by MEPC (LC/SG 37/16, paragraphs 8.11 to 8.15).

2.11 The Groups considered document LC/SG 38/2 (Secretariat) on the Review of the Specific Guidelines for assessment of vessels, outlining the recent progress made by MEPC with respect to the finalization of the draft 2015 Guidelines for the development of the Inventory of Hazardous Materials (IHM Guidelines) under the HK SRC, and inviting the Scientific Groups to commence its review of the Specific Guidelines for assessment of vessels. It was noted that the final draft IHM Guidelines, prepared at the second session of the Sub-Committee on Pollution Prevention and Response (PPR 2), held from 19 to 23 January 2015, would be considered at MEPC 68 (11 to 15 May 2015) with a view to adoption (PPR 2/21, paragraph 9.9 and annex 12).

2.12 Following a brief discussion, and in anticipation of the adoption by MEPC 68, and taking into account the draft 2015 Guidelines for the development of the Inventory of Hazardous Materials as contained in document PPR 2/21, annex 12, the Scientific Groups agreed to instruct the working group to develop a work plan for the review of the Specific Guidelines for assessment of vessels.

Waste Prevention Techniques

2.13 The Chairman recalled that in 2013, the Scientific Groups had agreed to develop an overview of information regarding waste prevention techniques and sea disposal techniques providing environmental benefits, and invited Parties to submit documents to the Groups, in particular on the methods and extent to which wastes disposed of at sea had been reduced in their jurisdictions. This information could then be placed on the LC/LP website for use by all Parties or prospective Parties (LC/SG 36/16, paragraphs 2.24 to 2.26).

2.14 The Groups were informed that national focal points had been invited, through Circular LC-LP.1/Circ.65 to submit to the Secretariat any such information which could assist in the Scientific Groups' work to develop this overview (LC/SG 38/2/1). The information requested included:

.1 the type of waste reduction and prevention techniques used (e.g. product reformulation, clean production techniques, process modification, input substitution and on-site closed loop recycling); and
2.15 It was noted that responses to the Circular had been received from Australia and China. The information provided by China highlighted, inter alia, that by using dredged materials for land reclamation, an estimated 0.43 billion cubic meters of dredged materials had not been dumped at sea in the period from 2006 to 2014. It was also noted that the Secretariat had carried out a search for additional references that may be of value in this context.

2.16 The Groups noted document LC/SG 38/INF.13 (Australia), which provided an overview of the legal framework for waste assessment and prevention in Australia, and of the recent trends with respect to the quantity and quality of dumping of wastes at sea in Australian waters.

2.17 In the ensuing discussion, the Scientific Groups agreed on the need to further refine and focus the work to be undertaken on this topic, and decided to forward documents LC/SG 38/2/1 and LC/SG 38/INF.13 to the working group, with the view to developing a work plan for the development an overview of information regarding waste prevention techniques.

Establishment of the Working Group on Waste Assessment Guidance

2.18 The Groups established a Working Group on Waste Assessment Guidance, under the lead of Dr. Todd Bridges (United States). Taking into consideration the comments and decisions made in plenary, the Working Group was instructed to:

1. refine and update the terms of reference given to the correspondence groups, under the lead of Chile, and prepare a work plan tasked to develop further guidance for guidelines on action lists and action levels for dredged material (LC/SG 37/16, paragraph 2.10.1);

2. prepare a draft work plan for a correspondence group for the guidance on action lists and action levels for organic material of natural origin (LC/SG 37/16, paragraph 2.10.2);

3. prepare a draft work plan, including a terms of reference, for a correspondence group for the review of the Specific Guidelines for assessment of vessels in the light of the adoption of the Convention on Ship Recycling (Hong Kong Convention) and its 2011 and 2015 Guidelines (LC/SG 38/2);
.4 prepare a draft work plan for the development of a (web-based) overview of information regarding waste prevention and sea disposal techniques providing environmental benefits (refer documents LC/SQ 38/2/1 and LC/SQ 38/INF.13); and

.5 present a written report to plenary.

**Outcome of the working group**

[2.19] The working group met from 20 to 22 April 2015 under the lead of Dr. Todd Bridges (United States). The following delegations were in attendance: Argentina, Canada, Chile, China, Ireland, Japan, Mexico, Norway, the Republic of Korea, the United Kingdom, the United States, Greenpeace International and WODA (LC/SQ 38/WP.3).

**Action by the Scientific Groups**

2.20 Having noted the outcome of the working group, the Scientific Groups approved the report in general (LC/SQ SG/WP.3), and in particular:

.1 agreed to re-establish the Correspondence Group on development of further guidance on action lists and action levels for dredged material, under the lead of Chile, with revised terms of reference and work plan as set out at annex...;

.2 agreed to establish a correspondence group on the development of action lists and action levels for organic material of natural origin, under the lead of [Canada], with a work plan and terms of reference as set out at annex...;

.3 agreed to establish a correspondence group on the review of the *Specific Guidelines for assessment of vessels*, under the lead of [the United States], with a work plan as set out at annex...;

.4 instructed the Secretariat to liaise with the United States (Ms. Cynthia Banks) on the development of a structure for the overview of waste prevention and sea disposal techniques, to be made available on the London Convention/Protocol website; and
requested Contracting Parties to provide pertinent documents and web links with respect to waste prevention and sea disposal techniques, as invited through circular LC-LP.1/Circ.65, to the Secretariat by 1 July 2015.

2.21 The Scientific Groups thanked all those who had contributed to the deliberations of the working group, and in particular Dr. Todd Bridges (United States) for providing the overall coordination and chairmanship.]

3 MARINE GEOENGINEERING

Keep under review the marine scientific implications of marine geoengineering

3.1 The Chairman recalled that in 2009, the governing bodies had agreed that an exploration of marine geoengineering and their possible impacts on the marine environment was regarded as desirable and should be planned in the future (LC/SG 36/16, paragraphs 3.18 to 3.25).

3.2 The Groups considered document LC/SG 38/INF.16 (United States) which reported on the publication by the National Research Council of a two-volume "Study on climate intervention". The Council is the principal operating arm of the National Academy of Sciences in the United States. The first volume, which is entitled Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration, focuses on intentional efforts to remove carbon dioxide from the atmosphere. The second volume, Climate Intervention: Reflecting Sunlight to Cool Earth, addresses intentional efforts to reduce the amount of sunlight that is absorbed by the Earth by employing strategies for increasing the amount of sunlight that is scattered or reflected back into space. The study is available for downloading at the National Academy of Sciences' website: http://nas-sites.org/americasclimatechoices/public-release-event-climate-intervention-reports/.

3.3 The observer of the International Ocean Institute questioned whether the Assessment Framework for scientific research involving ocean fertilization might be inhibiting research on this issue, as no experiments had occurred since its adoption by the governing bodies in 2010.

3.4 In the ensuing discussion the Groups agreed that there was no clear evidence that this was the case and that a recent proposal had been cancelled because of lack of funding. It was noted that educating researchers about the Assessment Framework and its purpose might assist in removing doubts about its use and intention. In this regard, Contracting Parties
could use a PowerPoint presentation, prepared by the observer from ACOPS (can be downloaded at: …………) for this purpose.

3.5 The Scientific Groups reconfirmed the importance of being kept informed of new marine geoengineering proposals as they arise and Contracting Parties were urged to present submissions to the next session of the Scientific Groups in 2016.

**Update on the database of literature to assist in implementing the Assessment Framework for scientific research involving ocean fertilization**

3.6 It was recalled that in 2011, the governing bodies having adopted resolution LC-LP.2(2010) on the "Assessment Framework for Scientific Research Involving Ocean Fertilization" as a living document, instructed the Scientific Groups to develop a web-based repository of references relating to the application of the Assessment Framework that would be accessible to LC/LP Parties. In 2014, the governing bodies noted that the Scientific Groups had completed the development of the (web-based) repository and that it should be migrated to the IMO web-site platform.

3.7 The Groups were informed that the migration of the database was complete and was now available at:


3.8 The Groups thanked the United States, and in particular Dr. Marian Westley, for her efforts in the development of the repository and the final migration to the IMO website.

**4 CO₂ SEQUESTRATION IN SUB-SEABED GEOLOGICAL FORMATIONS**

**Experience with practical implementation of the CO₂ Sequestration Guidelines and with CO₂ sequestration technologies and their application**

4.1 The Chairman recalled that in 2007, the governing bodies acknowledged that it would be important for Contracting Parties to keep them informed, on a regular basis, of their experiences with CO₂ sequestration technologies and their application as well as with the CO₂ Sequestration Guidelines.

4.2 The delegation of the Netherlands provided the Groups with an update on research being undertaken on the environmental impacts of Carbon Capture and Storage (CCS) projects in the OSPAR maritime area, in particular, in France, the Netherlands, Spain and the
United Kingdom (LC/SG 38/INF.25). Furthermore, a number of European projects and one IEAGHG project were described. The Netherlands informed the Groups that it had ratified the 2009 amendment to article 6 of the London Protocol on 13 November 2014.

4.3 The delegation of Norway stated that it had been conducting extensive research to better understand the barriers to implementation of CCS and encouraged Contracting Parties to ratify the 2009 amendment to article 6 of the London Protocol, which was perceived as one of the main barriers.

4.4 The delegation of the United Kingdom informed the Groups that the results from the QICS project were available in the International Journal of Greenhouse Gas Control at: http://www.sciencedirect.com/science/journal/17505836. There is also a link to a leaflet about the international collaboration on the QICS project between the United Kingdom and Japan at: http://www.bgs.ac.uk/qics/factsheets/FS12%20Japan%20interaction_jan15.pdf.

