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First Meeting of the Scientific, Technical and Advisory Committee (STAC) to the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS) in the Wider Caribbean

Oranjestad, Aruba, 5-7 June 2012

## REPORT OF THE MEETING



*Promoting regional co-operation for the protection and development of the marine environment of the Wider Caribbean Region*



## ACRONYMS

AMEP.....	Assessment and Management of Environmental Pollution
CAR/RCU.....	Caribbean Regional Coordinating Unit
CEHI.....	Caribbean Environmental Health Institute
CEP.....	Caribbean Environment Programme
Cimab.....	Centro de Ingeniería y Manejo Ambiental de Bahías y Costas
COP.....	Contracting Parties
CETA.....	Communication, Education, Training and Awareness
GEF.....	Global Environment Facility
GPA.....	Global Programme of Action
IGM.....	Intergovernmental Meeting
INVEMAR.....	Instituto de Investigaciones Marinas y Costeras
IWCAM.....	Integrated Watershed and Coastal Area Management
LBS.....	Land-based Sources and Activities
MARPOL.....	International Convention for the Prevention of Pollution from Ships
MoU.....	Memorandum of Understanding
NGO.....	Non-Governmental Organization
NOAA.....	National Oceanic and Atmospheric Administration
NPA.....	National Programme of Action
RACs.....	Regional Activity Centres
RAN.....	Regional Activity Network
REMPEITC...	Regional Marine Pollution Emergency, Information and Training Centre
REPCar	Reducing Pesticides Run-off to the Caribbean Sea
SIDS.....	Small Islands Developing States
STAC.....	Scientific and Technical Advisory Committee
SPAW.....	Specially Protected Areas and Wildlife
UNEP.....	United Nations Environment Programme
US EPA.....	United States Environmental Protection Agency
WCR.....	Wider Caribbean Region

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## Introduction

1. Following the entry into force of the LBS Protocol in August 2010, Article XIV of the LBS Protocol established the LBS STAC. Under Article XIII.2.c, the Secretariat of the Cartagena Convention is responsible for providing such assistance that the STAC may require to carry out its functions, as referred to in Article XIV.
2. In accordance with the Workplan and Budget for 2010-2012, endorsed by the Fourteenth Intergovernmental Meeting and intersessionally, the First STAC Meeting was held from 5<sup>th</sup> to 7<sup>th</sup> June 2012 in Oranjestad, Aruba. The proposed objectives of the First STAC Meeting were to:
  - Evaluate the projects and activities implemented by the Secretariat and the LBS Regional Activity Centres (RACs) within the Assessment and Management of Environmental Pollution (AMEP) sub-programme during the period 2010-2012;
  - Review the progress made in the implementation of the Recommendations of the Fifth LBS ISTAC Meeting and the relevant Decisions of the Fourteenth Intergovernmental Meeting and Eleventh Meeting of the Contracting Parties;
  - Review the status of ratification and/or implementation of the LBS Protocol in member countries;
  - Review the preliminary draft AMEP Workplan and Budget for the 2013-2014 Biennium for subsequent submission to, and approval by, the 1st Conference of Parties to the LBS Protocol in October 2012. This review will be completed when a final draft Workplan and Budget for 2013-2014 is provided by the Secretariat;
  - Identify partner agencies and related projects that will facilitate more effective implementation of the 2013-2014 Workplan;
  - Identify new thematic areas for further project development as part of the AMEP Workplan with a focus on LBS Protocol implementation; and
  - Provide recommendations concerning the LBS Protocol for consideration by the 1st Conference of Parties to the LBS Protocol to be held in October 2012.
3. The experts invited to the Meeting were nominated by the National Focal Points of the Cartagena Convention. Additionally, representatives of international, regional, intergovernmental, and non-governmental organizations were invited to attend the Meeting as Observers.

## Agenda item 1: Opening of the Meeting

4. The meeting was opened on Tuesday, 5 June 2012 at 9:10am. Seated at the head table for the opening of the meeting were Mr. Nelson Andrade Colmenares, Coordinator of CEP, Mr. Christopher Corbin, Programme Officer responsible for the Assessment and Management of Environmental Pollution (AMEP) sub-programme of the Caribbean Environment Programme (CEP) and Mr. Oslin Sevinger, Minister of Integration, Infrastructure and Environment, Aruba.
5. Mr. Corbin chaired the opening ceremony. He welcomed participants to 1st LBS STAC Meeting then introduced and welcomed the Mr. Oslin Sevinger, Minister of Integration Infrastructure and Environment. He handed over to Mr. Oslin Sevinger to deliver opening remarks.
6. Mr. Oslin Sevinger noted that it was an honour for Aruba to be host country for the 1st LBS STAC Meeting especially since the LBS Protocol was signed in Aruba in 1999. He expressed that it was an honour to be at the opening of the meeting and highlighted the purpose of the meeting, to discuss implementation of the LBS Protocol. He indicated that Aruba, while still working on national legislation for ratification, is already implementing the Protocol. He stated that a main priority for Aruba is to be a green island with a main focus on energy management. Aruba plans to reduce its reliance on external sources of energy. Aruba has wind farms that generate 20% energy, 5% from solar energy and 5% waste to energy. It gets 50% of its energy from alternative sources and the other 50% is to be provided through a change over from fossil fuels to natural gas over the next 2 years. Aruba is on the way to passing its first environment law in Aruba, and is seeking approval at parliament.
7. Mr. Sevinger noted that tourism is based on the natural environment and that it is important that the environment is protected. He also noted that the Protocol is beneficial to all participants and the Wider Caribbean Region. He noted that it is difficult for countries to get financial resources to allocate to the environment. He expressed thanks to all countries for their participation in the meeting, noting that success depends on the participation of all. He also thanked everyone for trusting Aruba to host this meeting.
8. In closing, the Minister wished the meeting a fruitful debate and indicated that he looked forward to the

conclusions of meeting. He again welcomed the meeting participants to Aruba, and invited them to enjoy the island.

9. Mr. Christopher Corbin thanked the Minister and welcomed Mr. Nelson Andrade, Coordinator of the Secretariat.
10. Mr. Andrade noted that in 1999 when the LBS Protocol was signed, it was considered one of the most important of its kind at the time. It proposed standards on sewage and untreated agricultural runoff and water classification criteria. He noted that this is the first meeting of the Protocol following its entry into force in 2010 and expressed his pleasure that all representatives from all 10 Contracting Parties were in attendance.
11. Mr. Andrade also noted the importance of the meeting for the Secretariat; to help focus efforts to mobilize funding, encourage the use of emerging technologies and promote the implementation of best management practices to address pollution from land-based activities.
12. He highlighted that more and more countries are depending on natural ecosystems for tourism and urged the countries to move towards a green economy. He recognized the intention of Aruba to move towards a green economy.
13. Mr. Andrade also highlighted the support provided by the CEP to its member countries, which include policy, institutional and legislative reforms, capacity building and training.
14. He congratulated Mr. Vincent Sweeney for the completion of the GEF IWCAM Project and thanked Mr. Tim Kasten, former AMEP Programme Officer of the CEP, for the work done with regard to the LBS Protocol and for being instrumental in developing the GEF IWCAM and REPCar Projects. He mentioned the recently launched CReW Project and indicated that the STAC meeting will hear from these projects during the course of the meeting.
15. He then indicated that recommendations from the meeting will form the basis for the First Conference of the Parties to the LBS Protocol which will take place along with the 15<sup>th</sup> IGM and the Twelfth COP of the Cartagena Convention meeting in October 2012 in the Dominican Republic.
16. In concluding, Mr. Andrade stated that the Secretariat remains committed to working with Contracting Parties and regional and international organizations to reduce the negative impacts of land-based pollution. He indicated that he has seen the efforts of Aruba regarding the reduction of

environmental pollution and thanked the Government of Aruba for hosting the meeting.

17. The Meeting was opened at 9:30 am.

#### **Agenda item 2: Election of Officers**

18. The Meeting elected:
  - Chairperson..... Denise Delvalle (Panama)
  - 1st Vice Chair: ..... Nalini Sooklal (Trinidad & Tobago)
  - 2nd Vice Chair: ..... Xavier Delloue (France)
  - 3rd Vice Chair: ..... Gordon Paterson (Grenada)
  - Rapporteur: ..... Steve Morrison (USA)

#### **Agenda item 3: Organization of the Meeting**

19. The Chairperson outlined the procedures for the conduct of the meeting.

##### **(a) Rules of procedure**

20. The rules of procedure of the Meetings of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) were applied. (The chairperson noted that the meeting's annotated agenda was updated to reflect this point of information made by the US delegation).

