

## *Third Global Conference on Land-Ocean Connections*

*23-24 October 2017,  
Bali Nusa Dua Convention Center, Bali, Indonesia*

The Third Global Conference on Land-Ocean Connections (GLOC-3) is a discussion forum comprising of scientists, technical experts, policy makers, business and other partners that will be held over the 23 and 24<sup>th</sup> October 2017 in Bali, Indonesia. The Conference will deliberate on the current science around the impacts of marine pollution and innovation to address pollution at-source, and offer specific recommendations to be taken into account by Member States at the Fourth Intergovernmental Review Meeting (IGR-4) of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)<sup>1</sup> to take place over the 25<sup>th</sup> to 27<sup>th</sup> October 2017 in Bali, Indonesia. The GPA is a global intergovernmental mechanism created by 108 governments in 1995 through the Washington Declaration that aims to protect and preserve the marine environment from the impacts of land-based activities.

**Aims:** This third Conference will seek to gain consensus on guiding the work of the GPA in supporting countries to adopt innovation in technical and policy solutions in addressing the challenges of marine litter, wastewater and nutrient pollution, along with other pollution streams. The Conference will give special focus to climate change interactions on stressors imposed on the marine environment from land-based pollution. Avenues for strengthening international and regional cooperation will be considered, drawing on the Call for Action that emerged from the UN Ocean Conference to meet the Sustainable Development Goal 14.

Specific objectives:

- Enhance awareness on how climate change is aggravating and accelerating the impacts of land-based pollution on marine ecosystems
- Gain appreciation of the magnitude of projected economic impacts of marine pollution
- Agree on priority pathways in meeting the Sustainable Development Goals on oceans
- Make recommendations for GPA programme implementation with regards to its future orientation and programmatic focus for the period 2018-2022
- To serve as a Partnership Forum for the three Global Partnerships on marine litter, nutrients and wastewater among others

**Target audience:** Governmental organizations, research and academic institutions, non-governmental organizations, regional partner institutions, local government agencies, private sector organizations.

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<sup>1</sup> The Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities was adopted by the Third Intergovernmental Review Meeting of the GPA (IGR-3 25-26 January 2012). Under the Manila Declaration, signatories reaffirmed their commitment to develop policies to reduce and control wastewater, marine litter and pollution from fertilizers. The Declaration contains a total of 16 provisions focusing on actions to be taken between 2012 and 2016 at international, regional and local levels the implementation of the GPA, which is hosted by UNEP. The GPA - the only global initiative directly addressing the connectivity between terrestrial, freshwater, coastal and marine ecosystems - targets major threats to the health, productivity and biodiversity of the marine and coastal environment which result from human activities on land.

# Third Global Conference on Land-Ocean Connections (GLOC-3)

23-24 October 2017

Bali Nusa Dua Convention Center, Bali, Indonesia

## Provisional Agenda

### Day 1: Monday, 23 October

<p><b>Session 1:</b> 09:00-09:45</p>	<p>Opening of Conference by Chair, <i>Representative, UN Environment</i></p> <p><b>Welcome Remarks:</b> <i>H.E. Situ Nurbaya Bakar, Minister of Environment and Forests, Republic of Indonesia</i></p> <p><b>Opening Statement: 'Joining hands for healthy oceans'</b> <i>Dechen Tsering, Regional Director, UN Environment</i></p> <p><b>Keynote Address: Addressing the scourge of marine pollution in meeting the 2030 Agenda for Sustainable Development; The challenges of climate change, opportunities for action, and changing the business model to create change.</b> <i>Peter Thomson, President, UN General Assembly, Permanent Representative of Fiji to the United Nations</i> <b>TBC</b></p>
<p><b>Session 2:</b> 09:45-10:30</p>	<p><b>The Wicked Problem! Changing climate, dynamics of the ocean and marine pollution. What is the science saying?</b> How is climate change driving ocean chemistry and dynamics, and how are these influences aggravating stresses imposed by land-based pollution. The forecasted challenges and what it means to ecosystem health and sustainability of livelihoods. What does this mean for countries realizing the Sustainable Development Goals.</p> <p><b>Presenters:</b></p> <ul style="list-style-type: none"> <li>• <i>Peter Kershaw, Chair, Group of Experts on Scientific Aspects of Marine Environmental Protection</i></li> <li>• <i>Jian Liu, Chief Scientist, UN Environment</i></li> <li>• <i>Representative, Panel Member for International Water, Scientific and Technical Advisory Panel, Global Environment Facility</i> <b>TBD</b></li> </ul>
<p><b>10:30-11:00</b></p>	<p><b>Coffee Break</b></p>
<p><b>Session 3:</b> 11:00-12:30</p>	<p><b>Who will pay? Financing cleaning up the oceans; solutions from small islands to mega-cities</b> Examples of innovation in financing from reducing waste discharge at source, to end-of-pipe. What more is needed in national policy settings to yield favorable fiscal incentive design and uptake by municipalities, business and communities to invest in pollution mitigation. How do countries wean off grant mechanisms to more sustainable financing. What of the role of international finance institutions in contributing and how to upscale and sustain investments.</p> <p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• <i>Representative, Asia Development Bank</i> <b>TBD</b></li> <li>• <i>Representative, European Investment Bank</i> <b>TBD</b></li> <li>• <i>Representative, African Development Bank</i> <b>TBD</b></li> <li>• <i>Representative Caribbean Development Bank</i> <b>TBD</b></li> <li>• <i>Representative, Inter-American Development Bank</i> <b>TBD</b></li> <li>• <i>Gustavo A. B. da Fonseca, Director of Programs, Global Environment Facility</i></li> <li>• <i>Representative, Green Climate Fund</i> <b>TBD</b></li> <li>• <i>Representative – Developing Country</i> <b>TBD</b></li> <li>• <i>Representative – Small Island Developing State</i> <b>TBD</b></li> </ul> <p><b>Moderator:</b> <b>TBD</b></p>