4.5 The Scientific Groups noted that the IEA Greenhouse Gas R&D Programme (IEAGHG) will be holding a meeting of two of its CO₂ storage international research networks in the UK this year. The Risk Management Network and the Environmental Research Network will have a combined meeting on 29 September to 1 October 2015 at the National Oceanography Centre at Southampton. The meeting will specifically have an offshore theme, and will cover the latest research, developments and demonstration activities from around the world around risk assessment and environmental impacts of CO₂ storage. The technical agenda will be worked up soon, and suggestions for topics are welcomed from LC/LP Scientific Groups members. IEAGHG will also soon be publishing a comprehensive review on offshore monitoring for CCS. More information will be available on http://www.ieaghg.org/ or contact, tim.dixon@ieaghg.org.

4.6 Contracting Parties were encouraged to inform the Scientific Groups of relevant developments concerning the implementation or application of the CO₂ Sequestration Guidelines, or on the scientific and technical aspects of CO₂ sequestration projects, through submissions to the next joint session in 2016.
5 REPORTING ON DUMPING ACTIVITIES

Review of dumping reports and reporting requirements

Dumping reports

5.1 The Chairman recalled that the governing bodies, in 2014, reviewed the implementation of the "Strategy to improve reporting under the London Convention and Protocol", and instructed the Secretariat to: publish the summary report on permits issued in 2011 in early 2015; submit a final draft summary report on permits issued in 2012 to the meeting of the Scientific Groups for review; and submit a first draft 2013 compilation report to the Correspondence Group on Assessment of Dumping Reports (CGADR), under the lead of Ms. Margot Cronin (Ireland), for its review.

5.2 The Secretariat informed the Groups that the Final Report on Permits Issued in 2011 was published in February and circulated as document LC-LP.1/Circ.68.

5.3 The Scientific Groups noted that the Secretariat had prepared a first overview of the number of dumping permits reported in 2013 (LC/SG 38/5) and would update the data as new reports are received. Only 20 Contracting Parties had provided a report on their dumping activities for 2013 by the time of the publication of the document. It was noted that, in 2013, 87 States were registered as Contracting Parties to the London Convention and 43 States were registered as Contracting Parties to the London Protocol. The invitation to Parties to report over 2013 was issued in August 2014 (LC-LP.1/Circ.64, with a deadline of 1 October 2014) and the Secretariat was working towards presenting the first draft report on 2013 to the meeting of the governing bodies in October 2015.

5.4 It was stressed that Parties, who had not reported, to submit reports to the Secretariat, as soon as possible. These would be most welcome on the E-form.

5.5 The Secretariat also informed the Groups that it had prepared a final draft summary report on dumping permits issued in 2012 (LC/SG 38/5/1). In 2012, 87 States were registered as Contracting Parties to the London Convention and 42 States were registered as Contracting Parties to the London Protocol. To date, 34 Contracting Parties had provided a report on their dumping activities for that year. Out of the reporting Parties, nine were Party only to the Convention, and 25 were Party to the Protocol (either only the Protocol or both the Convention and Protocol). This was equivalent to a reporting rate of 17% for the Convention only Parties, and 60% for the Protocol Parties.
5.6 The Groups noted that Parties were invited to submit their reports of permits issued in 2012 by 1 July 2015 at the latest. The Secretariat planned to submit the final draft for consideration by the governing bodies in October 2015.

5.7 Several delegations made comments on the 2012 final draft summary report, including:

.1 a note should be added to clarify that Singapore was listed in table 2.1 rather than in table 2.2 due to the location where the spoil cargo in question had been dumped;

.2 a further harmonization of the units used should be done, including avoiding the expression "MT";

.3 the conversion ratio x1.3 for converting dredged material from volume to dry weight was questioned. It was noted that this conversion factor (between cubic meters and tonnes: 1 m³ equals 1.3 tonnes) had been developed through the CGADR and applied for many years. Applying this to wet volumes was incorrect. The Groups were informed that OSPAR applied a different conversion standard, which could be used if so desired; and

.4 the delegation of Japan informed the Groups that footnote 5 of table 2.2, which misrepresented the data they submitted, should be deleted.

5.8 Greenpeace International emphasized that the low level of reporting of Contracting Parties was a major concern, although it was recognized that this issue was ultimately a matter for the governing bodies rather than the Scientific Groups.

5.9 The Groups also noted that, due to lack of data, the Secretariat had only submitted the final draft summary report on permits issued in 2012 to the CGADR. The Chairman of the CGADR (Ireland), introduced the outcome of its review of this report (LC/SG 38/5/2).

5.10 The Groups considered a number of questions of an overarching nature as set out in paragraph 5 of document LC/SG 38/5/2. Some delegations expressed the view that seeking too much dumping data may hamper the increase in reporting, but it was acknowledged that there may be other reasons why Contracting Parties are not reporting, as they could still report
based on the minimum requirements. The Groups discussed whether beneficial use could be included in the dumping reports, and it was noted that although this would provide valuable additional information, it could potentially cause misunderstanding, incompatibility with domestic administration, and be an excessive burden. The possibilities to include information on multi-year licenses was also discussed, and it was agreed that this information would solve some interpretation issues where the reports would otherwise indicate an amount of waste dumped, but no permits issued. The Secretariat agreed to look at options to include this information in the forthcoming GISIS reporting module.

5.11 Several delegations provided clarifications on the specific issues identified by the CGADR (LC/SG 38/5/2, annex). It was agreed that those clarifications would be forwarded directly to the Secretariat for incorporation into the final summary report of permits issued in 2012.

5.12 The Groups welcomed the information from the Republic of Korea that they had ended the disposal of sewage sludge at sea from March 2015, and had thus met the deadline previously set as 31 December 2015.

Historical dumping records

5.13 The Chairman recalled that in 2014, the Scientific Groups, having considered a "Review of historical dumping records for the period 1976 to 2009" (LC/SG 37/5/2), agreed to continue the work towards developing a comprehensive overview of changes and trends in dumping of all waste categories since the London Convention came into force and acknowledged that there remained some outstanding work to gather and collate dumping records intersessionally by correspondence, which would help decide on the best option for publication of this work at a future date (LC/SG 37/16, paragraphs 5.12 to 5.15).

5.14 The Groups considered document LC/SG 38/5/3 (Chairman of the Scientific Groups), entitled "Historical dumping records", which provided a preliminary approach for the use of the historical records of dumping permits submitted by the Contracting Parties since 1975 for the purpose of the London Convention and Protocol. It was noted, for example, that the number of vessels permitted for sea disposal had increased since 1975, particularly after 2000. It might, therefore, be useful to collect information from Contracting Parties on their specific administrative permitting arrangements for disposal of vessels at sea, as well as on their methodology to assess potential alternatives to disposal at sea of vessels. It would also be useful to assess other relevant international agreements (e.g. the Hong Kong Ship Recycling
Convention) in view of enhancing the role of the London Protocol and Convention in the international dimension (refer to paragraph 8….. and document LC/SG 38/2).

5.15 The Groups noted that it would be useful to review previously submitted information and case studies, as part of the ongoing development of an overview of waste prevention techniques, and to make this information publicly available as an illustration of the success of the Convention/Protocol in reducing the amounts of wastes dumped at sea.

**Reporting requirements**

5.16 The Chairman recalled that in 2009, the Scientific Groups, having conducted a preliminary review of the data presentation in the compilation reports of dumping activities currently being provided by the Secretariat, suggested ways to improve such presentation. In 2011, the governing bodies adopted the Revised Electronic Reporting Format and Explanatory Notes for a trial period of three years. The Scientific Groups were invited to continue its review on the use of the Reporting Format, including any progress made on this issue by the London Protocol Compliance Group (refer to agenda item 6, and document LC/SG 38/6/1), and taking into account any submissions by Contracting Parties, with a view to advising the governing bodies accordingly. This ongoing activity was assigned a high priority with completion due in 2015.

5.17 The Groups noted that the three-year trial period had ended and agreed to task the CGADR to comment on the trial use of the revised format and report to the governing bodies in October 2015.

5.18 The United Kingdom indicated that no monitoring data had so far been presented in the summary reports, but that this should be included when such information becomes available (as well as information related to CO₂ storage, at a later date).

**Action by the Scientific Groups**

5.19 The Scientific Groups decided to:

1. urge those Parties, which have not yet done so, to submit their notifications for 2012 and 2013 as soon as possible, but not later than 1 July 2015, to meet the deadline for submission of documents to the governing bodies in October 2015.
.2 instruct the Secretariat to prepare a final draft report on permits issued in 2012 and a more complete draft summary report of the number of permits in 2013 for review by the governing bodies in October 2015.

Database development including a GISIS reporting module (building on work of the review of reporting requirements)

5.20 It was recalled that in 2014, the governing bodies reviewed progress with incorporating the electronic reporting system into the IMO Global Integrated Shipping Information System (GISIS) (LC 36/16, paragraph 7.18).

5.21 The Secretariat informed the Groups that the GISIS reporting module was finally completed and would be accessible shortly. Contracting Parties could start using the module to submit their 2014 dumping reports this year.

5.22 The Groups instructed the Secretariat to prepare user guidance for the module, and invited interested Parties to provide feedback for the guidance once it was finalized.

5.23 The Groups also noted that the Secretariat had entered the current contact information for LC/LP National Focal Points into the new Contact Points module of GISIS, and that an invitation to all Parties to update their information would be issued shortly by the Secretariat.

Collaboration with other international bodies on reporting

5.24 The Scientific Groups recalled that that Contracting Parties had the choice, under LC article VI(4) and LP article 9.4, to report either directly to IMO on their dumping activities, or through a Secretariat established under a regional agreement. The Scientific Groups were invited to review progress on collaboration with UNEP Regional Seas and other regional organizations concerning reporting of dumping activities. This ongoing activity was assigned a medium priority.