##### **(b) Organization of the work**

21. English, French and Spanish were the working languages of the Meeting. Simultaneous interpretation in these languages was provided for the Meeting. The working documents of the Meeting were available in all the working languages.
22. The Secretariat convened the Meeting in plenary sessions.

#### **Agenda item 4: Adoption of the Agenda**

23. The Agenda of the Meeting was adopted as proposed by the Secretariat in document UNEP(DEPI)/CAR WG.33/1. As requested by the US delegation, the first paragraph of the Provisional Annotated Agenda [UNEP(DEPI)CAR WG.33.2] was corrected to reflect the establishment of the STAC and the role of the Secretariat to the Cartagena Convention in supporting the needs of the STAC.

**Agenda item 5: Review of Programme Activities for the 2010/2012 Biennium including those of the LBS Regional Activity Centres (RACs) and Working Groups**

**(a) Review of Status of Ratification and Accession to the Cartagena Convention and LBS Protocol**

24. The AMEP Programme Officer, Christopher Corbin, gave an update on the status of the ratification of the Cartagena Convention and the LBS Protocol as provided in the report from Colombia. Colombia is the depository nation for the Cartagena Convention. To date, only three (3) countries have not ratified the Convention while ten countries have ratified or acceded to the LBS Protocol. He mentioned that the Government of Grenada was the most recent country to accede to the LBS Protocol which entered into force in April 2012 for them. The Dominican Republic, the host for the next IGM, has concluded technical discussions regarding the ratification of the LBS Protocol. He also reported that the Government of Jamaica indicated their political commitment to ratify the Protocol by the end of the year. Suriname's ratification of the Cartagena Convention and the LBS Protocol was approved by their Cabinet and will be forwarded to Parliament for final approval. Interest regarding ratification of the LBS Protocol was received by the Secretariat from the countries.
25. The delegate from the United States of America, Patrick Cotter, reported on the efforts of the USA to encourage other countries to ratify the Protocol, such as the United Kingdom where initial feedback has been received. They are also considering working with the Government of Mexico and encouraged the other Contracting Parties to do the same with countries that are not yet parties.

**(b) Review of Activities**

26. The AMEP Programme Officer, Christopher Corbin, presented the outputs of the AMEP Sub-programme during the 2010-2012 reporting period, as contained in document UNEP(DEPI)/CAR WG.33/3.
27. Mr. Corbin began his overview by outlining the goal and specific objectives of the AMEP sub-programme in support of LBS Protocol implementation. He highlighted the significant contribution to the programme's achievements from the implementation of the GEF funded projects and through the work of the LBS Regional Activity Centres.

28. Mr. Corbin reflected on the continued progress in the ratification of the LBS Protocol in the region with the Government of Grenada being the latest country to accede. Several other countries have provided the Secretariat information regarding their ongoing ratification efforts.
29. Specific mention was then made of fund raising efforts, a summary of overall expenditures, and the level of effort required for programme coordination by the Secretariat.
30. Mr. Corbin reported on some of the major sub-programme achievements during the reporting period including: (1) Entry into force of the LBS Protocol in 2010; (2) Development of new CEP Technical Reports; (3) Success of the GEF IWCAM and REPCar Projects; (4) Regional LBS Collage Competition; (5) Development of UNEP CEP web site as a Clearing House Mechanism; (6) Initial approval of a new follow up project proposal to IWCAM; (7) start-up of the CReW Project to address wastewater; (8) the outputs of the Interim Working Group on Monitoring and Assessment, specifically the State of the Convention Area Report (SOCAR) and (9) Declaration of the Caribbean Sea as a Special Area under MARPOL Annex V.
31. The main outputs from project implementation activities were presented under the specific thematic areas of monitoring and assessment, wastewater management, watershed management, solid waste management, national programmes of action, climate change and disaster risk management. Mr. Corbin highlighted some of the major national and regional achievements in each of these thematic areas.
32. During his presentation, Mr. Corbin paid special tribute to Ms. Lindy Johnson of U.S. NOAA and Mrs. Seba Sheavly of Sheavly Consultants, Virginia Beach, VA who were strong supporters of the work of UNEP and who both passed away due to illness.
33. Mr. Corbin went on to further highlight the achievements of the GEF REPCar and GEF IWCAM projects, some of the lessons learned and recommendations for future GEF Projects. He commended the respective project managers and their staff for their dedication and commitment.
34. Mr. Corbin briefly presented information on the activities of the GEF CReW project which held its inception workshop in February 2012. He encouraged countries who had endorsed this project to maximize opportunities to facilitate LBS Protocol implementation through project activities.

35. The two LBS Regional Activity Centres were invited to present their major projects and activities implemented in support of the LBS Protocol during the 2010-2012 period.
36. Dr. Antonio Villasol, Director of RAC-Cimab, outlined the activities of RAC Cimab from 2010- 2012. He noted activities accomplished through two Small-Scale Funding Agreements (SSFAs) with UNEP CAR/RCU (SSFA's). These activities including the Planning and Execution of the Final Workshop on Heavily Contaminated Bays and the Baseline Assessment of Domestic Wastewater in Selected Areas of the Wider Caribbean Region carried out from April 2010 to December 2010. He also highlighted activities under a SSFA for the planning and execution of a workshop to review and update wastewater management related legislation, from 30 October to 1 November 2011. Dr. Villasol noted that RAC Cimab produced fact sheets in English, Spanish and French. These facts provided information on the results of Updated TR33, the Know-Why Network project and Baseline Analysis of Domestic Wastewater. A brochure was also produced and disseminated in English and Spanish on Wastewater Management Technologies in the WCR. DVDs were also produced and disseminated.
37. He highlighted the update of maps on the state of the ratification of the Convention and the LBS, SPAW and Oil Spills Protocols.
38. Dr. Villasol thanked RAC IMA, UNEP CAR/RCU and the USA for reviewing and providing comments on the update of Technical Report No. 33, now Technical Report No. 52.
39. He noted financial contribution by RAC Cimab towards the contaminated bays workshop and for the review of National legislation.
40. Dr. Villasol also highlighted the participation of RAC Cimab in various meetings and workshops during the period.
41. Dr. Amoy Lum Kong, Director of the RAC-IMA presented on the activities of the RAC and indicated that the RAC was involved in three (3) main activities during the period. These activities included participation in the Interim Technical Working group on Environmental Monitoring and Assessment; participation in Regional Experts Workshop on Environmental Monitoring and Assessment and; the Production and Dissemination of Promotional Material. Dr. Amoy highlighted the objectives of the Technical working group and the Regional Workshop, as well as the activities and outputs of the working group and face to face workshop. She noted that promotional material produced including a 12-minute DVD which had the objective to inform the public of CEP and the Cartagena Convention and to facilitate increased support to CEP. She noted that RAC IMA provided comments during preparation of the Summary of National Programmes of Action (NPAs), and was involved in the development of the NPA in Trinidad and Tobago. Dr. Amoy expressed that RAC IMA would like to take a more leadership role in future projects and activities of the LBS Protocol.
42. Delegate from the USA, Dr. Clement Lewsey, noted that RAC IMA's work lead to the development of National Coastal Management Plan in Trinidad and encouraged nations in the region to advance their NPA work to develop comprehensive coastal management plans. He added that NOAA has been pleased with the work of RAC IMA and GPA over the last years. He highlighted NOAA's past collaborative work with Trinidad and Tobago, Mexico, Belize and the Dominican Republic to develop NPAs and noted the current work with the Dominican Republic, St. Lucia and Suriname in developing/implementing NOAA activities.
43. Mr. Corbin concluded by mentioning some of the challenges and lessons learnt during the biennium and suggested areas that the 1st LBS STAC may wish to recommend on including: LBS Protocol ratification/promotion, GPA implementation, mobilization of financial resources, development of new projects and partnerships; how to enhance work in non-GEF eligible countries, next steps for the development of a State of Convention Area Report (SOCAR), future priority activities for LBS Secretariat and issues for inclusion in the Agenda for the 1st LBS COP scheduled for October 2012 in Dominican Republic.
44. The delegate from the USA, Patrick Cotter, commended the Secretariat and governments on progress made with regards to the LBS Protocol, noting that it was impressive. He highlighted that we needed to focus on the issue of financing, as funding is needed to do required work. He noted that the GEF CReW project is a good example with regards to a revolving fund, and hope to see productive results from the CReW project. He noted that many stakeholders depend on and benefit from a clean environment, and hence should be contacted to provide an opportunity for them to participate in projects that promote the LBS Protocol and reduce the impacts of land-based pollution. He emphasized that we need to make positive use of the economic value of the environment to drive some of our goals.