12:30-14:00	<b>Lunch</b>			
<p><b>Session 4: 14:00-16:00</b></p>	<b>Parallel sessions: Review of critical challenges, success factors and priorities for addressing key pollution waste streams from small islands to mega-cities</b>			
	<p><b>Nutrient pollution mitigation; approaches and meeting Agenda 2030</b></p> <p><i>Session 1: EMERGING SCIENCE AND OPPORTUNITIES.</i> Consider current status of the global challenge based on the science and how is that being channeled toward the concept of greater nutrient use efficiency in full cycle food production systems.</p> <p><i>Session 2: WHAT IS BEING DONE AND WHERE WORK CAN BE EXPANDED.</i> Consider where progress has been made in reducing nutrient excess to the environment and specific strategies that can be emulated.</p> <p><i>Session 3: CONNECTING THE ADDRESSING THE NUTRIENT CHALLENGE TO AGENDA 2030.</i> Define the approach to integrate sustainable nutrient management into the SDG 2030 agenda and means to assess progress. Reflections on the defining a global policy space for the nutrient management agenda.</p> <p><i>Refer to Annex 1 for detailed session agenda</i></p>	<p><b>Sustainable wastewater management; challenges, key issues and opportunities</b></p> <p><i>Session 1: PARADIGM SHIFT: REAL LIFE EXAMPLES OF TAILORED TECHNOLOGIES</i> This session will focus on the technologies and policies available and best practices for sustainable wastewater management that can be mirrored around the world.</p> <p><i>Session 2: INNOVATIVE FINANCING OF THE WASTEWATER PARADIGM SHIFT</i> This session will focus on sustainable financing options for wastewater management.</p> <p><i>Session 3: ASSESSMENT, POLICIES AND REGULATIONS TO ENABLE THE PARADIGM SHIFT IN WASTEWATER</i> This session will give a brief overview of impacts of wastewater on the environment as well as the opportunities that come with its proper management.</p> <p><i>Refer to Annex 2 for detailed session agenda</i></p>	<p><b>Marine litter: Land-based sources/sea-based sources - Challenges and solutions</b></p> <p><i>Session 1: HARMONIZATION OF MONITORING METHODOLOGIES – OPPORTUNITIES.</i> This session will give an overview of the current work in developing harmonized methodologies and discuss target settings to prevent and reduce marine litter.</p> <p><i>Session 2: WHAT ARE GAPS AND OPTIONS FOR ADDRESSING MARINE LITTER?</i> This session will present the draft assessment on the international and regional governance framework to combat marine litter and microplastics. The participants will be invited to discuss possible future options to better address the global challenge.</p> <p><i>Refer to Annex 3 for detailed session agenda</i></p>	<p><b>Land-based human activities and coastal ecosystems</b></p> <p><i>Session 1: COASTAL ECOSYSTEM FUNCTIONS AND THREATS TO THEM</i> This session will give an overview of current state of functioning of important coastal ecosystems and threats thereto, based on the scientific assessment and ecosystem service valuation</p> <p><i>Session 2: INNOVATIVE APPROACHES.</i> This session is aimed at sharing innovative approaches to advance conservation and sustainable use of coastal ecosystem services for human well-beings. These approaches include, but not limited to: fisheries refugia, blue carbon, private sector engagement, ecosystem-based adaptation, seagrass management.</p> <p><i>Refer to Annex 4 for detailed session agenda</i></p>
	<b>16:00-16:30 Coffee Break (flexible)</b>			
	<b>Parallel sessions continue</b>			
<p><b>Session 4: 16.30-18.00</b></p>	Nutrients	Wastewater	Marine Litter	Other pollution/coastal ecosystem threats
18:00-19:00	<b>Free</b>			
19:00-21:00	<b>“Meet &amp; Greet” Cocktail hosted by the Government of Indonesia</b>			