5.25 The Secretariat informed the Groups that it had been in contact with several of the regional bodies to improve these aspects. More specifically, during the last few months it had been in close dialogue with UNEP-CAR for the Caribbean, HELCOM for the Baltic Sea, ROPME for the Gulfs Area, and PERSGA for the Red Sea and Gulf of Aden, as well as the Nairobi Convention Secretariat for East Africa. It was noted that the Secretariat was making a conscious and continuous effort to involve all regional bodies in our regional outreach activities.
and intended to, given the mutual interest, continue to explore ways to improve ratifications and compliance in the various regions.

**Update of phasing out of disposal of bauxite residue at sea**

5.26 The Scientific Groups recalled that in 2005, the London Convention Scientific Group welcomed Japan’s statement that “while it had demonstrated that the impact of such [bauxite residue] dumping was limited, it had decided to cease disposal at sea of bauxite residues at the end of 2015 and it would limit future disposal in the interim period” (LC/SG 28/14, paragraph 2.13). In the following sessions of Scientific Group meetings, Japan had reported its continuous efforts towards meeting this goal and deadline.

5.27 As reported at the Scientific Groups in 2011, two out of the three companies that executed disposal of bauxite residues had decided to import aluminium hydroxide, with the third company deciding to build a new plant overseas. Two permits were issued since 1 April 2012. Therefore, disposal activities at sea had been terminated as of 31 March 2015. Japan also informed the Groups that no further disposal of bauxite residues at sea was planned and hence, Japan had ceased the disposal of bauxite residues.

5.28 The delegation of Japan further informed that the applicants for the two permits issued would conduct field monitoring at the disposal sites and report the results to the Ministry of the Environment. Japan would notify the Scientific Groups and/or governing bodies of any further information on this matter, as it becomes available.

5.29 The Groups thanked the delegation of Japan for the information provided and its efforts to phase out of disposal of bauxite residue at sea.

**6 TECHNICAL COOPERATION AND ASSISTANCE**

**Implementation of the "Barriers to Compliance" (B2C) Project**

6.1 The Scientific Groups recalled that in 2014, the governing bodies reviewed the implementation of workshops and projects under the B2C Project, and instructed the B2C Steering Group, under the lead of Ms. Anne-Marie Svoboda (Netherlands), to review the list of ongoing and planned workshops and projects; finalize the "checklist for twinning arrangements"; and continue the discussion on possible actions to improve the feedback from technical cooperation activities. The B2C Steering Group was also instructed to work with the
Secretariat to improve the technical cooperation section on the website, and to provide a progress report on these tasks to the Scientific Groups (LC 36/16, paragraph 8.25).

6.2 It was also recalled that the governing bodies noted a number of requests for technical assistance for the period 2015-2016, and encouraged Contracting Parties, in a position to do so, to make donations to the LC-LP Trust Fund to support such requests (LC 36/16, paragraph 8.5).

6.3 The Scientific Groups considered two documents submitted by the Chairman of the B2C Steering Group:

- document LC/SG 38/6/2, containing, at annex, a proposal for a Technical Cooperation and Assistance check-list for the London Convention and Protocol; and

- document LC/SG 38/6/3, containing recommendations on possible actions to improve feedback from technical cooperation activities, and inviting the Scientific Groups to identify actions for further work.

6.4 The Groups also considered document LC/SG 38/6/1 (Chairman of the London Protocol Compliance Group), summarizing the recommendations resulting from work done to identify and review the factors contributing to the difficulties experienced by Contracting Parties in fulfilling their reporting obligations under article 9.4.1 of the Protocol, and identifying options to address those factors. Recommendations are offered on reporting, compliance outreach, guidance needs, making sample legislation available, and developing an interactive web-based platform to support Protocol compliance and implementation.

6.5 In the ensuing discussion, it was suggested that there may be a need to further emphasize the importance of the establishment of permitting systems as the basis for regulation of dumping of wastes at sea, in outreach materials and B2C activities.

6.6 The Scientific Groups agreed to re-establish the B2C Steering Group to review the submissions and comments made in plenary. It was decided to provide the full terms of reference at the end of this item of the agenda.
Technical advice to specific countries, including national and regional workshops

6.7 It was recalled that the convening of Workshops concerning the London Convention/Protocol was recommended as an option when the "Practical guidance on the preparation of TC Workshops" was discussed at the 27th Consultative Meeting in 2005.

6.8 It was also recalled that national Workshops have been held in various countries and are regularly reported to the Scientific Groups. Since 1998, Regional Workshops have been convened biennially in conjunction with regular meetings of the Scientific Group. Furthermore, since 2007 several successful "stand-alone" Regional Workshops have been held.

6.9 The Groups considered document LC/SG 38/6 (Secretariat), informing the meetings of the regional workshop on the implementation of the London Protocol for the Nairobi Convention area, held in Nairobi, Kenya, from 18 to 20 November 2014. The workshop was organized jointly by the LC/LP Secretariat and the Secretariat of the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (UNEP), and hosted by the Kenya Maritime Authority (KMA). The workshop was funded through the IMO Integrated Technical Cooperation Programme (ITCP).

6.10 The Groups were also informed of the national workshop on the London Protocol that was held from 23 to 24 March 2015 in Dar es Salaam, United Republic of Tanzania as a follow-up activity to the workshop in Nairobi. The workshop had been hosted by the Surface and Marine Transport Regulatory Authority (SUMATRA), and had been attended by delegates from various national stakeholders. The activity was also funded through the IMO ITCP.

6.11 The Scientific Groups thanked the Governments of Kenya, Tanzania and the United Kingdom, as well as the Nairobi Convention Secretariat of UNEP, for their considerable financial and in-kind support to make these workshops happen.

6.12 The Groups were informed about events scheduled in the coming year, as listed at annex ..., and it was noted that, drawing on both the LC/LP Trust Fund as well as the IMO ITCP, workshops were scheduled in Saudi Arabia (regional), Peru (national), Mexico (sub-regional), Thailand (sub-regional) and Turkey (national).

6.13 The Groups requested the Secretariat to provide a report on any further feedback received by the IMO Internal Oversight Section from post-workshop evaluation questionnaires to the next session of the governing bodies.
The "low technology, low cost dredged material assessment guidelines" and the implementation of its communications plan

6.14 It was recalled that in 2014, the Scientific Groups, having noted that the guidance document was in the process of being published by IMO, agreed to leave any further actions, including an updating of the communications plan, in abeyance until it had the final publication is available (LC/SG 37/16, paragraph 6.10).

6.15 The Groups were informed of the experiences of including the topic of low technology, low cost assessment and field monitoring techniques in recent workshops, and noted the usefulness of including this information in the outreach activities. It was also noted that IMO expected the document to be published by the middle of the year.

6.16 The Groups agreed that once the document has been published, it would be timely to review the implementation of the communications plan for the guidelines, with a view to identifying any additional outreach actions, and noted that this could be added to the intersessional work plan of the B2C Steering Group.

Other technical cooperation and outreach activities

Development of a communications plan for the "London Protocol – What it is and how to implement it"

6.17 It was recalled that in 2014, the Scientific Groups initiated discussions on the development of a communications strategy for the recently published "The London Protocol – What it is and how to implement it" (LC/SG 37/16, paragraphs 6.26 to 6.28). This activity is assigned a medium priority, with an anticipated completion date of 2015.

6.18 The Groups agreed that due to time constraints, it would be appropriate to add the development of a communications strategy for the "The London Protocol – What it is and how to implement it" to the intersessional work plan of the B2C Steering Group.

Improvement and update of the London Convention and Protocol website

6.19 It was recalled that in 2014, the Scientific Groups noted the new London Convention and Protocol website and made several suggestions for its improvement (LC/SG 37/16, paragraphs 6.29 to 6.30).

6.20 The Groups were informed of the current status of the website. It was noted that the revisions and additions discussed at the last meeting of the Scientific Groups had all been
implemented, and that the IMO was in the process of launching its website in the three working languages of the Organization (English, French and Spanish).

6.21 Several delegations provided suggestions for further improvements to the website, including increasing the prominence of the WAGs on the website. The Groups requested those with further suggestions to liaise directly with the Secretariat, who would endeavour to make any necessary improvements to the website.

Re-establishment of the B2C Steering Group

6.22 Following the discussion, the Scientific Groups re-established the B2C Steering Group under the lead of Ms. Anne-Marie Svoboda (Netherlands) to:

1. finalize the Technical Cooperation and Assistance check-list for the London Convention and Protocol, using document LC/SG 38/6/2 as a basis;

2. discuss recommendations on possible actions to improve feedback from technical cooperation activities, using document LC/SG 38/6/3 as a basis;

3. discuss document LC/SG 38/6/1 on factors contributing to the difficulties experienced by Contracting Parties in fulfilling their reporting obligations under article 9.4.1 of the Protocol, and identify options to address those factors; and

4. provide a written report to plenary.

[Outcome of the B2C Steering Group]

6.23 The B2C Steering Group met on 22 April 2015 under the lead of Ms. Anne-Marie Svoboda (Netherlands). The following delegations were in attendance: Canada, Ghana, Nigeria, the Republic of Korea and the United States.