45. Mr. Cotter invited contracting parties of the LBS Protocol to think about which entities they could bring to the table to assist with funding and with the transfer of best practices.
46. Mr. Cotter suggested that the 1st LBS COP could have a panel of private sector organizations and NGOs and seek their advice on how to best engage them in the conservation of coastal and marine environment. He also suggested that this could also be done as side events during LBS COP. He noted that we want to reduce negative impacts caused by certain private sector entities and we need to agree with these entities that we have problems and we need to collectively address ways to reduce pollution from land-based sources.
47. The delegate from Panama, and chair of the meeting Denise Del Valle noted that in Panama there is less focus on sanitation, than there is on drinking water. She noted that the millennium development goals have not yet been completed for sanitation. She further noted that a regional meeting, the 3<sup>rd</sup> Meeting of Latinosan will be held in Panama in 2013 and will focus on how we could link scientific, political, civic and industrial sectors. It is also important to increase dialogue between these sectors and see how results can be translated into economic benefits.
48. Dr. Antonio Villasol, RAC Cimab noted that Patrick Cotter, the delegate from the USA, raised a critical point concerning the need to look at the LBS Protocol with regards to the industrial sector and the need to work with the business sector. He noted work done in Havana Bay with two (2) NGOs that achieved significant results. The value of the environment for various activities will have to be brought to the attention of the private sector during future discussions.
49. Mr. Christopher Cox expressed agreement with the suggestion from the USA and noted the work of Sandals resort in environmental protection activities in St. Lucia. He noted that the follow-up to IWCAM will look at involving the private sector. He also noted possible collaboration with Coca Cola for this new project, and will keep this group informed of development.
50. The delegate from Grenada. Mr. Gordon Patterson expressed that he was in support of the need to improve involvement of the private sector. He noted that we should try to identify roles and responsibilities and mechanisms for getting the involvement of key groups. He recommended the need to develop a Regional Strategy to involve the private sector.
51. The delegate from the USA, Dr. Clement Lewsey, was also very encouraged by the discussion of private sector involvement and noted that in regards to National Programmes of Action (NPAs), there are challenges in getting countries to implement their NPAs. The main problem is one of financing for the further development and implementation of NPAs. He gave the example of Trinidad and Tobago which had progressed towards the implementation of the NPA with the assistance of UNEP GPA (Global Programme of Action). The implementation of NPAs in other countries has not been successful due to the lack of funds. He noted that the private sector must be involved and agreed with Grenada that there needs to be a regional strategy.
52. The delegate from Jamaica shared that Jamaica has a Polluter Pays Principle as regards to air quality and wastewater regulations. She noted work with private sector entities and highlighted an example of working with a facility that had been associated with fish kills in a specific river. She noted that, that private entity is now recognizing the benefits of good environmental practices, and are developing a case study based on their experience. She indicated that engagement of the private sector could work, but must be done carefully especially if they are being charged user fees for the use of natural resources.
53. The delegate from the USA, Mr. Patrick Cotter suggested that the STAC could include the need to engage the private sector in our recommendations to the first LBS COP. He further noted that large private sector organizations (such as tourism, bottling industry, etc.) should be invited, and could inquire of them how they may be able to work with the governments and use their ideas to assist with the LBS Protocol. He noted that their input should be solicited rather than governments simply telling them what they should do. He noted that if private sector is invited early in this process to assist with the implementation of the LBS Protocol, the likelihood of success would be greater.
54. The delegate from Belize noted that there are similar issues in her country, and indicated that what works best is if companies also need to meet certain regulations for the international market. She noted the view of some businesses that if they are paying taxes then the government should take responsibility for environmental management. She further noted that there is a need to get people interested in environmental protection.
55. The delegate from the Bahamas indicated that financing is also an issue of concern for Bahamas. He indicated that

- the various entities need to be engaged (e.g. cruise lines) to have sustainable business practices. He noted that as the economies of some Caribbean countries improve, they are no longer qualified for GEF and other sources of funding. However he noted that countries of the Caribbean are still vulnerable. He expressed hope that Caribbean countries/SIDS can bind together for RIO +20 and noted that even though economies are getting better we are still vulnerable. He noted that by working together, the LBS Protocol Parties could offer other opportunities for funding.
56. The delegate from Aruba noted that they are in the process of ratification of the LBS Protocol and have engaged NGOs (particularly commercial NGOs) and environmental groups. He noted that they have received very positive feedback and support. He indicated that governments should develop solutions, where all individuals and businesses have a shared responsibility. He noted the example of a sewage treatment plant in Aruba that sells its water to golf courses as a way to engage the private sector. There need to be ways to support engagement at the policy development stage and the LBS Protocol can be used to support national and regional goals.
  57. The chairperson invited a small Panel of speakers to present on activities relevant to the implementation of project and activities by the AMEP secretariat relating to monitoring and assessment. The Panel consisted of representatives of Jamaica, RAC Cimab, RAC IMA and INVEMAR.
  58. The delegate from France expressed agreement with the involvement of the private sector. He noted problems with the degradation of water quality. He also noted that there needs to be more links with SPAW Protocol.
  59. The delegate from the USA, Patrick Cotter, highlighted that there should be further thought on the economic benefits of a clean environment and further highlighted a new U.S. EPA report on economic benefits of watersheds. A copy of the EPA's recent website information ([http://water.epa.gov/polwaste/nps/watershed/hwi\\_action.cfm](http://water.epa.gov/polwaste/nps/watershed/hwi_action.cfm)) was provided to the Secretariat for distribution to participants at the STAC meeting.
  60. Mr. Christopher Corbin thanked the delegates for their contributions. He noted efforts to have a more integrated ecosystem management approach. He noted that experiences from IWCAM and REPCar Projects, and expressed commitment to have experiences and lessons learnt documented.
  61. The Chairperson invited Ms. Paulette Kolbusch, Jamaica, chair of the Interim Working Group on Environmental Monitoring and Assessment to give introduction and to highlight the work of the group.
  62. Ms. Paulette Kolbusch highlighted Decision XI of the 14th IGM to establish an interim working group. She noted that the nominated country participants of the working group were; France, Trinidad and Tobago, Colombia, United States of America, Mexico, Bahamas, Barbados and Jamaica, and further noted that technical support provided by RAC- Cimab and RAC-IMA. She highlighted that the meeting of the Interim Working Group was done through teleconferences and that there was one face-to-face meeting in September 2011. She noted specific pages and references within the Framework of the State of the Convention Area Report (SOCAR) that needed feedback from the STAC and requested their input in order for further progress to be made with the SOCAR Framework.
  63. Mr. Christopher Corbin acknowledged the work of the Government of Jamaica in chairing the Interim Working Group. He also thanked the members of the Working Group for their contribution in the development of a framework for the State of the Convention Area Report (SOCAR). Mr. Corbin noted that the Interim Working Group Report (UNEP (DEPI)/CAR WG.33/INF.5) required input from the group, specifically addressing the first bullet in Section B (on page 9) regarding a list of existing coastal zone management programs as well as the final bullet in Section B (also on page 9) that is requesting a list of projects that could be used to develop the SOCAR, based on country experiences.
  64. Chairperson invited Marlen Perez of RAC Cimab to make her presentation.
  65. Ms. Perez highlighted the primary results of the Update of CEP Technical Report No. 33 (now CEP Technical Report No. 52), and the Know-why Network project executed by RAC-Cimab. She presented a brief background to the update of TR 33. She noted that the WCR was divided into 5 sub-regions taking into consideration economic and social conditions. Results indicated that siltation was the greatest contaminant and that there was a decrease in nutrient loading since the 1994 report. She highlighted the lessons learnt and gave recommendations on future projects and activities in monitoring and evaluation, noting that most countries in the region do not have established protocols/standards for monitoring and data collection.