## Day 2: Tuesday, 24 October

<p><b>Session 5:</b> 09.00-10.30</p>	<p><b>Report-back from the parallel sessions.</b> Each group will present the key areas for priority focus in consideration of the gaps and needs for strengthening and/or further work.</p> <p><b>Moderator:</b> <i>Habib El-Habr, Coordinator, Global Programme of Action, UN Environment</i></p>
<p><b>10:30-11:00</b></p>	<p><b>Coffee Break</b></p>
<p><b>Session 6:</b> 11.00-12.30</p>	<p><b>Panel discussion: Seek out the Synergies!</b> Look for common threads for deepened cooperation across the pollution thematic areas based on the recommendations of the parallel discussions. How to simplify and assist national uptake and how the existing support frameworks (eg GPA, Regional Seas Programme, Source-To-Sea, others) can add value. Outline an approach to be taken to the Inter-Governmental Review.</p> <p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Ashhan Kerç, Chair, <b>Global Wastewater Initiative</b></li> <li>• Nancy Wallace, Chair, <b>Global partnership on Marine Litter</b></li> <li>• Ramesh Ramachandran, Chair, <b>Global Partnership on Nutrient Management</b></li> <li>• Birgitta Liss Lymer, Programme Manager, <b>Source-to-Sea Platform</b></li> <li>• Jerker Tamelander, Coordinator, <b>Coral Reef Partnership</b></li> <li>• Christian Severin / Mish Hamid, <b>Global Environment Facility's International Waters Learning Exchange and Resource Network</b></li> <li>• Representative – Developing Country <b>TBD</b></li> </ul> <p><b>Moderator:</b> <i>Takehiro Nakamura, Chief, Marine and Coastal Ecosystems Unit, UN Environment</i></p>
<p><b>12:30-14:00</b></p>	<p><b>Lunch</b></p>
<p><b>Session 7:</b> 14:00-17:30</p>	<p><b>Panel discussion: Big business, big pollution? The role of the private sector.</b> Discuss the stake business has in contributing to the global efforts to address marine pollution. What successes have been attained, what can be replicated and how business can work together with stakeholders in advancing efforts. Illustrate by case example.</p> <p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Representative, <b>Volvo Ocean Race, S.L.U</b> <b>TBD</b></li> <li>• Representative, <b>Dell Inc.</b> <b>TBD</b></li> <li>• Yvonne Harz-Pitre, Director Communications &amp; Public Affairs, <b>International Fertilizer Association</b></li> <li>• Representative, <b>Sustainable Agriculture Initiative Platform</b> <b>TBD</b></li> <li>• Ludo Diels, Scientific Manager for Sustainable Chemistry, <b>VITO Belgium</b></li> <li>• Representative, <b>Unilever</b> <b>TBD</b></li> <li>• Representative, Developing Country <b>TBD</b></li> </ul> <p><b>Moderator:</b> <i>Lisa Svensson, Coordinator, Marine and Coastal Ecosystems Branch, UN Environment</i></p>
<p><b>15:30-16:00</b></p>	<p><b>Coffee Break</b></p>
<p><b>Session 8:</b> 17:30-18:00</p>	<p><b>Summary Recommendations</b> <i>Habib El-Habr, Coordinator, Global Programme of Action, UN Environment</i></p> <p><b>Closing of the Conference: Chair &amp; UN Environment</b> <i>Representative, Ministry of Environment and Forests, Indonesia</i> <b>TBD</b> <i>Jian Liu, Chief Scientist, UN Environment</i></p>

## **Session 4: Parallel Session agendas**

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### **Review of critical challenges, success factors and priorities for addressing key pollution waste streams from small islands to mega-cities**

Annex 1: Nutrient pollution mitigation; approaches and meeting Agenda 2030

Annex 2: Sustainable wastewater management; challenges, key issues and opportunities

Annex 3: Marine litter: Land-based sources/sea-based sources - Challenges and solutions

Annex 4: Land-based human activities and coastal ecosystems



## Annex 1

# Nutrient pollution mitigation; approaches and meeting Agenda 2030

The 'Nutrient Challenge' revolves primarily around the management of nitrogen and phosphorus across most productive sectors and the adverse environmental outcomes as a result of nutrient use inefficiency and leakage to the environment, whether from agriculture, domestic and industrial wastewaters or atmospheric emissions from industry and transportation. While it is widely accepted that the global nutrient management challenge has significant human and ecosystem health consequences there lacks a well-defined global consensus on goals and targets on nutrient management. Priorities in addressing the nutrient management agenda will remain raising awareness on the magnitude of the problem and the exacerbating effects of climate change thereby bringing the issue to the forefront of the development agenda and building effective national policy to enhance circularity in nutrient management across relevant sectors.