6.24 The Scientific Groups noted that the chairmen of the B2C Steering Group, the CGADR, and the London Protocol Compliance Group, met informally on 21 and 22 April to discuss issues related to technical cooperation and assistance as set out, among others, in document LC/SG 38/6/1. This meeting was also attended by the two Compliance Group Vice-Chairmen, as well as the delegations of Germany, Ghana, the Netherlands, and the United Kingdom.
Action by the Scientific Groups

6.25 Having noted the outcome of the Steering Group, as well as the meeting of the chairman of the B2C Steering Group, the CGADR and the London Protocol Compliance Group, the Scientific Groups approved the report in general (LC/SG 38/WP.4), and in particular:

.1 agreed to forward the revised "How to seek assistance guide" to the governing bodies for their approval, as set out at annex……, and instructed the Secretariat to publish the document on the London Convention/London Protocol website under Technical Cooperation and Assistance;

.2 agreed that the actions to improve the feedback from technical cooperation activities, as set out in annex ……. should be implemented on a trial basis and instructed the Secretariat to provide feedback to the next governing bodies and Scientific Groups meetings on how effective the different measures are;

.3 agreed that regular meetings between the three groups (the B2C Steering Group, the London Protocol Compliance Group, and the CGADR) and the Secretariat should continue as the opportunity arises (that is, informally during the meetings of the Scientific Groups and governing bodies, as attendance allows), and the chairman of the groups should routinely copy each other on any correspondence and that this agreement could be reflected in the terms of reference of the various groups, or other documents, as appropriate;

.4 requested that the B2C Steering Group, the London Protocol Compliance Group, the CGADR and the Secretariat to continue to work on the tasks identified in paragraphs 1 to 9 in annex …….; and

.5 instructed the Secretariat to address the discussion points in paragraph10 in annex ……… and report back to the relevant chairmen.

6.26 In addition, the Scientific Groups requested the B2C Steering Group to add the following tasks to its intersessional work plan:
review of the implementation of the communications plan for the low tech, low cost waste dredged material assessment guidelines, with a view to identifying any additional outreach actions; and

development of a communications strategy for "The London Protocol – What it is and how to implement it".

6.27 The Groups were informed that Ms. Svoboda would not be able continue her work as the Chairman of the B2C Steering Group, and that as a consequence a new chairman would be needed.

6.28 The Groups, therefore, agreed to appoint Ms. Azara Prempeh (Ghana) as interim Chairman of the B2C Steering Group, pending the formal approval by the governing bodies in October later this year.

6.29 The Groups thanked Ms. Svoboda for her tireless services to the work under the London Convention and Protocol, and in particular to the B2C Steering Group.

7 MONITORING AND ASSESSMENT OF THE MARINE ENVIRONMENT

Reports and assessments of monitoring

7.1 The Chairman recalled that in 1999, the 21st Consultative Meeting reconfirmed the importance of monitoring for the purpose of the London Convention in relation to dumping activities and agreed that aspects related to research and assessment should be addressed by the Scientific Group, and those related to compliance by the Consultative Meeting.

7.2 The Scientific Groups noted the following four documents by the United Kingdom:

document LC/SG 38/INF.3, containing, at annex, a recently published article assessing the recovery of two intertidal dredged material recharge schemes, comparing results obtained based on taxonomic structure (univariate and multivariate approaches) and function (biological trait composition, functional diversity, secondary production) of the benthic assemblages. The article is entitled "Macrofaunal recovery following the intertidal recharge of dredged material: A comparison of structural and functional approaches", and was published in the journal Marine Pollution Bulletin 97 (2014), p. 15-29, authored by Stefan G. Bolam;

document LC/SG 38/INF.4, containing, at annex, a study of the levels of polycyclic aromatic hydrocarbons (PAHs) in sediments at a number of disposal sites monitored in 2013, and variations in concentrations over time at three sites during the period 2008 to 2013. These were assessed using established sediment quality guidelines. Elevated PAH concentrations were generally observed only within the boundaries of the disposal sites studied. The article, entitled "Polycyclic aromatic hydrocarbons in sediments at dredged material disposal sites around England: Concentrations in 2013 and time trend information at selected sites 2008-2013", is currently in press, to be published in the journal Marine Pollution Bulletin (2015), and authored by Heather S. Rumney, Stefan G. Bolam and Robin J. Law; and

document LC/SG 38/INF.5 containing, at annex, a recently published article analysing temporal and spatial data to assess the effectiveness of the ban on the use of TBT paints in reducing its concentrations in sediments at disposal sites around England and Wales. The article, entitled "A temporal and spatial assessment of TBT concentrations at dredged material disposal sites around the coast of England and Wales", was published in the journal Marine Pollution Bulletin 79 (2014) p. 326-332, and authored by Thi Bolam, Jon Barry, Robin J. Law, David James, Boby Thomas and Stefan G. Bolam.

7.3 The Groups also noted document LC/SG 38/INF.11 (Republic of Korea), containing a recently published article on a laboratory experiment to remove TBT and metals from contaminated shipyard sediments, using magnetic size-separation technology to restore the marine environment. The article, entitled "Magnetic characteristics of sediment grains concurrently contaminated with TBT and metals near a shipyard in Busan, Korea", was
7.4 The Scientific Groups thanked the Republic of Korea and the United Kingdom for their submissions and encouraged Contracting Parties to submit monitoring reports to future meetings of the Scientific Groups, and to include, as appropriate, monitoring reports submitted under regional conventions to protect the marine environment.

**Developing guidance on monitoring and reporting**

7.5 The Scientific Groups recalled that in 2011, the governing bodies adopted Table 6 of the Revised Electronic Reporting Format for reporting of monitoring activities conducted in relation to dumping at sea activities, including the CO₂ injection sites. Having noted that many developing countries would benefit from practical advice on monitoring methods, equipment and standards, the governing bodies invited the Scientific Groups to: 1) review available monitoring reports and the consultant report; 2) liaise with the B2C Steering Group for feedback on monitoring requirements received during workshops; and 3) report back to the governing bodies with recommendations for specific actions that can be taken to further improve reporting on monitoring activities.

7.6 In 2013, the Groups established a correspondence group on the development of guidance on low-technology field monitoring, under the co-lead of the United Kingdom, which provided its first progress report to the governing bodies in November 2014 (LC/SG 37/16, paragraphs 7.4 to 7.9; LC 36/16, paragraphs 11.4 to 11.6). This activity is assigned a medium priority and is now due for completion in 2016.

7.7 The Scientific Groups considered document LC/SG 38/7 (Co-chairmen of the Correspondence Group), on the work of the group and the final text of the draft field monitoring guidance entitled “Low technology, low cost monitoring: assessment of the effects of disposal in marine waters of dredged material or inert, inorganic geological material”. It was noted that a companion document, focusing on compliance monitoring, was also developed and made available for review by the correspondence group. It was also noted that the next steps would include the completion of the final draft guidance, for submission to the governing bodies in 2015. The related draft compliance monitoring guidance is to be completed for review by the Scientific Groups in 2016 and submitted for approval by the governing bodies in 2016.
7.8 Following an exchange of views, the Groups established an informal group to confirm arrangements for further work by the correspondence group. The Groups, having reviewed the report of the informal group, re-established the correspondence group on development of guidance on low-technology field monitoring, under the lead of Dr. Andrew Birchenough (United Kingdom) and Ms. Suzanne Agius (Canada) to:

[more to come]

**Contribution to the global reporting and assessment of the state of the marine environment (UN Regular Process)**

7.9 The Groups were informed of the recent progress with the UN Regular Process. It was noted that the first global integrated marine assessment would be submitted to UNGA 70 in the fall of 2015. Currently comments provided by the peer reviewers are being considered before finalization. There are several thousands of comments. IMO commented on shipping, ports, and solid waste disposal chapters. More information on the UN Regular Process can be accessed at the dedicated webpage of the United Nations Division for Oceans and the Law of the Sea, DOALOS at: [http://www.un.org/depts/los/global_reporting/global_reporting.htm](http://www.un.org/depts/los/global_reporting/global_reporting.htm).

7.10 Some delegations shared their experience on reviewing the integrated assessment and welcomed its final publication.

8 COASTAL MANAGEMENT ISSUES ASSOCIATED WITH ACTIVITIES TO PREVENT MARINE POLLUTION

**Cooperation with United Nations agencies and other organizations**

*Riverine and sub-sea disposal of tailings and associated wastes from mining operations*

8.1 The Chairman recalled that in 2012, the governing bodies noted a preliminary report, commissioned by the Secretariat, on riverine and sub-sea disposal of tailings and associated wastes from mining operations and forwarded it to the Scientific Groups in 2013 for review. In 2013, the governing bodies endorsed the Scientific Groups agreement that there was a need for international guidance and/or codes of conduct to be developed on the issue, however, it was unclear which international body should lead on this aspect. The governing bodies encouraged all countries to carefully evaluate proposals for the discharge and placement of mine wastes into the marine environment; to evaluate alternatives and to avoid, where possible, the use of such operations (consistent with LP annex 2, paragraphs 5 and 6). They also encouraged all countries to, where applicable, utilize best management practices to
ensure that any impacts on the marine environment are minimized, and to monitor the marine environment to confirm that this is the case.

8.2 It was also recalled that the governing bodies, in 2014, re-established the correspondence group on mine tailings, under the lead of Chile, to: assist the Secretariat to develop a program, by the end of November 2014, in cooperation with GESAMP and other relevant bodies, for an international conference on mine tailings scheduled to be held in Lima, Peru, in June 2015; continue gathering information on best practices and existing guidance and legislation and other relevant issues of marine and riverine disposal of mine tailings around the world; as well as identifying any gaps in best practices and existing guidance.

8.3 The delegation of Chile informed the Groups about progress made by the correspondence group (LC/SG 38/8/2). It was noted that the group had prepared and distributed a survey to members to identify experiences and best practices, guidance and legislation related to mine tailings disposal at sea. There was also a request by a member of the group to clarify the legal scope of competence to the LC/LP and a member had agreed to develop a report on that issue for discussion by the group. It is envisaged that a consolidated report, containing views developed by the members on the full terms of reference, will be submitted to the joint session of the governing bodies in October 2015.

8.4 The Groups were reminded that it would be premature to commence developing formal best practices or similar codes at this stage, and agreed to continue gathering information on best practices and existing guidance and legislation and other relevant issues of marine and riverine disposal of mine tailings.