66. The delegate from Panama and chairperson of the 1st LBS STAC responded in regards to RAC Cimab's mention of a workshop in Panama. She noted that different methods of sample collection are being used. She recommended the development of a guide for sample collection. It was noted that many errors occur at the stage of sample collection
67. The delegate from Antigua indicated that they had challenges with the collection of data as different procedures were being utilized in sample collection. They had suggested that employees collecting samples are supervised by a lab supervisor so that the samples are collected using the correct methodology, such as done in Antigua.
68. The delegate from the USA, Mr. Patrick Cotter, noted that the development of guidelines for sample collection could be something that the Interim Working Group could address before the next IGM,
69. The delegate from Panama raised a question to Marlen Perez from RAC-Cimab in regards to why the monitoring programme was not being continued and indicated that there needs to be continuation of the monitoring programme. Ms. Perez noted that it was the trend to minimize monitoring programmes, as most do not see the relevance and importance of regular monitoring.
70. Mr. Christopher Cox, invited speaker from CEHI, noted the reluctance of some countries in providing water quality parameters to the public domain. This tends to be based on the concern that this would affect tourism. He noted that this needs to be addressed at the highest levels to help policy makers understand the importance of monitoring data. He further noted that many tourist resorts are already conducting their own monitoring.
71. Mr. Cotter, delegate of the USA, responded in regards to Christopher Cox note on reluctance of government to provide water quality data. He noted that Article XII.4 of the LBS Protocol allows for the protection of confidential information, in the interest of the country's security. He noted that we would need to discuss at COP how to decide on the legal requirements of the Protocol.
72. The delegate from Antigua noted that it is good for organizations responsible for pollution effluent to have sampling procedures in consultation with national labs. He further noted that some laboratories do not have the resources.
73. The delegate from Guyana endorsed and highlighted the need for effluent discharge standards and noted that there are problems on insufficient local data to inform the development of standards, and this provided difficulty in regards to monitoring. The delegate also noted that there were inadequate facilities to do the analysis of the samples.
74. Chairperson invited Dr. Darryl Banjoo from RAC IMA to make his presentation.
75. Dr. Banjoo presented on "Environmental Monitoring and Assessment Considerations for Small Island Developing States". He highlighted the concerns of SIDS in Environmental Monitoring and Assessment and on the Environmental Monitoring requirements according to the LBS Protocol. He presented on the SOCAR report and on the Recommended Priority Indicators for National and or Regional Monitoring Programmes. He noted that the group needs to not only examine water quality aspects, but also should consider sediments and sentinel organisms as Indicators of environmental quality and on coral reefs. He discussed the challenges and limitation of water quality studies. He concluded with activities for the way forward.
76. The delegate from Antigua noted that it is important for an evaluation to be carried out in areas with significant development and noted that cities would have more contaminants from industries compared with areas with less dense populations and industry. He added that there should be a policy to evaluate contaminants in different environments. He noted that evaluation techniques may be different in different areas based on levels of human impacts and development.
77. Mr. Corbin raised the question to RAC-IMA on what has been the experience in community monitoring for information to decision makers in Trinidad and Tobago. It was noted that in some countries Baseline Assessments are done in order to determine the most critical areas to monitor.
78. In response to Mr. Christopher Corbin, Dr. Banjoo noted that in Trinidad & Tobago study reports are placed in IMA's Library and are discussed at IMA's symposiums. He noted that they have fallen short in regards to information for decision makers. He also noted that having stakeholder's involvement early in the process by way of an Integrated Coastal Zone Management Approach is critical and sharing of lessons is critical to get action on decisions taken..
79. RAC Cimab highlighted that there was monitoring of Havana Bay for five years until the financing was expended. Cimab took the initiative to finance monitoring of the bay to keep historic data, they created stakeholder

groups, submitted results to political decision-makers who then saw the relevance of monitoring Havana Bay. Currently the Bay is being monitored 4 times per year. Cimab noted that this was only for Havana Bay and would need to work on convincing government regarding the monitoring of other bays.

80. The Secretariat provided a brief overview on laboratory capacity building efforts and the compilation of an inventory of regional laboratories. Mr. Christopher Corbin noted that the 14<sup>th</sup> IGM indicated the need for more information on the capacity of laboratories in the region. He noted that the secretariat in collaboration with RAC IMA started to develop the database. The Laboratory Capacity report reflects efforts to start the process to provide contracting parties with information associated with regards to monitoring and lab capacities in the region. Information was provided on what type of analysis is done by various regional laboratories. He indicated the need to build national and regional laboratory capacities.
81. Marlen Perez, RAC Cimab raised the issue of the definition of the Cut Values to Evaluate Monitoring Data from Coastal Segment in the Annex 1 of the Framework for the State of the Convention Area Report (SOCAR), she indicated the RAC Cimab had proposed that the table need not to be divided into Continental Coastal Segments versus Island Coastal Segments but instead suggest that the table is divided into segments depending on the use of the water, that is divided into Class 1 and Class 2. She noted that this was a recommendation that RAC Cimab would like a decision from the contracting parties as to whether this would be a more suitable approach. She also indicated that she would like to determine how limits may be practically established.
82. Delegate of the US Patrick Cotter noted that the reasoning to split the cut values between Continental Coastal Segments versus Island Coastal Segments was based on biogeography, recognizing the differences between the geographic areas across the Caribbean Sea basin; oceanic islands present very different biogeographic conditions as compared to continental land masses. A comparative example is the differences in biogeography between the Gulf of Mexico in the location of Cuba and the Gulf region along the US-Mexico corridor that will have implications for monitoring. He noted that instead of looking at Class 1 and Class 2, perhaps we should start with a basic list of environmental quality monitoring parameters, to ensure that we had the monitoring parameters that the labs could afford to analyze. He added that parameters must be within capacity of labs that may wish to support this aspect of the implementation of the Protocol. The initial list of parameters will need to be small and within the capabilities of nations in the region. In effect the monitoring programme must not 'break the bank'; that is going beyond the capability of agencies to effectively monitor and leave open the option to expand the programme in the future. There is interest by the IAEA in working in the Caribbean in metals contamination; capacity considerations will be important. The monitoring programme must be built so that it supports buy-in from the countries.
83. Dr. Banjoo of RAC IMA indicated that the Cut-Value approach provides an excellent way to present and provide interpretation of information particularly to policy makers. The information should be interpreted according to water quality use, such as bathing beach, and for the protection of aquatic life.
84. Dr. Villasol, RAC Cimab noted that with regards to monitoring plans that they agree with minimum parameters for appropriate scientific quality. Dr. Villasol noted that he thought that it is not the objective of this meeting to determine numbers, we should compare on some criteria, define by use of coastal zone more than geographical position, and should just have class 1 and class 2. Need to avoid having a new protocol. The approach to assignment of cut values must be carefully considered in the context of assigning values based on uses within coastal segments given that fact that within any given segment there may be a very large number of use types. The approach is recognized to have some merit however the use of Class 1 and Class 2 categories serves to simplify this process and could assign one of the two classes depending on how the country may choose resolve uses along the coastal segment. The countries need to be facilitated to embrace compliance and encourage other countries to join the protocol so the process of assessment and monitoring would not be perceived to be too onerous.
85. Dr. Villasol noted that from the technical standpoint Mr. Cotter may be right, thinking biogeography, but we cannot lose sight fact that this is how the Protocol was signed, with Class 1 and Class 2 waters classification.
86. Mr. Cotter, the delegate of the USA, suggested that CIMAB make an initial effort at assigning cut-values in Annex 1 of the SOCAR paper (based on the alternate table proposed by CIMAB; UNEP (DEPI)/CAR WG.33/INF.5, page 19) to compare CIMAB's recommendation for the use of Class 1 and Class 2 waters limits to the table in the report of the Interim