**The purpose of this Parallel Session** is to highlight the drivers that are magnifying the 'nutrient challenge' and their consequences on human and ecosystem health, and how might efforts to address the issue may be ramped up from local to international levels against the backdrop of the Sustainable Development Goals. The discussion aims to validate current efforts, define new concrete actions in providing implementation guidance to the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA), UN Environment, the Global Partnership on Nutrient Management (GPNM) and other partners.

## Proposed agenda

Time	Session topic	Panelists/presenters
<b>Session 1: Emerging science and opportunities</b>		
<b>Moderator: TBD</b>		
14:00 – 14:25	<b>Climate change drivers and nutrient pollution</b> Influences of climate change in relation to atmospheric and ocean dynamics and how this will drive processes such as harmful algal bloom proliferation in freshwaters and oceans, reactive nitrogen volatilization and fixation and impacts on natural and agricultural systems. What might be the scale of impacts in terms of human and ecosystem health and economies?	<b>Panelists:</b> <ul style="list-style-type: none"> <li>• Representative, Stockholm Resilience Centre <i>tbc</i></li> <li>• Robert Diaz, Virginia Institute of Marine Science</li> <li>• Representative, UN Framework Convention on Climate Change <i>tbc</i></li> <li>• Representative, Caribbean Community Climate Change Centre <i>tbc</i></li> </ul>
14:25 – 14:50	<b>The ecosystem, human health and economic toll from poor nutrient management</b> Local case examples from small islands to mega-cities of ecosystem and human health impairment in highlighting the nutrient challenge as wake-up calls to practitioners and policy makers. What are the lessons learned.	<b>Panelists:</b> <ul style="list-style-type: none"> <li>• Representative, University of Queensland <i>tbc</i></li> <li>• Gil Jacinto, Marine Science Institute, University of the Philippines <i>tbc</i></li> <li>• Elisa Berdalet, Institut de Ciències del Mar</li> <li>• Representative, UN Environment World Conservation Monitoring Centre <i>tbc</i></li> </ul>
14:50 – 15:10	Question & answer	
<b>Session 2: What is being done and where work can be expanded</b>		
<b>Moderator: TBD</b>		
15:10 – 15:35	<b>Enhancing nutrient use efficiency and other methods to improve nutrients management</b> Application of the principle of nutrient use efficiency (NUE) and its use as a metric in agricultural development planning and directing incentive programmes; possible approach to expanding to full-chain NUE. The case for complementary approaches such as biological nitrogen fixation and waste water recycling in the blend of national strategic options.	<b>Panelists:</b> <ul style="list-style-type: none"> <li>• Kaushik Majumdar, International Plant Nutrition Institute</li> <li>• Amiable Uwizeye, Food and Agriculture Organization</li> <li>• Dennis Garrity, World Agroforestry Centre</li> </ul>

Time	Session topic	Panelists/presenters
15:35 – 16:00	<p><b>Bringing the nutrient challenge to common language</b> Brining the nutrient management discussion to the mainstream so as to elicit buy in from civil society, industry and policy makers on the need for concerted action. This may include mainstreaming approaches such as Nitrogen foot-printing.</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• N. Raghuram, GGS Indraprastha University</li> <li>• Representative, GRID-Arendal <i>tbc</i></li> <li>• Representative, food supply industry <i>tbc</i></li> <li>• Representative, detergents manufacturers <i>tbc</i></li> </ul>
16:00 – 16:20	Question & answer	
<p><b>Session 3: Connecting the nutrient challenge to Agenda 2030</b> <b>Moderator:</b> Mark Sutton, Center for Ecology and Hydrology</p>		
16:20 – 16:45	<p><b>Toward a global nutrient policy arena</b> Consideration of challenges in adopting common framework approach to nutrient management in consensus-building at regional and international levels. Are there merits of a stand-alone harmonized policy approach; what are the opportunities to mainstream within existing related frameworks? What role can the Global Partnership on Nutrient Management play?</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Sasha Koo-Oshima, US Environmental Protection Agency, United States</li> <li>• Ramesh Ramachandran, Ministry of Environment, Forest &amp; Climate Change, India / Global Partnership on Nutrient Management</li> <li>• Representative, Convention on Biological Diversity Secretariat <i>tbc</i></li> <li>• Steffen Hansen, Global Environment Facility</li> <li>• Sara Walker, World Resources Institute</li> </ul>
16:45 – 17:10	<p><b>Approaches to support Sustainable Development Goal indicator targets</b> Consideration of Sustainable Development Goal Targets 2.4, 6.3, 14.1 and the approaches, tools and resources available to help countries in assessment nutrient parameters in productive natural ecosystems. What are the technology and policy gaps at country level that need to be addressed in building capacity to contribute to target assessment.</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Lex Bouwman, PBL Netherlands Environmental Assessment Agency</li> <li>• Representative, UN Environment <i>tbc</i></li> <li>• David Kanter, New York University</li> </ul>
17:10 – 17:30	Question & answer	
<p><b>Rapporteur summary</b></p>		
17:30 – 18:00	Recap of actionable items from the session panels	<b>Rapporteur:</b> Christopher Cox, UN Environment