8.5 The delegation of Norway stated that approval had been given to a major rutile mining project that would include disposal into a fjord of some 250 MT mine tailings over 50 years in an area of approximately 3 km$^3$, or about 5 percent of the sea floor of the fjord. A full impact assessment had been conducted and Norway offered to share details of this assessment at the GESAMP International Workshop and with a future session of the Scientific Groups.

8.6 The Scientific Groups noted that the GESAMP-IMO (LC/LP) International Workshop on mine tailings would be held from 10 to 12 June at the Melia Hotel in San Isidro, Lima, Peru. Collaboration and had been agreed with the Norwegian Institute for Water Research, the Deep Ocean Stewardship Initiative (DOSI - http://www.indeep-project.org/deep-ocean-stewardship-initiative) and the International Network for scientific investigation of Deep-sea ecosystems
(INDEEP – http://www.indeep-project.org/). Funding had been secured from GESAMP, IMO (LC/LP Trust Fund), the Research Council of Norway and the Chilean Mining Association as well as in-kind contributions by the Government of Peru, to support the participation of scientists to attend the Workshop and for logistical support in terms of venue and translations. The draft programme is set out at annex .......... A website had been established by the Government of Peru to provide participants with key logistical information (http://www.dicapi.mil.pe/taller/). Invitations had also been sent to all LC/LP national focal points as well as to the GESAMP, DOSI and INDEEP fraternity.

8.7 The Scientific Groups also noted that the GESAMP correspondence group tasked to develop a scoping paper on this issue, had finalized a draft document that will be forwarded to the upcoming session of GESAMP in September for consideration. This, together with the outputs from the International Workshop on mine tailings will form the basis of discussions to consider establishing a new working group under GESAMP. In this respect funding will be required.

8.8 In the ensuing discussion the Scientific Groups urged the correspondence group to prepare a more complete report to the governing bodies for consideration in October 2015 and instructed the Secretariat to report back on the outcomes of the GESAMP International Workshop and other developments under this topic to the next joint session of the Scientific Groups.

Marine litter

8.9 It was recalled that in 2009, the Scientific Groups agreed a plan of action and cooperation with the UNEP-GPA, which was subsequently endorsed by the governing bodies, including on the issues of marine litter relevant to the LC/LP. In 2014 the Scientific Groups were informed of ongoing efforts under the UNEP-GPA initiated Global Partnership for Marine Litter (GPML). Other national and regional initiatives were also noted, and the Groups agreed to perform an initial review of marine litter in relation to the various waste streams under the LC/LP, in particular dredged material and sewage sludge. The Scientific Groups were, inter alia, invited to review progress made on this issue, based on submissions by Contracting Parties. This is a medium priority activity with a target date of 2015.

8.10 The Scientific Groups considered document LC/SG 38/8 (Secretariat) on the review of marine litter in relation to the various waste streams under the London Convention and Protocol. It was noted that the review was carried out by Dr. Luigi Alcaro (Italy), who had
focussed on dredged materials, sewage sludge and industrial discharges. The main questions addressed were:

.1 What is the extent and nature of plastics (micro or otherwise) in dredged materials (scope, knowledge gaps, methodologies for estimating the nature and quantity of microplastics in sediments)?

.2 What are the sources and pathways for plastics to end up in dredged materials? What is the relation with other waste streams (including land-based run-off, sewage disposal and industrial (waste water) discharges)?

.3 What is the nature of re-suspension of plastics through dredging and what are the impacts on marine biodiversity during dredging and after disposal; and

.4 What are the current gaps in the available information?

8.11 The Groups also noted the two related submissions by the United States:

.1 document LC/SG 38/INF.15 on "Macro and micro plastics in sediment: A USACE review", providing a review of the current knowledge of macro and microplastic debris in relation to sediments and dredging activities. It was noted that the review was based on primary and technical literature, as well as consultations with experts in the marine debris and dredging fields, and that it outlined methods for separating macroplastic from dredged material. The document also provided a discussion on microplastics and sediments with regard to distribution, transport, detection, impacts on biota, and interactions with chemicals, highlighting further research needs; and

.2 document LC/SG 38/INF.26, providing an "Extended bibliography and further resources on macro and micro plastics in sediments", supplementing the information in document LC/SG 38/INF.15.

8.12 The Groups welcomed the work undertaken by the consultant and the United States, and noted that the issue of marine litter would warrant further consideration by the governing bodies, in order to consider the most suitable and timely approach to address plastics in
relation to the waste streams under the LC/LP. It was agreed that the interim report by the consultant, together with the information provided by the United States, provided a useful starting point for future work. Several delegations provided specific comments, and it was decided that the final report should incorporate these and any other comments submitted to the Secretariat.

8.13 The Groups were also informed of a recently completed report by GESAMP, entitled "Sources, fate and effects of microplastics in the marine environment: a global assessments", available for download at: http://www.gesamp.org/publications/publicationdisplaypages/reports-and-studies-no.-90

8.14 The Groups considered document LC/SG 38/8/1 (Greenpeace International) on "Background information on use of drifting fish aggregating devices (FADs) and their contribution to marine litter", which described the lifecycle of FADs. It was noted that every year, an estimated 90,000 FADs, frequently constructed from non-biodegradable synthetic materials, are deployed at sea. A significant proportion of these is never recovered and therefore contributes substantially to floating marine litter, in both coastal and offshore waters. The Groups also noted that the information regarding the nature and scale of the problem.

8.15 The delegation of the United States informed the Groups that several United States agencies, such as the National Oceanic and Atmospheric Administration and the Environmental Protection Agency, have very active programs to reduce the land-based contributions to marine litter and to combat marine debris. These programs have provided a basis for national and international partnerships to research, prevent and reduce the impacts of marine debris, including unrecovered FADs. The United States also stated that they did not consider FADs as inherently marine debris, but component of a regulated fishing technique that is used in both domestic and international fisheries worldwide. The United States expressed its support to efforts to collect and disseminate further technical information on the impacts of lost or abandoned FADs, as well as the recommendation to explore cooperative efforts with other relevant agencies and organizations to address that problem. In that regard, it was noted that FAO, in its Code of Conduct for Responsible Fisheries, calls upon States to establish management systems specifically for FADs which should require prior approval for the construction and deployment of such devices. Some Regional Fishery Management Organizations (RFMOs) have just begun to adopt measures for the management and control of FADs. The United States believes that the best approach to addressing unrecovered FADs
is to encourage continued work on these issues in regional forums, such as RFMOs, and to encourage cooperative efforts and partnerships.

8.16 The delegation of Nigeria informed the Groups about activities that had been undertaken to raise awareness of marine debris and litter in Nigeria, including clean-up actions and education programs. Efforts were also directed towards working with manufacturers and users to reduce the waste streams at source.

8.17 Several delegations agreed that source control and best practices were important elements to reduce this serious problem.

8.18 The Scientific Groups considered documents LC/SG 38/INF.7 to LC/SG 38/INF.10 (all by the Republic of Korea) on polystyrene and Styrofoam buoys, and noted that:

.1 the annex to document LC/SG 38/INF.7 contained a recently published article on the unregulated use of Hexabromocyclo-dodecane (HBCD) in polystyrene based consumer products that ultimately end up as marine debris. It was published in Chemosphere 110 (2014), p. 111-119 and authored by Manviri Rani, Won Joon Shim, Gi Myung Han, Mi Jang, Young Kyoung Song and Sang Hee Hong. The publication relates to marine plastic debris and their chemical additives issues associated with activities to prevent marine pollution. The ultimate aim was to establish a database of the HBCD contents and the other brominated flame retardants in a range of polystyrene objects that are in everyday use;

.2 the annex to document LC/SG 38/INF.8 contained a recent article identifying a previously unknown source of a toxic flame retardant, hexabromocyclododecane (HBCD), in coastal sediments near aquaculture areas and a wastewater treatment plant in a semi-enclosed bay in South Korea authored by Al-Odaini et al. The article was published in Science of the Total Environment 505 (2015), p. 290–298. The authors investigated the contamination status and potential sources of HBCD in the coastal sediments from a semi-enclosed bay in the Republic of Korea. They found that HBCD displayed a very different distribution profile compared to polybrominated diphenyl ethers (PBDEs, a major brominated flame retardant used in the Republic of Korea) and nonylphenol (a sewage/wastewater tracer),
indicating different emission sources inside the bay. A strong enrichment of HBCD was found near aquaculture areas that used expanded polystyrene (EPS) buoys, which were confirmed to be the main source of HBCD following an analysis of buoys collected from a market and the coast;

the annex to document LC/SG 38/INF.9 contained a recent article entitled "Large accumulation of micro-sized synthetic polymer particles in the sea surface microlayer (SML)". The article was published in Environmental Science and Technology 48 (2014), p. 9014–9021 and authored by Young Kyoung Song, Sang Hee Hong, Mi Jang, Jung-Hoon Kang, Oh Youn Kwon, Gi Myung Han, and Won Joon Shim. The authors investigated the accumulation of microplastics in the SML and underlying waters in the southern coastal area of the Republic of Korea. They found that micro-sized alkyds and poly(acrylate/styrene) particles outnumbered well known polyethylene and polypropylene microplastics. It confirmed that these micro-synthetic polymers originated from paints and the fiber-reinforced plastic (FRP) matrix used on ships. A screening analysis of the elemental composition in the alkyd particles revealed high heavy metal concentrations. Synthetic resin particles form ship coatings should be considered to be a one of novel sources of microplastics; and

the annex to document LC/SG 38/INF.10 contained a recent article entitled "Finding solutions for the Styrofoam buoy debris problem through participatory workshops", published in Marine Policy 51 (2015), p. 182-189 and authored by Jongmyoung Lee, Sunwook Hong, Yong Chang Jang, Mi Jeong Lee, Daeseok Kang, and Won Joon Shim. For hanging culture of oysters and mussels, about one thousand 60-L Styrofoam buoys are used per hectare (100,000ea/km2), and for laver, about 500 buoys per hectare (50,000ea/km2) are used in the Republic of Korea. Participatory workshops to find solutions to the styrofoam buoy marine debris problem were held in 2011–2012. Policy ideas were created through brainstorming sessions, and were discussed in 2011. Some of the policy alternatives developed in these stakeholder meetings, such as increasing obligatory retrieval of old buoys in exchange of subsidy for high-density Styrofoam buoys were adopted as national governmental policy.
Action by the Scientific Groups

8.19 Following a discussion by the Groups, the Secretariat was instructed to:

.1 finalize the report on marine litter in relation to the various waste streams under the London Convention and Protocol as soon as possible following the meeting, incorporating the information in documents LC/SG 38/8/1, LC/SG 38/INF.15, LC/SG 38/INF.15, and LC/SG 38/INF.17 to LC/SG 38/INF.10, as well as any further comments forwarded to the Secretariat by 30 April 2015; and

.2 develop an executive summary of the report, to be forwarded to the governing bodies for their consideration and further action, as well as to other interested bodies, such as the GPML. The delegations of Canada and Greenpeace International offered to assist the Secretariat with the development of the executive summary.