- Working Group. The biogeographic approach used the 'poor', 'fair' and 'good' ranking (accompanied by colour-coding of coastal segments) is following an approach used by the US National Coastal Condition Report, which has been found to be an easily understood coding system to policy makers and the public.
87. Ms. Perez of RAC- Cimab indicated that they had no problem with rating of good, fair and poor and expressed that they thought it appropriate. She noted that it was more a suggestion, that was not about values or using colours but just in regards to coastal and island segments. She indicated that she wanted to clarify that we do not need a new table, but a classification of segments.
88. The chairperson proposed that the Interim Working Group look at the table on page 19 of the interim report and make a proposal to the COP.
89. The delegate from France noted that he recognized the sensitivity of setting quality guidelines. He noted that the French territories fall under the water regulations set by the EU and will need to see how the guidelines under the Protocol would go along with the EU standards. He noted that the biogeography approach may be useful as there are differences in bodies of water serving the region.
90. Patrick Cotter, the delegate from USA, noted that values will need to be assigned to sections highlighted in page 14- 17 of the SOCAR framework. He suggested that this may be something the Interim Working Group on Monitoring and Assessment could look at prior to the COP1 for the LBS Protocol. He added that the STAC in consultation with the academic institutions of the region can contribute to determination of what the values should be. The Interim Working Group (IWG) under the chair of Jamaica should continue to develop field sampling parameters and protocols and data analysis protocols.
91. Mr. Corbin, Secretariat, noted that there has been consideration on the formal establishment of the Working Group as the mechanism for feedback to the Contracting Parties. He noted that the STAC should use the work of the Interim Working Group that will lead to concrete recommendations for consideration in the first LBS COP. This IWG needs to be maintained to carry out the work although there must be a rationalization of how much work the group can shoulder. The COP will need to make decisions on how the IWG evolves. He proposed that the group (1) clarify what has been done, (2) identify existing needs, and (3) incorporate this into the work plan.
92. The delegate of France made an observation on recommendations under Section 1.0 bullet two and noted should be amended as noted in the minutes of the last meeting of the IWG.
93. Mr. Christopher Corbin noted that the Secretariat recalled this observation and that it was endorsed by the group and the amendment will be made if it was not already done.
94. The delegate of the USA, Steve Morrison from NOAA, noted that on page 9 of the report under 'Programs in Place to Conduct Assessments', where it concerns development of National Plans of Action, that bullet 4 needs to be amended to reflect that NOAA needs to be struck off/ deleted as these NPAs are products of the countries and not NOAA. Also, the SOCAR outline needs to include a section on methodology of data collection and analysis and how data is compiled and compared across the region.
95. Delegate from France also suggested the change of text under the last bullet in Section 6.0 page 7 under Priority Areas from "Analyze the capacity of the Contracting parties to conduct periodic assessment and monitoring.." to change to "According to their capacities, conduct periodic assessment and monitoring"
96. Mr. Corbin highlighted the importance of the technical recommendations of the Interim Working Group (IWG) and that these recommendations have been taken on board for consideration of the Contracting Parties for the next biennium. The recommendations should be tabled by the STAC that will convey more weight than coming from the WG.
97. Dr. Antonio Villasol, RAC Cimab proposed some edits to the Working Group Report in Section C.3 (page 10). The first sentence should be corrected to refer to TR 52, not TR33 and added that the sub-regions should be updated with the current list of countries in the region.
98. The Chair invited the Secretariat to introduce the presenters from the GEF Funded Projects.
99. Mr. Christopher Corbin of the Secretariat introduced the presenters: Ms. Denise Forest (Project Manager GEF CReW Project), Mr. Christopher Cox (GEF-IWCAM follow up project), Capt. Francis Araís (INVEMAR, GEF-REPCar Project), Laverne Walker (GEF CLME Project).
100. Ms. Denise Forest, Project manager of the GEF CReW project presented the rationale and background for the project; she highlighted the components of the project as well as the linkages to pollution prevention in the Wider Caribbean Region, the Cartagena Convention and the LBS Protocol.

101. Ms. Forest highlighted results of an initial baseline analysis regarding policy and legal Framework. The analysis showed: inadequate policies, limited enforcement; poor communication, limited awareness and knowledge of alternative treatment technologies, and limitations in technical capacity. She noted that the study looked at how the wastewater sector was being financed. She found that the water sector was not well financed and the waste water received even less financing and was not adequately funded. She noted that some governments do not place tariffs on the water sector. She discussed organization of the project, all participating countries and the four (4) pilot countries and their planned activities under the GEF CReW project.
102. She highlighted that the four pilots were responsible for the execution of component one of the project. She briefly discussed the pilot projects in Jamaica, Belize, Guyana and Trinidad and Tobago. She highlighted the links of the GEF CReW project to pollution prevention through technological improvements, capacity-building and information sharing.
103. Following the presentation from GEF CReW project, questions were raised: Mr. Patrick Cotter, USA inquired which plants in Jamaica were being identified. He also inquired if there were plans for the re-use of the tertiary treated wastewater rather than just discharging into the sea or a river. He discussed the possibility of possible sale of the tertiary treated wastewater to the agricultural sector or golf courses, and that this could assist with cost recovery.
104. Ms. Forest indicated that 11-14 plants may be selected; depending on the availability of funds and that the technical specialist for the project would expound more in his presentation later in the day. She also noted that most treatment plants discharged into gullies or rivers, but noted that there have been discussions on use of treated wastewater where it may be possible and the project will investigate such possibilities
105. Ms. Forest noted that in Jamaica there is the problem of Eutrophication in rivers. She made note of a situation in Belize. Dr. Lewsey, the delegate from the USA noted that the Placencia lagoon in Belize received pollution from nitrates from the agricultural sector. The note from the USA was directed to the delegate from Belize, Ms. Maxine Monsanto. Miss Monsanto noted that several sectors utilize the Placencia lagoon for discharge with monitoring being conducted by the government and NGOs. While Placencia is a tourism area, it has been noted that most of residential areas use septic tanks for treatment; however, some seepage from these tanks have been noted.
106. Mr. Christopher Corbin encouraged delegates to make contact with their focal point for the CReW project decision for use of treated wastewater
107. Ms. Kolbusch from Jamaica noted that in terms of resource wastewater recovery, Jamaica has a cultural concern and has taken a policy decision for use of treated wastewater in irrigation of lawns, and use in horticulture; however it is not approved for use in agriculture sector from the ministry. She noted that the Ministry of Health may have an issue with reuse in agriculture for food crops.
108. The delegate from Antigua noted that in the presentation of the CReW project manager that she mentioned small countries did not have the necessary technological and financial capabilities, but he noted that he thought that it had more to do with political will.
109. Ms. Forest corrected the delegate to note that she was not making note of small islands but of all countries of the Wider Caribbean Region.
110. The CEHI representative, Christopher Cox, in his presentation indicated that this new project will advance implementation of the many lessons learnt from the GEF-IWCAM project over the last five years, as well as contribute to additional innovative on-ground solutions in water security, wastewater management, pollution control and land, watershed and coastal areas management. The Project Identification Form (PIF) has been approved by the GEF CEO, and has been included in the GEF's work programme in support of development of the full project proposal. The four-year project will have five components and its objectives will include implementation of an integrated approach to water, land and ecosystems services management, supported by policy, institutional and legislative reforms, and implementation of effective appropriate technologies to accelerate contribution to global targets on access to safe and reliable water supplies and improved sanitation, and contributing to improved ecosystem functioning in the Caribbean. The project's implementing agencies will be UNEP and UNDP and CEHI and UNEP-CAR/RCU will serve as executing agencies. The ten (10) participating countries are Antigua & Barbuda; Barbados; Cuba; Dominican Republic; Grenada; Jamaica; Saint Kitts & Nevis; Saint Lucia; Saint Vincent & the Grenadines; Trinidad & Tobago. Additionally, US NOAA will provide assistance and help strengthen nations' capacity to conduct water quality