### Session format

- The moderators will open each of the two-part sessions (approx. 25 min duration each) with a few statements to lend context to the discussion.
- Panelists will be asked to reflect in the topic based on guidance provided in the annotated agenda and from the moderator's opening statements. Panelists are free to illustrate using slide presentations but must not exceed four slides. Panelists are encouraged to be thought-provoking in their perspectives and are asked to identify 2 or 3 concrete innovative actions that should be accorded priority attention. These priority actions will be noted for compilation by the rapporteur.
- There will be a 20-minute question and answer period for audience interaction at the end of each panel session.
- A summary of the key points and actions will be delivered by a rapporteur at the close of the panel session. This will be delivered to the second day's proceedings of the GLOC.

## Annex 2

# Sustainable wastewater management; challenges, key issues and opportunities

As economies and the overall demand for water grows, the overall quantity and pollution load of waste water increases. In most countries, majority of wastewater is released directly to the environment without adequate treatment, thus negatively impacting on marine ecosystems. Wastewater is often seen as a burden to be disposed of or a nuisance to be ignored, resulting to immediate negative impacts; failure to address wastewater would compromise efforts towards achieving the sustainable development goals. In the face of the ever growing demand of water, wastewater is gaining momentum as a reliable alternative source of water and other resources, shifting paradigm to '4Rs', in this sense wastewater is no longer seen as a problem in need of a solution but as part of the solution to challenges facing society today. Waste water can also be a cost-efficient and sustainable source of energy, nutrients, organic matter and other useful by products with implication on food and energy security as well as climate change mitigation.

**The purpose of this Parallel Session** is to highlight the importance of establishing enabling policies and regulations, on deploying the appropriate technologies and approaches, and on identifying innovative financing mechanism in the long-term sustainability of wastewater management.

## Proposed agenda

Time	Session topic	Panelists/presenters
<b>Session 1: Paradigm shift: real life examples of tailored technologies</b>		
<b>Moderator:</b> Aslihan Kerc, Turkish Water Institute & Chair of the Global Wastewater Initiative		
14:00 – 14:10	Wastewater as a resource – making wastewater treatment an economic profitable business, innovations in technology	<i>Ganesh Pangare, Regional Director Asia-Pacific, International Water Association, Thailand tbc</i>
14:10 – 14:20	Andicos: waste water treatment in action	<i>Ludo Diels, Scientific Manager for Sustainable Chemistry, VITO Belgium</i>
14:20 – 14:30	Singapore: waste water treatment in action (UN Environment -Waterlex Publication)	<i>Harry Seah, Chief Technology Officer, PUB, Singapore, tbc</i>
14:30 – 14:40	The Integrated Sanitation Approach – Experiences from Indonesia	<i>Marina Brueckner-Supriyono, Deputy Coordinator-BORDA Southeast Asia / Project Coordinator Indonesia</i>
14:40 – 15:10	Panel discussion on technology readiness  Question & Answer session (welcoming questions from social media)	<b>Panelists:</b> <ul style="list-style-type: none"> <li>• <i>Ganesh Pangare, International Water Association, Thailand</i></li> <li>• <i>Ludo Diels, VITO Belgium</i></li> <li>• <i>Harry Seah, PUB, Singapore</i></li> <li>• <i>Marina Brueckner, BORDA South East Asia</i></li> </ul>
15:10 – 15:20	Concluding remarks	<i>Aslihan Kerc, Turkish Water Institute, GWZI Chair</i>
<b>Session 2: Innovative financing of the wastewater paradigm shift</b>		
<b>Moderator:</b> Elisabeth Benhardt, UN Environment		
15:20 – 15:30	Financing mechanisms existing at the US state level example Cabo Verde	<i>Sasha Koo Oshima, US Environmental Protection Agency, United States</i>
15:30 – 15:40	Sustainable Financing of Wastewater Investments: Lessons from the GEF CREW Project in the Caribbean	<i>Christopher Corbin, Programme Officer, Environment Programme, UN Environment</i>
15:40 – 15:50	Experience from Asian Development Bank	<i>Representative, Asian Development Bank tba</i>
15:50 – 16:00	What needs to change; why do we need alternative financing for sustainable wastewater management – a Case Study from PEMSEA	<i>Ryan Whisnant, Partnerships in Environmental Management for the Seas of East Asia</i>