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

8.20 It was recalled that in 2014 the Scientific Groups were informed of the recent developments under the United Nations General Assembly in relation to cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea. The Scientific Groups noted that in 2014, the governing bodies endorsed the inclusion of the issue under the Joint Work Programme of the Scientific Groups and instructed the Groups to undertake the necessary preparatory work to identify the various sources of data that could feed into a future database on chemical munitions dumped at sea, as foreseen by the United Nations General Assembly (LC 36/16, paragraph 14.4). The Groups were invited to commence this work, with a view to providing a progress report to the next meeting of the governing bodies, in 2015.

8.21 The Groups considered document LC/SG 38/8/3 (Secretariat) which contained an update on activities undertaken to identify the various sources of data that could feed into a future database on chemical munitions dumped at sea, as foreseen by the United Nations General Assembly. The Groups noted that the annex to document LC/SG 38/8/3 contained an overview of reports and other documents held by the Secretariat. The Groups also noted that contacts had been established with the Organization for the Prohibition of Chemical Weapons
(OPCW), based in The Hague, Netherlands and with the HELCOM SUBMERGED group which is dealing with historically dumped munitions in the Baltic Sea (refer to http://helcom.fi/helcom-at-work/groups/response/submerged for further information).

8.22 The delegation of the United States informed the Groups of ongoing research projects on underwater munitions and their environmental effects, with the aim of developing a generic risk assessment procedure. The Scientific Groups also viewed an informative video provided by the delegation of Italy (REDCOD – can be viewed at………..). The delegation of Ireland informed the meeting of the recent and current work carried out under OSPAR, the reports of which would be found on the OSPAR website, www.ospar.org.

8.23 In the ensuing discussion, the Groups reiterated that the LC/LP has an important role to play in relation to chemical munitions dumped at sea, and that the Contracting Parties as well as the Secretariat should stay abreast of further developments.

**Deep seabed mining**

8.24 The Groups noted that in 2014, the governing bodies, having considered several reports on deep-sea mining projects provided by delegations and an oral presentation by a representative from the International Sea-bed Authority, instructed the Secretariat to contact LC/LP national focal points with a view to collecting information on regulations or best practices in deep seabed mining for consideration by the Scientific Groups at their next joint session in 2015 and by the governing bodies in 2015 (LC 36/16, paragraph 9.24).

8.25 The Groups considered documents LC/SG 38/8/2 and LC/SG 38/INF.14 (both by the Secretariat) and noted the information that had been received to date in response to the survey issued on deep sea-bed mining (LC-LP.1/Circ.69). Responses so far had been received from China, France and the Secretariat for the Pacific Community (SPC). All responses to the questionnaire will be made available in full at the next meeting of the governing bodies, in October 2015. It was noted that document LC/SG 38/INF.14 contained the complete set of information on the regulatory frameworks developed, and under development, within the Pacific islands region, as provided by the SPC.

8.26 The delegation of the United States provided information about its domestic practices in dealing with seabed mining. This is regulated under the Deep Seabed Hard Mineral Resources Act (DSHMRA) which establishes an interim domestic framework for United States citizens and vessels, as well as foreign persons and vessels otherwise subject to the
jurisdiction of the United States, engaged in exploration for and commercial recovery of manganese nodules found in or on the seabed beyond national jurisdiction. A complete description of these practises will be presented to the governing bodies in October 2015, as part of the report being prepared by the Secretariat.

8.27 Other Parties were encouraged to continue to provide information on relevant regulations and best practices to the Secretariat.

8.28 The Groups also noted the possible relevance of the LC/LP Waste Assessment Guidance, in particular the Specific Guidelines for inert, inorganic geological material, in relation to the exploitation of mineral resources in the deep sea.

8.29 Delegations were also encouraged to provide input to the ISA consultation on the Draft framework for the regulation of exploitation activities, available at: https://www.isa.org.jm/news/seabed-authority-issues-draft-framework-regulation-exploitation-activities, with a deadline for submission of 15 May 2015. Further opportunities to assist the ISA in the development of its regulatory framework would become available to LC/LP Parties in the future.

8.30 In conclusion, the Groups encouraged a continued dialogue between the Secretariat and ISA, to inform the ISA process of the expertise and experience available within the London Convention and Protocol, and agreed to recommend to the governing bodies to establish a correspondence group to respond to the requests from the ISA.

Outstanding issues

8.31 It was recalled that in 2009, the Scientific Groups had agreed a plan of action, which was subsequently endorsed by the governing bodies (LC/SG 32/15, paragraphs 8.8 to 8.18) to address a range of marine pollution issues that could be addressed jointly with UNEP. Revised target dates to address these topics were agreed, as follows:

1. physical alteration/habitat destruction (target date 201…); and
2. risks to the marine environment of industrial wastes kept in storage near the coast (target date 201……).]
Sewage treatment facilities and sewage sludge management

8.32 As there were no documents submitted under this sub-agenda item to the current session, Contracting Parties were encouraged to inform the Groups of relevant developments or information on this topic, if any, through submissions to the next joint session.

Underwater noise from anthropogenic sources

8.33 It was recalled that in 2013, the Scientific Groups were informed of work being undertaken in relation to underwater noise from anthropogenic sources, and noted that it would be premature to prescribe any action in relation to dredging activities at this stage, and that it would be beneficial to ascertain the full extent and impact of noise emanating from such activities before any action could be considered (LC/SG 36/16, paragraphs 8.35 to 8.40). It was also recalled that last year 2014, the Scientific Groups noted that MEPC 66 had approved the Guidelines for the reduction of underwater noise from commercial shipping (MEPC.1/Circ.833).

8.34 The Groups noted information about the WODA Underwater Sound Workshop that was held in Paris, France on 26 March 2015. The Workshop was attended by some 50 participants, representing the entire breadth of the dredging industry. During this one day workshop participants were informed about and discussed the state-of-the-art knowledge of dredging and underwater sound. Some of the key outcomes of the Workshop include:

.1 where the industry talks about "sound", regulator language is on "noise". One might say that sound becomes noise when a threshold that poses a risk of detrimental impact is exceeded. In that case, noise needs to be regulated;

.2 the effects of underwater sounds produced by dredging are mainly "masking" or behavioural responses, for which quantifiable standards will be difficult to set;

.3 it is challenging to compare the impact of underwater sound by dredging on fish with the impact of commercial fishing on fish; and

.4 the statement "we lack information" was made more than once. It underlines the importance for broad, multi-disciplinary cooperation in research and regulatory frameworks.
8.35 CEDA will make the presentations (power points and video recordings) available to LC/LP Parties, by sending a link. Those interested should send an e-mail to the CEDA Secretariat: ceda@dredging.org.

[9] HABITAT MODIFICATION AND ENHANCEMENT

BENEFICIAL USE OF WASTE MATERIALS AND EXPERIENCE WITH HABITAT ENHANCEMENT ACTIVITIES

9.1 The Chairman recalled that in recent years, the Scientific Groups considered several submissions on beneficial use of dredged material and devoted "Science Day" 2003 to scientific and technical aspects of beneficial use of dredged material. To continue the sharing of experiences in this field, Contracting Parties were invited to provide reports on beneficial uses/habitat enhancement using dredged sediments. This ongoing activity is assigned a medium priority (LC/SG 37/16, paragraphs 9.1 to 9.3).

9.2 The Groups first considered document LC/SG 38/INF.6 (the United Kingdom) containing the summary of a recently published study to develop data and maps which described the existing navigational dredging sites and the potential future opportunities for the beneficial use of dredge material in the South marine plan areas of England. The annexed paper to the document was prepared by the Marine Management Organisation and entitled "Use of beneficial dredge materials in the South inshore and offshore marine plan areas", the full report of which can be accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/358069/MMO_1073_Beneficial_Use_Final.pdf.