- monitoring and analysis as well as watershed management planning.
111. Mr. Cotter, delegate from the USA, questioned whether there were initiatives to include or address the problem of marine debris.
112. Christopher Cox noted that marine litter is not specially included at this point but indicated that some of activities involving marine litter were done under the IWCAM project, e.g. Drivers River watershed in Jamaica, and in St. Vincent.
113. Mr. Patrick Cotter reminded the STAC of the designation of the Wider Caribbean Region as a Specially Protected Areas under Annex V of the MARPOL convention and that this is something countries of the WCR need to address.
114. Mr. Vincent Sweeney noted that he would speak about marine litter later in the day to address the issue of solid waste, and intention to include global programmes in regional projects.
115. The delegate from Grenada questioned about support to national activities under CReW for that country. It was explained that his concern had to do with a commitment of STAR allocations to the project and that further information would need to be obtained from his government by him.
116. Captain Arias of INVEMAR presented on the experiences of coastal and marine monitoring under the REPCAR Project through its participating countries- Colombia, Costa Rica and Nicaragua and other related regional projects. He gave an overview of his organization, its mission, objectives and structure. He highlighted that Colombia was the depository country for the Cartagena Convention and its Protocols. He noted INVEMAR's collaboration with UNEP CAR/RCU and the IAEA through the REPCAR Project, RLA/7/012 and other projects have generated an information tool for analysis and the administering of information in the region which is now hosted on the INVEMAR servers and serves the scientific and environmental community of the Wider Caribbean Region.
117. Captain Arias indicated that the projects showed satisfactory results and contributed to the strengthening of national capabilities through personnel training, equipment, laboratory accreditation and intersectoral coordination. In the scope of regional cooperation, they achieved a harmonious execution of scientific activities between the countries of the region which served as the vector for the formulation of new joint projects and sponsored research through training and inter-calibration between participating labs- an activity that projected itself as an element of permanent coordination. Captain Arias indicated that there were other significant results that led to the creation of links between agencies within the United Nations system such as the GEF and IAEA and in the case of Colombia; it influenced outstanding steps towards the updating of national legislation regarding water quality and the adoption of responsible measures for the environment by the agro-industries.
118. Mr. Patrick Cotter of the USA asked about Colombia's progress towards the ratification of the LBS Protocol, as Colombia is the depository country and home of the Cartagena Convention and Protocols.
119. Captain Arias noted in response that the commitment for Colombia to ratify is clear and indicated that should be able to ratify in the near future.
120. Mr. Christopher Corbin of the Secretariat thanked Captain Arias and INVEMAR on the support provided to the Secretariat.
121. The presentation from the CLME representative, Laverne Walker, gave an overview of the UNDP/UNESCO-IOC/GEF Caribbean Large Marine Ecosystems Project. The goals of the CLME Project include the "sustainable provision of goods and services by the shared living marine resources in the Wider Caribbean Region through robust cooperative governance". The project encompasses two Large Marine Ecosystems, the Caribbean Large Marine Ecosystem and the North Brazil Shelf Large Marine Ecosystem. A total of twenty-five countries, 23 GEF-eligible countries and 2 associated countries, along with a number of regional organizations are part of the project. It was indicated that the project has also adopted an ecosystem approach towards management and has identified three priority transboundary issues impacting on the ecosystems, namely unsustainable exploitation of resources, habitat degradation and community modification and pollution. A number of components of the CLME Project contribute towards the development of the Strategic Action Programme (SAP). The SAP is a negotiated document that has to be endorsed by all 25 participating countries and establishes clear priorities and commitments for action to resolve priority problems.
122. Findings indicate that weak governance is a root cause for many of the problems in the WCR. As such, the CLME Project is working towards improving the governance policy cycles for shared living marine resources, specifically at the sub-regional and regional levels to

ensure greater coordination and integration among more than 30 organisations that have a mandate for oceans and coastal management and governance within the WCR. The example of the continental-shelf ecosystem was discussed in the presentation including the impact of land-based pollutants and the potential role of the LBS Protocol and the STAC towards the improved management and governance of this ecosystem.

123.Mr. Cotter of the USA asked whether the presented project had any direct connections with the Gulf of Mexico LME Project.

124.Laverne Walker noted that yes they work closely with the Gulf of Mexico LME project and the projects sits in Steering Committee. She noted that the Gulf of Mexico project was more advanced at the project phase than her project.

125.RAC IMA (Dr. Banjoo) noted the impact of the Amazon River on marine water quality within the Caribbean with resulting impacts on fisheries in particular. This is of concern as Brazil is not a contracting party to the Protocol and that this is something that should be considered by the group. Ms. Walker agreed with Dr. Banjoo on this point. During the afternoon discussions on June 7 about the STAC recommendations when the issue of Brazil's participation was mentioned, the US delegation said that Brazil should be encouraged to attend meetings as an observer [see Rules of Procedure, Rule 52 in UNEP (DEPI)/CAR IG.28/INF.6 (Rev 3)]. This courtesy is extended to other nations or organizations wishing to attend meetings of the Cartagena Convention or its three protocols. The Secretariat confirmed that observers were welcome at their meetings.

126.A question was raised by IMA regarding contaminant monitoring. Ms. Walker mentioned that some work has been done on this aspect under the Trans boundary Diagnostic Assessment (TDA). She also highlighted training to bridge science and policy within pilot projects, so that the material can be taken to Ministers. Priority actions recommended within the TDA will be placed within the SAP for endorsement. She noted that the SAP is a regional document and that countries would have to develop their own National Action Plans

127.Dr. Cox informed the meeting about the Caribbean Eco-health Project that examined inter alia the presence of contaminants such as lead and mercury in the blood of pregnant women (see <http://cehi.org.lc/cef/documents/confpres/FORDE1.pdf>). Research under the Eco-Health project indicated that that

blood mercury levels were higher in more southerly Caribbean islands. Dr. Cox suggested perhaps there is a link between mining in the countries bordering the Amazon River, ensuing mercury accumulation in fish and the diet of the pregnant women in the southerly Caribbean islands. Ms. Walker also noted that mercury contamination was a serious problem for consideration.

128.Mr. Corbin noted the importance of CLME presentation and project given trans-boundary pollution issues. He also raised a question of potential for synergy and cross fertilization between the LBS STAC and COP and the CLME project e.g. perhaps the CLME SAP can incorporate issues raised by the LBS.

#### **Agenda item 6: Presentation on Relevant Regional and Global Initiatives.**

129.The chairperson invited a second panel of invited speakers to discuss emerging techniques, technologies and methodologies that could support the LBS protocol. The panel consisted of representatives from:

- a) Caribbean Environmental Health Institute on "Hot Spot Assessment Methodology for SIDS" (Natalie Boodram)
- b) GEF CReW Project (Alfredo Coello)
- c) UNEP GRID Geneva on "Models and Tools for pollution assessments" (Pascal Peduzzi)
- d) Government of the USA on "Technologies and Best Practices" (Rob Ferguson)
- e) Government of Netherlands on "Technologies and Best Practices" (Steffen Strik and Jozef van Brussel)

#### **(a) Rapid Watershed Hot-Spot Risk Assessment Tool for Small Island Developing States**

130.Ms. Natalie Boodram, representative from CEHI, gave an overview of the hot spot risk assessment tool. Hotspots are sites that are likely to be sources of physical, chemical and biological pollutants which can enter drains and rivers, ultimately discharged to coastal waters. Under a coastal water quality demonstration project in St. Lucia a risk assessment tool was developed to characterize and prioritize land-based hotspots that can have impacts on the coastal environment. The tool is designed to provide a first cut of highest pollution risk sites for further study and intervention. The tool quantifies risk based on parameters related to site physical characteristics, shop-floor processes, materials stored and produced, and

wastewater treatment and disposal practices. This tool is an index available as a Microsoft Word and Excel document. The tool was developed for rapid assessment thus is simple, with a minimum number of variables. Tool users do not require detailed training. While developed for St. Lucia it can be applied to other small island developing states in the Caribbean.

131. The Delegate from Antigua (Virgil Jerome Greene), inquired at which point would the assessment trigger an intervention and what is the approach to the next steps in taking the outputs from the hot spot assessment (HSA) forward in terms of investment in pollution abatement interventions.
132. CEHI responded to note that, the present phase of the project in St. Lucia in which the HSA will be used to guide the project to engage the source of pollution and perform a sustainable assessment, and build on that, recommend alternative technologies.
133. Director of RAC IMA (Dr. Amoy Lum-Kong) questioned how the break-points between the risk categories were determined (very-high, high, etc)?
134. CEHI indicated that this was developed through a consultative process with the technical committee who provided expert opinions on the break-points based on the derived score, and added that it should be noted that the scores and their magnitude will vary depending on the sector; for example the petro-chemical and heavy industries in countries such as Trinidad and Tobago will require special assessments to see how these types of industries will rank in this type of evaluation. The HSA method will probably need to be tailored by each country but the importance is developing the methodology that it can be replicated to other countries.
135. Delegate from Antigua (Greene) noted that there needs to be some level of standardization so that the methodology can be used across various sectors.
136. CEHI indicated that the tool is still preliminary and it is expected that countries will modify as appropriate.
137. Mr. Corbin from the Secretariat indicated that the development of the tool was triggered by the need for an instrument by countries that did not have resources or extensive data to undertake comprehensive hotspot assessments. It therefore meets the need for a relatively simple way of prioritizing where interventions may be targeted. The tool represents a capture of expert opinion on pollution risk in a quantitative way through participatory group assessment and provides a means for rapid screening of potential targets.