Time	Session topic	Panelists/presenters
16:00 – 16:30	Panel discussion on innovative financing for wastewater management  Interaction with audience	<b>Panelists:</b> <ul style="list-style-type: none"> <li>• <i>Sasha Koo-Oshima, US Environmental Protection Agency</i></li> <li>• <i>Christopher Corbin, Programme Officer, Environment Programme, UN Environment</i></li> <li>• <i>Ryan Whisnant Partnerships in Environmental Management for the Seas of East Asia tbc</i></li> <li>• <i>Representative, Asian Development Bank tbd</i></li> </ul>
16:30- 16:55	Concluding remarks	<i>Elisabeth Bernardt, UN Environment</i>
<b>Session 3: Assessment, policies and regulations to enable the paradigm shift in wastewater</b> Moderator: <i>Birguy Lamizana, UN Environment</i>		
16:55 – 17:05	Impacts of wastewater on the environment; positive impacts of proper wastewater management (jobs, food production, energy): centralized and decentralized solutions	<i>Christopher Williams, Water Supply and Sanitation Collaborative Council tbc</i>
17:05 – 17:15	Managing wastewater from a ‘Source to Sea’ perspective	<i>Birgitta Liss Lymer, Programme Manager, Source-to-Sea Platform tbc</i>
17:15 – 17:25	Barriers and Opportunities for Sustainable Wastewater Management	<i>David Osborn, International Atomic Energy Agency</i>
17:25 – 17:55	Panel discussion on enabling policy environment, paradigm shift	<b>Panelists:</b> <ul style="list-style-type: none"> <li>• <i>Christopher Williams, Water Supply and Sanitation Collaborative Council tbc</i></li> <li>• <i>David Osborn, International Atomic Energy Agency</i></li> <li>• <i>Birgitta Liss Lymer, Programme Manager, Source-to-Sea Platform</i></li> <li>• <i>Lis Bernhardt, UN Environment</i></li> </ul>
17:55 – 18:10	Recap of actionable items from the sessions	<i>Birguy Lamizana, UN Environment</i>

### Session format

There will be moderators assigned to the 3 sessions; each session will be preceded by presentations of 15 minutes each from different speakers. The speakers of each session will then form a panel to discuss each session topic and predetermined questions will be provided to guide the panel discussions. Recommendations from the presentations and discussions from the panels will then be summarized into a report that will inform the GLOC summary report to be presented at the Intergovernmental Review of the GPA meeting.

### Annex 3

## Marine litter: Land-based sources/sea-based sources - Challenges and solutions

Resolution 2/11 marine litter and microplastics of the UN Environment Assembly through its paragraph 21 requested UN Environment to undertake an assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches to combat marine plastic litter and microplastics, taking into consideration the relevant international, regional and subregional regulatory frameworks and identifying possible gaps and options for addressing them, including through regional cooperation and coordination. Based on the request, an assessment report has been produced for submission to the UN Environment Assembly.

Regarding the monitoring and assessment of marine litter, Member States encouraged the establishment of harmonized international definitions and terminology concerning the size of, and compatible standards and methods for the monitoring and assessment of, marine plastic debris and microplastics through the abovementioned resolution. GESAMP Working Group 40 has been taken up the work to develop harmonized monitoring methodologies.

**The purpose of this Parallel Session** is to further the discussion on the harmonization of monitoring methodologies which is spearheaded by GESAMP and on future target setting in relation to a “substantial reduction of marine litter” in the Sustainable Development Goal 14.1. In addition, the participants will be invited to discuss the current legislative efforts to address marine litter and discuss on the ways to address existing governance gaps in preparation for the Third Session of the UN Environment Assembly.