9.3 The Groups then considered document LC/SG 38/INF.22 (the United States), which offered details regarding the use of natural and nature-based features (NNBF) to improve coastal resilience and was designed to support post-Hurricane Sandy recovery efforts under the North Atlantic Coast Comprehensive Study (NACCS). An integrative framework had been developed that focused on classifying NNBF, characterizing vulnerability, developing performance metrics, incorporating regional sediment management, monitoring and adaptively managing from a systems perspective, and addressing key policy challenges. For further information, please contact Dr. Kelly Burks-Copes, Kelly.A.Burks-Copes@usace.army.mil, United States Army Engineer Research and Development Center, 3909 Halls Ferry Road, Vicksburg, MS 39180, United States.
9.4 The meetings also noted document LC/SG 38/INF.23 (the United States), providing an update on the progress of the United States Army Corps of Engineers Engineering With Nature Program which provided an achievable path to more sustainable projects. The Program achieved this goal by advancing technical practices and communication to align natural and engineering processes to efficiently and sustainably deliver economic, environmental, and social benefits through collaborative processes. Over the last five years, investments had been made to maintain the momentum garnered by identifying additional demonstration projects, establishing two "proving grounds", and producing multiple publications. Point of contact: Cynthia Banks, Cynthia.J.Banks@usace.army.mil or United States Army Engineer Research and Development Center, 3909 Halls Ferry Road, Vicksburg, MS 39180, United States.

9.5 The meetings further noted document LC/SG 38/INF.28 (Canada), summarizing the approach Canada took to assessing and guiding a project to place over 1 million cubic metres of inert, inorganic geological material in the marine environment to restore habitat quality in an area covered with logs, bark, and woody debris. It described the process used to characterize the placement location and to demonstrate the need for habitat restoration, the process to characterize the material to show that it was suitable to achieve the habitat restoration goals, the mitigation measures to reduce harm to the marine environment, and the proposed monitoring to verify the effectiveness of the cap and anticipated improvements to habitat quality. This process would allow for some materials to be placed for beneficial uses while the material in excess of the amount needed for capping continued to be disposed at sea under a permit.

9.6 More to come – discussions and comments from the floor, if any

9.7 The Scientific Groups thanked the United Kingdom, the United States, and Canada for their useful information, and invited delegations to present their case studies on beneficial use of waste materials and on experiences with habitat enhancement activities to the next session of the Scientific Groups.

10 MATTERS RELATED TO RADIOACTIVE WASTES

Update of the 2003 Guidelines for the application of the de minimis concept

10.1 The Chairman recalled that in 2014, the Scientific Groups, having noted that the governing bodies had approved the final draft IAEA Guidance on Determining the Suitability of Materials for Disposal at Sea under the London Convention and London Protocol: A
Radiological Assessment Procedure (IAEA TECDOC-1759) which incorporated the methodology to assess radiological doses to flora and fauna for the purpose of the London Convention and Protocol (LC/LP), recommenced their work to update the 2003 Guidelines for the application of de minimis concept (LC/SG 37/16, paragraphs 10.1 to 10.5 and 10.11).

10.2 The Groups considered document LC/SG 38/10 (co-Chairmen of the correspondence group to update the 2003 Guidelines), entitled "Update of the 2003 Guidelines for the application of de minimis concept", the annex to which contained a draft updated Guidelines for the application of de minimis concept for consideration and finalization by the Scientific Groups. The co-Chairmen of the correspondence group (United Kingdom and IAEA) had prepared the draft text by taking into account the recently finalized IAEA TECDOC-1759, which replaces the previous version of the IAEA Guidance (TECDOC-1375). The Groups noted that document LC/SG 38/INF.12 (IAEA) contained informed about its publication.

10.3 The delegation of Greenpeace International urged Contracting Parties to report to the Scientific Groups on the implementation and effectiveness of the new updated Guidelines, once approved by the governing bodies.

10.4 In this regard, the Scientific Groups were reminded that the United Kingdom had submitted a report by the Centre for Environment, Fisheries & Aquaculture Science (Cefas) of a project funded by the Department for Environment, Food and Rural Affairs (DEFRA) to assess whether disposal of dredging material from ports in England and Wales fulfilled the radiological criteria set out in the 2003 Guidelines. Document LC/SG 30/INF.2, entitled "Judging de minimis activity", described the outcome of that study1.

10.5 Having noted that there were no substantive comments, the Groups instructed the Secretariat to make the necessary editorial changes (footnote to Figure 1) before submitting the draft updated Guidelines to the governing bodies, for consideration and approval in October 2015.

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1 This report is only available in electronic form and can be downloaded from the Cefas website at: http://www.cefas.co.uk/Publications/environment/rl0506.pdf.
25-year scientific review of all radioactive wastes and other radioactive matter

10.6 The Chairman recalled that in 1993, the London Convention was amended to ban the dumping of radioactive wastes or other radioactive matter (resolution LC.51(16)). The amendment also included an agreement that within 25 years of the entry into force of the amended paragraph 6 of Annex I, a scientific study relating to all radioactive wastes and other radioactive matter other than high level wastes or other matter shall review the position of such substances in Annex I (London Convention, Annex I, article 12). The amendment of article 6 of Annex I to the Convention entered into force on 20 February 1994, and thus the scientific study should be completed before 2019. Similarly, the London Protocol (Annex 1, article 3) provides for an analogous review with the same timeframe.

10.7 It was also recalled that in 2014 the governing bodies, having reviewed the Scientific Groups work to prepare advice regarding the requirement to conduct a scientific study relating to all radioactive wastes and other radioactive matter, established a correspondence group, under the lead of Dr. Chris Vivian (United Kingdom), to submit a proposal for a work plan for the twenty-five-year review (LC/SG 37/16, paragraphs 10.6 to 10.13; LC 36/16, paragraphs 10.5 to 10.10).

10.8 The Groups considered document LC/SG 38/10/1 (Co-Chair of the correspondence group), entitled "25-year scientific review of all radioactive wastes and other radioactive matter". The Groups noted the draft work plan for the twenty-five year scientific review and that it included a draft outline for the literature review. This latter section included a brief description of the background; the proposed categorization of reports to be reviewed; and a preliminary list of reports to be reviewed.

10.9 The Groups noted document LC/SG 38/INF.27 (Germany) which contained information on the so-called "Layman's Report" on historic dumping prepared under the OSPAR Radioactive Substances Committee (RSC). The Report contained information on historic dumping of nuclear waste in the North-East Atlantic, including monitoring options, which is understandable for the wider public. The Report can be downloaded at http://ospar.org/documents/14-15/rsc15/docs-e/0901_de_laypersons_moa_report.pdf.

10.10 The delegation of Greenpeace International stressed the importance of the fact that there have been no planned disposals since 1993, and that no Contracting Party has expressed an interest in amending either the London Convention or Protocol through this review process.
10.11 In the ensuing discussion the Scientific Groups instructed the Secretariat to transmit the draft work plan for the twenty-five year scientific review of radioactive wastes and other radioactive matter to the governing bodies for consideration in October 2015.


11.1 The First Vice-Chairman of the Scientific Groups, Ms. Linda Porebski (Canada), presented a brief summary of the “Science Day” session on “Marine engineering” that had been held on Thursday, 23 April 2015. The Scientific Groups were offered the following presentations:

…..

11.2 The Groups agreed that, due to the expanded agenda of this year’s Science Day, and the relevance of the topic to the ongoing global debate on climate change, it would be worthwhile pursuing the publication of a summary of the Science Day presentations, and agreed that……

[11.3 The Groups were also informed of the possibility of establishing a working group under GESAMP on the scientific aspects of marine geoengineering. They suggested that a suitable focus of such a working group could include [more to come]

11.4 In conclusion the Scientific Groups requested the Secretariat to ensure a continuous liaison between the GESAMP working group and the Scientific Groups, including the possibility to have the Scientific Groups represented in the membership of the working group.]

Planning of Science Day 2016

11.5 The Scientific Groups noted the interest to discuss the following possible topics at the "Science Day" in 2016:

.1 practical applications of Action Levels/Lists (United States);

.2 a selection of general classes of compounds, e.g. fire-retardants or pharmaceutical residues in waste materials (United States);
reducing wastes or other matter directly arising from, or related to the exploration, exploitation and associated offshore processing of sea-bed mineral resources (Greenpeace International) and

plastics in the marine environment (Republic of Korea);

impacts of net pen aquaculture operations on the marine environment (several delegations);

a revisit of themes discussed at earlier "Science Days" (e.g. "bioassays"); and

Noise from dredging operations (Secretariat).

11.6 The Scientific Groups, having noted that a number of delegations that spoke preferred the topic listed under paragraph ......, above, recommended that the topic for "Science Day" 2016 should be chosen from the above list and confirmed at the next session of the governing bodies in October 2015.]

[12 GUIDELINES, MANUALS, BIBLIOGRAPHIES AND INFORMATION EXCHANGE

12.1 The Chairman recalled that in 2014, the Scientific Groups noted that improving access to information sources and references for all of the waste streams could be a worthwhile effort and a valuable resource for both current and prospective Parties, and established a correspondence group, under the lead of the Secretariat, to initiate the development of an online repository of information resources on all waste streams regulated under the London Convention and Protocol (LC/SG 37/16, paragraphs 12.1 to 12.3).

12.2 The Secretariat updated the Groups the progress of the correspondence group’s work [and comments and further actions, if any - more to come]

[12.3 more to come - Contracting Parties to report activities and publications, if any, of other scientific bodies or seminar/ workshop/ conference proceedings, carried out within the framework of other conventions on the prevention of marine pollution, particularly on matters related to marine pollution research, monitoring and waste disposal at sea, for example, work carried out by UNESCO/IOC, ICES, PICES, UNEP, the OSPAR and HELCOM Commissions and others.]
12.4 The observer from WODA informed the Groups that WODA/CEDA's Working Group on Adaptive Management has published a new document which aims to further the debate on Adaptive Management (AM), as an important tool, in managing dredging and reclamation projects in an environmentally friendly manner. Entitled "Integrating Adaptive Environmental Management into Dredging Projects" the document covers the objectives for applying AM. It looks in detail at: the circumstances that define opportunities for AM; the conditions which various stakeholders need to fulfil; and considers how AM should be governed during project implementation. Finally, it presents lessons learned using case histories based on successful applications, for a range of dredging projects, in different parts of the world. Copies can be obtained by emailing ceda@dredging.org.