## **(b) GEF-CReW Project in Jamaica and Belize**

138. Alfredo Coello, Technical Specialist for the CReW Project, informed the meeting on the progress of the work that is being implemented through the GEF-CReW project in Jamaica and Belize and in particular how these countries are addressing the problems of the treatment of nutrients. The presentation began with a brief description of nutrients, nutrients sources and the effect of nutrients in the environment. He provided an explanation of what eutrophication is, its manifestation and reasons for it. He then addressed the existing biological nutrient removal technologies and explained how they work using nitrification, denitrification and biological phosphorus uptake. Two examples of low technology biological nutrient removal (BNR) systems were provided. The LBS Protocol limits for Class I and II water were highlighted and consistent with the Jamaica limits to be implemented in the CReW Project.
139. The work in Jamaica and Belize was then presented including the list of plants and types of technologies for each plant. Photographs of five (5) of these plants were included. He concluded his presentation with a list of challenges and work to be done in the future regarding wastewater treatment in the WCR.
140. RAC Cimab representative Dr. Antonio Villasol enquired on the CReW technologies presentation, he inquired on the nutrient removal efficiency of biological systems. He noted that there needed to be caution in designing wastewater management systems as toxic substances and other contaminants are often discharged into sewer systems that will impact the operation of the system as it disrupt the microbial effectiveness. In that regard influent streams need to be carefully characterized so as to determine the types of pollutant discharged so that the wastewater technologies can be appropriately designed. There also needs to be consideration for adequate conveyance networks to facilities as cost factors are significant considerations.
141. The response of Mr. Alfredo Coello to RAC Cimab regarding CReW technologies; he noted that the two systems illustrated in the presentation are two (2) of many different options and is recognized that these need to be appropriate. It is recognized that in implementation of these systems that conditions may change over time and detailed studies on influent waters need to be done. Over-designs to handle potential extreme loadings maybe done but is not practical; it is better if the design of the system is based on precise knowledge.

142. INVEVAR inquired in regards to the Models and Tools for pollution assessments, noted that significant work needs to be done to translate these outputs in the context of market values. Noted that it is easier to value the installation of hard infrastructural solutions to address environmental challenges but is more difficult to cost the value of ecosystems solutions and the economic benefits accrued, particularly since the timespan to realize results is much longer. This is an area that requires much work in convincing policy makers of the economic benefits of ecological solutions.
143. Response received by INVEVAR was that ecosystems valuation is challenging. Associating tourism values and willingness-to-pay studies are some ways to approach this. There has been some work with Price Waterhouse Cooper in placing values on ecosystems and we should seek additional partnership with economists. Note that they are also looking at case studies on the value of ecosystems. Considering Ramsar sites; many places are not protected and drawing boundaries around these areas and equating that to protection coverage will not work. Protection of ecosystems does not imply non-use. Ecosystem services are often viewed as being free which makes valuation challenging.
144. Delegate from the USA – NOAA noted that the World Resources Institute has done significant work on valuation of the reefs in the Mesoamerican region and should be consulted as an important resource and NOAA has some of this capability as well.
145. Delegate of France inquired if European laws apply in the Dutch Antilles? Response to France was that: there is new legislation that is specific to the 3 islands. Dutch regulation was used as the basis but adapted to local circumstances. The appropriate regulations are being prepared.

#### **(c) LBS: quantifying the role of ecosystems for mitigating impacts**

146. Pascal Peduzzi of UNEP/GRID Geneva presented on the LBS: quantifying the role of ecosystems for mitigating impacts. He indicated that assessments in the Caribbean indicate that suspended solids in the coastal and marine environment are already leading to severe environmental impacts in the region.
147. Land-based sources (LBS) of pollutants and sediments are resulting from multiple processes such as deforestation, conversion of coastal ecosystems, coastal

development (including tourist infrastructures), inappropriate sewage systems and inappropriate agricultural practices. As a result, there is a decline in ecosystems such as coral reefs, coastal ecosystems and depletion in fish stocks, thereby posing multiple threats to biodiversity, food supply, tourism industry and other livelihood. This is magnified by the effects of climate change.

148. RiVAMP, a methodology developed by the United Nations Environment Programme (UNEP), aims at identifying and quantifying the role of ecosystems through scientific assessment and local consultations. It shows that ecosystems can be used to mitigate beach erosion and help for both disaster risk reduction and climate change. The choice of ecosystems versus other engineering solutions, provides additional advantages (carbon storage, esthetical value, recreational activities and related tourism industry (e.g. diving), host biodiversity (hence sustain fisheries). The ecosystems approach is part of the green economy and can result in economic growth based on sustainable development.
149. UNEP/GRID, Geneva has developed trainings, based on Open Source software, to transfer the RiVAMP methodology and provide access to data and a step-by-step training manual. The aim also is to increase RiVAMP studies to support governments in improving land planning practices and identification of the role of ecosystems.

#### **(d) Technologies and Best Practices**

150. The representative from NOAA, Rob Ferguson, in his presentation on the Ridge to Reef Approach in Puerto Rico and USVI highlighted the mission of the Coral Reef Conservation Act. Four (4) objectives were identified to guide the programme's LBSP efforts over the next five years. He indicated that LBSP Efforts in Guánica, Puerto Rico are currently implementing the principal recommendations of the Guánica Watershed Management Plan (WMP) developed in 2008 which targeted management actions such as addressing high mountain sediment sources, stream bank stabilization, lagoon restoration and constructing treatment wetlands.
151. He also highlighted the LBSP Efforts in the St. Croix East End Marine Park and the St. Thomas East End Reserve, USVI. He also noted that the next steps to addressing LBSP in Puerto Rico and the USVI include: (1) search for additional partners to implement larger-scale projects, (2) continue assessing impacts to coral reef systems, (3) evaluate existing WMPs to identify remaining watershed management needs and continue implementing

management actions, and (4) continue building local capacity to address the impacts of LBS on coral reef ecosystems.

**(e) Emerging Technologies, Techniques, Methodologies and Best Practices for Pollution Prevention, Reduction and Control**

152. Representatives from the Ministry of Infrastructure and Environment of The Netherlands, Steffen Strik and Jozef van Brussel presented.

153. The representative from the Ministry of Infrastructure and Environment of The Netherlands spoke about emerging technologies, techniques, methodologies and best practices for pollution prevention, reduction and control in the Kingdom of the Netherlands. He highlighted that the Dutch Government is now responsible for the environment of Bonaire, St. Eustatius, and Saba. He indicated that their legislation was not adequate for the LBS Protocol but that The Kingdom would try to ratify the Protocol this year (2012) for Aruba, Curacao, St. Maarten and The Netherlands.

154. He highlighted that the main issues on the three islands for the marine environment were wastewater, waste, industry and land mining/ erosion. He outlined that after assessing the enormous risks for water quality and coral reefs due to the dumping of wastewater in the ground, The Netherlands was able to build a temporary wastewater treatment plant within a year. Mr. Strik indicated that the nitrification of coastal waters by wastewater will also be controlled at the end of 2012. There is also a project to use the effluent of the treatment plant for agriculture. Regarding landfills, he mentioned that waste from the three islands all end up in a lagoon or directly in the sea and so they are investigating the possibility of working with other Caribbean islands to find solutions and highlighted there is the idea of shipping waste from the islands to the waste incinerator in Aruba. The representative mentioned that although there are oil storage companies in Bonaire and St. Eustatius situated near to marine parks, the Dutch Government will enforce rules to protect the environment surrounding these storages. He also indicated that the island of Bonaire has a policy to make the island completely sustainable and with the help of the Dutch Government and the World Wildlife Fund they are trying to make Bonaire the most sustainable island of the world and invited other islands to join in that step.