### Proposed agenda

Time	Session topic	Panelists/presenters
<b>Session 1: Harmonization of monitoring methodologies - opportunities</b>		
<b>Moderator:</b> Nancy Wallace, National Oceanic and Atmospheric Administration		
14:00 – 14:30	<b>Harmonization of monitoring methodologies</b>  UN Environment Assembly encouraged a harmonization of monitoring methodologies for marine litter and microplastics. UN Environment started the work with the Joint Group of Experts on the Scientific Aspects of Marine Environment Protection. The Chair of working group will present the overview of the work plan and the progress made until now.	<b>Presenter:</b>  • <i>Peter Kershaw, Chair, Group of Experts on Scientific Aspects of Marine Environmental Protection</i>
14:30 – 14:45	Question & answer	Participants
14:45– 15:15	<b>Target setting for the prevention and reduction of marine litter</b>  In order to effectively reduce marine litter, it is crucial to set targets at the national, regional, and international levels. In the Mediterranean, countries agreed to reduce 20% by 2024 under the Barcelona Convention and its Protocol concerning land-based pollution.	<b>Panelists:</b>  • <i>Peter Kershaw, Chair, Group of Experts on Scientific Aspects of Marine Environmental Protection</i> • <i>Julian Barbier, Intergovernmental Oceanographic Commission of UNESCO</i> • <i>Joana Akorfi, Science Division, UN Environment</i> • <i>Beb Jeftic, Consultant</i> • <i>Gaetano Leone, Mediterranean Action Plan, UN Environment / Francois Galgani, French Institute for Research and Exploitation of the Sea</i>
15:15 – 15:45	Discussions	Participants

Time	Session topic	Panelists/presenters
<b>Session 2: What are gaps and options for addressing marine litter?</b>		
<b>Moderator:</b> Anthony Talouli, Pacific Regional Environment Programme		
15:45 – 16:00	<p><b>UNEA-3 Assessment summary of options</b></p> <p>The Second Session of the UN Environment Assembly requested an assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches to combat marine plastic litter and microplastics. Based on the request UN Environment prepared an assessment study, which includes policy options. The draft assessment will be presented for technical discussion. The assessment will be submitted to the Third Session of the Environment Assembly for consideration by Member States.</p>	<p><b>Presenter:</b></p> <ul style="list-style-type: none"> <li>• Karen Raubenheimer, University of Wollongong</li> </ul>
16:00 – 16:15	Question & answer	Participants
16:15 – 16:45	<p><b>Where are countries at with addressing the issue of management of plastics?</b></p> <p>UN Environment is undertaking a study on the legislation related to plastic products. The study will demonstrate the state of art of national actions that are taken to address marine litter and microplastics. Member States will share their lessons learnt from their national efforts.</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Author of toolbox, <i>tbc</i></li> <li>• Arnold Kreilhuber, Law Division, UN Environment</li> <li>• Representative from the Government of France <i>tbc</i></li> <li>• Representatives from the Governments of Kenya /Rwanda/Antigua and Barbuda <i>tbc</i></li> </ul>
16:45 – 17:00	Question & answer	Participants
17:00 – 17:30	<p><b>Toward a global marine litter policy arena</b></p> <p>Consideration of opportunities and challenges in adopting common framework approach to marine litter management.</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Christopher Corbin, Programme Officer, Environment Programme, UN Environment</li> <li>• Nils Simon, Senior Project Manager, Adelphi Research <i>tbc</i></li> <li>• Charlotte Salpin, UN Division for Ocean Affairs and the Law of the Sea</li> <li>• Private sector representatives, Unilever, Cosmetics Europe <i>tbc</i></li> </ul>
17:30 – 17:45	Question & answer	Participants
<b>Rapporteur summary</b>		
17:45 – 18:00	Recap of actionable items from the session panels	<b>Rapporteur:</b> Marine Litter Team, UN Environment

### Session format

- The moderators will open each of the two-part sessions and introduce presenters to lend context to the discussion.
- For panel sessions panelists will be asked to reflect in the topic based on guidance provided in the annotated agenda and from opening presentations. Panelists are free to illustrate using slide presentations but must not exceed four slides. Panelists are encouraged to be thought-provoking in their perspectives and are asked to identify 2 or 3 concrete innovative actions that should be accorded priority attention. These priority actions will be noted for compilation by the rapporteur.
- There will be a 10 to 15 minute question and answer periods for audience interaction at the end of each session.
- A summary of the key points and actions will be delivered by a rapporteur at the close of the panel session. This will be delivered to the second day's proceedings of the GLOC.