12.5 The Groups noted that a CEDA Information paper on Environmental Monitoring will be published in April 2015. The paper is strongly related to the Adaptive Management report, will also be submitted to the joint session of the governing bodies in October 2015. This paper describes why and how environmental monitoring is undertaken. Reference is made to different types of monitoring in relation to the different stages of a dredging project, and a series of included case studies illustrate monitoring methods and uses. The case studies contain different types of monitoring, including: baseline monitoring, surveillance monitoring and compliance monitoring. The paper is available on the CEDA website at: www.CEDA.org

12.6 The Groups decided to keep this issue on the agenda and invite delegations to present their relevant documents to the next joint session of the Scientific Groups.

[13 REVIEW OF THE JOINT WORK PROGRAMME

13.1 It was recalled that in 2014, the governing bodies endorsed the Joint Work Programme of the Scientific Groups for 2015-2017, as amended (LC 36/16, paragraphs 13.3 and 13.5.3, annex 9)., which was subsequently circulated as part of the Joint Long Term Programme for the London Convention and Protocol for the period 2015-2017, issued as LC-LP.1/Circ.70 earlier this year.

13.2 In light of the progress made on various issues during the current session, the Scientific Groups amended the table format of its Joint Work Programme (LC/SG 38/WP.2) covering the period 2016-2018 and approved it, as amended and as set out in annex …, while noting that the highest priority should be given at the next session of the Scientific Groups to the following issues:
.1 Waste assessment Guidance and Action Levels;
.2 Review and improvement of reporting:
   .1 Review of dumping reports;
   .2 Review of the reporting requirements; and
   .3 Database development and GISIS;
.3 Marine geoengineering;
.4 Carbon Capture and Storage;
.5 Technical cooperation and assistance:
   .1 Outreach related to WAG Tutorial Low-tech Extension;
   .2 Barriers to Compliance project;
   .3 Regional, national workshops and projects/twinning;
   .4 Outreach related to the "London Protocol Manual"; and
   .5 LC-LP Website;
.6 Coastal management and prevention of marine pollution:
   .1 Marine discharges of mine tailings; and
   .2 Marine litter/habitat destruction and alteration;
.7 Monitoring and assessment of the marine environment; and
.8 Matters related to radioactive waste.

Contributing to the development of a strategic plan for the London Convention and Protocol

13.3 It was recalled that in 2013, the governing bodies, having noted the need to review the objectives, content and relationship of a number of documents that the bodies have adopted in order to guide, prioritize and track its work, with a view to avoiding duplication, established a correspondence group, to develop a draft Strategic Plan for the London Convention and Protocol.

13.4 It was also recalled that in 2014, the governing bodies continued its discussions on the development of a draft strategic plan, and re-established the intersessional correspondence group, under the lead of the two Vice Chairmen, to continue to develop elements of the draft strategic plan, and to research and evaluate strategic plan documents of other IMO and relevant United Nations bodies (LC 36/16, paragraphs 3.1 to 3.14 and annex 3).
13.5 The Scientific Groups considered document LC/SG 38/13 (Chairman of the Correspondence Group), providing a summary of the status of the Correspondence Group on the Development of a Strategic Plan for the London Convention and Protocol, and inviting the Scientific Groups to provide further comments on elements of the draft Strategic Plan, including “targets for action or metrics” relevant to the work of the Groups.

[More to come]

Dates for the next joint session of the Scientific Groups

13.6 The Secretariat informed the meetings that the thirty-ninth session of the LC Scientific Group would be held concurrently with the tenth session of the LP Scientific Group in March 2016 (exact dates to be confirmed by the governing bodies) at ……].

[14] ANY OTHER BUSINESS

Progress report on activities under GESAMP

14.1 The Scientific Groups considered document LC/SG 38/14 (Secretariat), providing a report on activities under GESAMP. The Scientific Groups noted the following GESAMP activities undertaken since the last meetings:

1. GESAMP held its 41st session, hosted by IMO, at the World Maritime University (WMU) in Malmö, Sweden, from 1 to 4 September, 2014. The full report of GESAMP’s 41st session, will be published on the GESAMP website (www.gesamp.org) in due course. The 42nd session of GESAMP will be held from 31 August to 3 September 2015, hosted by IOC of UNESCO, in Paris, France.

2. The working group on a Global assessment of (micro)-plastics may be of particular interest to the Scientific Groups. In 2011, GESAMP established this working group on inputs, levels, distribution and fate of micro-plastics in the ocean, and potentially the role of micro-plastics as a pathway for persistent, bio-accumulating and toxic substances entering marine food-webs. Since GESAMP 40, the working group has held its third and final meeting, from 8 to 10 July 2014, and the final report of the working group is currently being finalized. The first session of the United Nations Environment Assembly (UNEA), held from 23 to 27 June 2014, suggested further work,
building on the outcomes of the working group. In response to the request by the UNEA, GESAMP has revised the terms of reference of the working group and will deliver a report to the second session of the UNEA, in 2016.

.3 At its annual sessions, GESAMP organizes a side event on an emerging issue (similar to the Science Day arranged by the Scientific Groups). In 2014, GESAMP and IMO organized a side event on Maritime activities and noise: sources and impacts. The session was attended by some 50 people, with five panellists giving presentations on various aspects of noise in the marine environment. In the ensuing discussion, GESAMP agreed that the issue was of interest and relevance to its mandate, and also noted the progress made in various international fora, including under the London Convention and Protocol. It was agreed that GESAMP will keep a "watching brief" and observe future developments.

.4 An important part of GESAMP’s role is the identification of new and emerging issues. Several of these are also currently discussed at the Scientific Groups. For example, on the issue of seabed mining and effluent discharge, GESAMP has recently noted that most available examples lie in internal waters and therefore fall under national jurisdiction. GESAMP 41 recognized that the International Seabed Authority (ISA) is the competent authority with an international mandate to regulate mining in the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction (the Area) as established under Part XI of UNCLOS. Regarding Effects of changing N/P ratio in the atmospheric deposition to the ocean, GESAMP agreed to develop a scoping paper in the intersessional period.

.5 GESAMP also took note of the progress made by the correspondence group on the discharge of mine tailings and coastal run-off in the marine environment, and its relevance to the work undertaken under the London Convention and Protocol. GESAMP agreed that the correspondence group would finalize the scoping document as soon as possible, for further transmission to the LC/LP correspondence group by the Secretariat. GESAMP also agreed to support the planning of a workshop to be held in Peru from 10 to 12 June 2015.
Finally, the government of Canada has recently agreed to provide support towards GESAMP, and in particular the possible establishment of a working group on the scientific aspects of marine geoengineering, to support the implementation of the recent amendments to the Protocol. In this respect, advice from the Scientific Groups on what aspects of marine geoengineering that would benefit from work carried out by GESAMP, would be timely.

14.2 The Scientific Groups noted that the 42nd session of GESAMP would be held from 31 August to 3 September 2015, hosted by IOC of UNESCO, in Paris, France. Further information about GESAMP activities could be obtained by visiting http://www.gesamp.org. [Issues regarding GESAMP’s proposed work on mine tailings was discussed under agenda item 8, paragraph 8....]

Any other business

14.3 In reflecting on Earth Day (22 April 2015), the Scientific Groups agreed that much progress had been made by the Parties to the London Convention and Protocol to reduce pollution in the marine environment from a broad range of sources. No longer are industrial wastes, high or low level radioactive wastes, chemical or biological warfare agents dumped at sea. Incineration at sea had been halted. Additionally, it was recognized that a range of tools had been developed to assist States in their implementation of the instruments, including robust waste assessment guidelines and technical guidance documents. A technical cooperation and assistance program had been established, which included outreach and national and regional workshops on managing waste disposal into the sea. Many challenges remain such as issues associated with climate change and marine geoengineering, microplastics, FADs, and in general, comprehensive implementation of the waste assessment guidelines.

14.4 The Scientific Groups noted that the XXI World Dredging Congress (WODCON) will be held in Miami, Florida, United States, from 13 to 17 June 2016. WODCONs are organized once every three years by WODA and are the only worldwide events dedicated exclusively to dredging and maritime construction. They provide a unique platform for researchers and practitioners from industry, academia and governments to meet and discuss dredging. WODCON XXI will showcase some 120 technical papers over three days covering all aspects of dredging and maritime construction. Technical seminars and technical tours of port facilities are being planned. Interested authors are invited to submit one page abstracts. Deadline for abstracts is September 15, 2015. See www.westerndredging.org for more information. ]

[more to come]
[15] **ELECTION OF OFFICERS FOR BOTH SCIENTIFIC GROUPS**

15.1 The LC Scientific Group unanimously elected Ms. Linda Porebski (Canada) as the Chairman, Lieutenant Commander Enrique Vargas Guerra (Chile) as the First Vice-Chairman and [Dr. Andrew Birchenough (United Kingdom)] as the Second Vice-Chairman, respectively, for the intersessional period and for the thirty-ninth session of the LC Scientific Group.

15.2 The LP Scientific Group also unanimously elected the same officers as Chairman and First and Second Vice-Chairman, respectively, for the intersessional period and for the tenth session of the LP Scientific Group.

15.3 The Scientific Groups warmly thanked the outgoing Chairman, Dr. Gi-Hoon Hong (Republic of Korea), who had served the Groups with great distinction, and had overseen development of many important scientific advices during his office.

[more to come]]

[16] **CONSIDERATION AND ADOPTION OF THE REPORT**

The joint report of the thirty-eighth meeting of the Scientific Group under the London Convention and the ninth meeting of the Scientific Group under the London Protocol was adopted on the final day of the session, Friday, 24 April 2015.]