## Annex 4

# Land-based human activities and coastal ecosystems

Healthy coastal ecosystems provide a suite of valuable ecosystem goods and services to local and global human communities. Among the many goods and services provided by well managed coastal ecosystems are food security from fisheries; livelihoods and revenue from tourism; coastal protection against storms, floods and erosion; climate regulation through carbon sequestration; or spiritual and cultural values. Sustainable use and management of coastal ecosystems can also provide cost-effective options to help people adapt to and mitigate the impacts of climate change. However, the sustained delivery of goods and services can be impacted and degraded by unsustainable land-based human activities. In addition to the land-based sources of pollution explored in Annexes I, II and III, human activities such as tourism, coastal development and overharvesting or destructive fishing can negatively impact the health and productivity of coastal ecosystems. However, as well as being threats, these activities can also provide great opportunities to develop innovative approaches to improve management practices and to raise financing for sustainable coastal management in order to address SDG Target 14.2.

**The purpose of this Parallel Session** is to present some of the latest science on the ecosystem goods and services provided by coastal ecosystems, with a focus on lesser known but highly threatened ecosystems such as seagrasses, and to explore how the delivery of these services is impacted by land-based human activities. The session will then present some of the innovative options that exist for sustainable management of these activities, including accessing blue carbon and climate financing, sustainable tourism practices, and management of fish refugia.

## Proposed agenda

Time	Session topic	Panelists/presenters
<b>Session 1: Coastal ecosystem functions and threats to them</b>		
<b>Moderator:</b> Jerker Tamelander, UN Environment		
14:00 – 15:45	<p><b>Seagrass, mangrove and coral reefs ecosystem goods and services - threats from land-based human activities</b></p> <p>This session will present science on the value of ecosystem goods and services provided by coastal ecosystems. It will also provide an overview of land-based human activities that present threats to the health and productivity of coastal ecosystems, and how they can impact the delivery of ecosystem goods and services.</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Miguel Fortes, Marine Science Institute, University of the Philippines</li> <li>• Representative, UN Environment World Conservation Monitoring Centre <i>tbd</i></li> <li>• Naneng Setiasih, Coral Triangle</li> <li>• Gong Wooi Khoon, University Sains, Malaysia</li> <li>• Vo Si Tuan, Institute of Oceanography, Vietnam</li> <li>• Tri Edi Kuriandewa, Institute of Oceanography, Indonesia</li> <li>• Porfirio Aliño, Marine Science Institute, University of the Philippines</li> <li>• Daniel Murdiyarto, Center for International Forestry Research</li> </ul>
	Question & answer	
<b>Session 2: Innovative approaches</b>		
<b>Moderator:</b> Jerker Tamelander, UN Environment		
15:45 – 17:30	<p><b>Blue Carbon, Fish Refugia and Sustainable Tourism</b></p> <p>This session will explore various innovative approaches to sustainable management of coastal ecosystems, including blue carbon, fish refugia and sustainable tourism.</p> <p>Blue carbon (carbon stored in coastal ecosystems) can be an important asset for climate change mitigation and for attracting climate financing. However</p>	<p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>• Tonny Wagey, Ministry of Maritime Affairs and Fisheries, Indonesia</li> <li>• James Kairo, Hydrography &amp; Oceanography at Kenya Marine and Fisheries Research Institute</li> <li>• Somsak / Chris Patterson, Southeast Asian Fisheries Development Center</li> <li>• Noel Barut, National Fisheries Research and Development Institute</li> <li>• Chloe Harvey, Green Fins</li> </ul>

Time	Session topic	Panelists/presenters
	<p>unlocking this potential remains a challenge, and the panelists will discuss some of the policy and management options that exist in this field. Another important tool in coastal management is the protection of fish refugia. Managing a sustainable fishery is important for maintaining the provisioning of goods and services for food security. In addition, tourism is a major source of revenue and livelihoods for coastal communities, but at the same time can be a driver of ecological degradation. Panelists will discuss best practices that can reduce the environmental impact of tourism, with a focus on SCUBA diving and snorkeling tourism.</p>	<ul style="list-style-type: none"> <li>• Koch Savath, Ministry of Environment, Cambodia</li> <li>• Huang Zhengguang, South China Institute of Environmental Science</li> </ul>
	Question & answer	
Rapporteur summary		
17:30 – 18:00	Recap of actionable items from the session panels	<b>Rapporteur: TBD</b>

### Session format

There will be two sessions, each of 75 minutes and with a moderator. Each of the speakers will give a 5 to 10 minute speed presentation on their topic of expertise, and the speakers of each session will then form a panel to discuss the session topic and predetermined questions will be provided to guide the panel discussions. After each session, 10 to 15 minutes will be given for questions from the audience. Recommendations from the presentations and discussions from the panels will then be summarized into a report that will inform the GLOC summary report to be presented at the Intergovernmental Review of the GPA meeting.