155. Dr. Villasol further noted that in regards to Technologies and Best Practices in the Netherland islands and the issue of storage of fuel, consideration needs to be given to the possibility of seepage of oil into the permeable underlying substrate should these tanks lie in direct contact with the ground surface. He noted that this was found to be a problem in Cuba with old fuel tanks.

156. Mr. Strik of the Netherland islands (Bonaire) noted that a temporary wastewater plant was installed by Florida Aquastore at a value of approximately US\$1million. This is a simple extended aeration pre-built package plant that treats to <parameter [cc1]> to 28mg/l. The system is working well. He noted in response to the issue of storage of fuel and seepage potential that there is some risk of seepage. There is a permitting process in place that requires the tanks to be refurbished. Should there be any potential risks, groundwater monitoring wells must be installed and any leakages must be cleaned up. There was a fire at one of the tanks (Bonaire) and volatilization of the fire foam into the atmosphere resulted in contamination of a nearby ecosystem associated with down wash by rain.

157. Mr. Patrick Cotter delegate of the USA noted that the Protocol is seeking low-tech solutions and the example presented for Bonaire represents a good case study and requested that a website for Florida Aquastore, and similar companies, be provided to the STAC.

**(f) Operational Work Programme of the GPA**

158. The chairperson invited a representative from the UNEP Division of Environment Policy and Implementation (DEPI) under which the UNEP CAR/RCU falls to make a presentation on the Global Programme of Action with special emphasis on National Programmes of Action (NPAs) and the Global Partnerships on Nutrients, Marine Litter and Wastewater.

159. The GPA Coordinator, Vincent Sweeney presented on the Operational Work Programme (OWP) of the GPA for the period 2012-13. He highlighted the approaches that the GPA intends to use in order to implement this OWP, utilizing partnerships and existing mechanisms, such as the Regional Seas Programmes. He also emphasized the importance being placed on outreach and awareness-raising. The OWP intends to support countries in preparation of and implementation of NPAs and will focus work on development of a Global Partnership on Marine Litter and another on Wastewater Management. In

addition, the GPA Coordination Unit will continue to support the work of the Global Partnership on Nutrients Management, all in the context of recommendations from the Third Intergovernmental Review Meeting of the GPA, which took place in January 2012.

160. Mr. Cotter agreed with the GPA emphasis on marine litter. He mentioned the utility of port recycling facilities especially for the recovery of ship waste. Mr. Cotter suggested that a port recycling hub may be of use for Caribbean. Mr. Sweeney agreed but felt that port waste reception facilities should be considered under a wider solid waste management programme which would include other aspects such as appropriate legislation.

161. Mr. Sweeney noted that while there is significant interest in marine litter and plastics in the Caribbean, it may be more strategic to address marine litter as part of overall solid waste management schemes and addressing land-based source of pollution.

162. Dr. Pascal noted that several countries utilize a reward and taxation scheme system, for plastic waste. Unnecessary plastic e.g. plastic used branding and marketing is discouraged. Dr. Pascal also informed the meeting about a new invention to detect the density and type of plastic dumped in the marine environment. This scanning device can be installed on boats and is functional at a speed of up to 30 knots. The project is being conducted by EPFL, a university in Switzerland ([www.oceaneye.ch](http://www.oceaneye.ch)).

#### **(g) Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects**

163. Mr. Sean Green, who is a member of the Group of Experts for the Regular Process, provided an overview of the regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects as well as an indication of the current state of play for the process. His presentation also highlighted the milestones and achievements to date and provided an indication of the next steps towards preparing the First Global Integrated Marine Assessment Report.

164. Mr. Cotter inquired as to which Caribbean countries were most advanced in conducting workshops for the Regular Process and can serve as examples. He also inquired if there were any regional workshops that could be referred to. Mr. Green responded that workshops have been conducted in Asia and Chile and another will be

conducted in Belgium in 2 weeks. Information will be posted on the DOALOS website.

165. Captain Arias inquired as to whether participation in the groups of experts is limited to contracting parties. Mr. Green indicated that participation is open to all nations. Mr. Corbin suggested that a documented recommendation from the STAC for Member States to identify National Experts to contribute to the Regular Process would be useful. He also noted that the Secretariat has been approached to be part of the project and will also be involved in the process.

#### **Agenda item 7: Review and Endorsement of the Draft AMEP Workplan and Budget for the Biennium 2013/2014**

166. The Secretariat was invited to present the Draft AMEP Work plan and Budget for the 2012/2013 Biennium in support of the Protocol concerning Pollution from Land-based Sources and Activities (LBS Protocol). The AMEP Programme Officer presented the proposed projects and activities within the programme as contained in document UNEP (DEPI)/CAR WG.33/3. He stated that the work plan and budget covered activities to be developed under the Assessment and Management of Environmental Pollution (AMEP) sub-programme of CEP with support of the two LBS RACs (Centro de Ingeniería y Manejo Ambiental de Bahías y Costas-CIMAB, Cuba and Institute of Marine Affairs-IMA, Trinidad and Tobago).

167. He reminded delegates of the main objectives of the AMEP sub-programme, notably to control, prevent and reduce pollution of the coastal and marine environment from land-based sources and highlighted the main targets and expected impacts from implementation of the proposed projects and activities. He emphasized that one of the main roles of the Secretariat was to ensure coordination, collaboration, cooperation and communication between focal points, regional and international organizations and in particular to develop new partnerships with NGOs and the private sector.

168. Mr. Corbin highlighted the programme priorities for the biennium including: Resource Mobilization through the development and implementation of Global Environment Facility funded Projects; Support of the work of the Interim Technical Group on Monitoring and Assessment including the further development of the State of Convention Area Report; Disseminate Information on Best Management Practices and appropriate technologies including outreach

- to non-contracting Parties to the LBS Protocol to promote ratification/accession of the LBS Protocol; and supporting the priority partnerships identified by the UNEP GPA in Marine Litter, Nutrients and Wastewater.
169. A description of ongoing and proposed new projects and activities was then provided within the following eight thematic areas: Programme Coordination, Global Environment Facility Projects, Monitoring & Assessment, Wastewater Management, Watershed Management, Waste Management, National Programmes of Action, Climate Change and Disaster Risk Response. He reiterated that where no specific new project activities had been proposed in the work plan, such as in the areas of watershed and wastewater management, country support to LBS Protocol implementation will be provided through the GEF funded projects. He also outlined the nature of the administrative and technical support that would be required from UNEP CAR/RCU to ensure the effective implementation of the work programme.
170. In conclusion, Mr. Corbin provided a summary of the overall proposed budget highlighting the amount of funds to be requested from the Caribbean Trust Fund, the level of funding already mobilized and funding still required. While he highlighted that most of the funds listed as unfunded related to the full-sized projects that are under development and which will be submitted to the GEF for consideration, additional funds were still needed for other proposed projects and activities and invited support of countries and partners to mobilize the required funding.
171. The delegate from Saint Lucia thanked the Secretariat and endorsed the Work Plan and Budget for 2013-2014. She acknowledged the significant contribution of the Secretariat as well as the GPA and U.S. NOAA toward the work in the National Programmes of Action (NPA) project in the North-West Coast of Saint Lucia.
172. The delegate from France indicated that they were not in a position to agree on the AMEP budget without seeing it in conjunction with the rest of the CEP budget.
173. The delegate from the USA inquired if the secretariat made the recommended changes to the Workplan and Budget that the U.S. submitted to CAR/RCU prior to the meeting.
174. Mr. Christopher Corbin of the Secretariat noted that the comments and recommendations on the Workplan and Budget made by the delegation of the United States have been noted and would be reflected in the revised draft for adoption by the First Meeting of the Contracting of Parties in October 24, 2012.
175. The delegate from the USA noted interest in working with Columbia and the Secretariat in the translation of specific documents related to online training in watersheds and water quality standards into Spanish. The representative from INVEMAR expressed his continued interest and commitment to translating U.S. documents. He also expressed that he would like to work with the Secretariat in seeking required funding for the activities of the programme.
176. The US delegate expressed concerns about the addition of POPs chemicals and mercury requested by the GEF for the REPCar Project. The US delegate noted that he was not clear about the inclusion of mercury and POPs, and which of these chemicals pertained to agricultural nonpoint source pollution under Annex 4 of the LBS Protocol. The US indicated that the AMEP programme should focus on its mandates as stated under the LBS Protocol and the pollution sources outlined in Annex 3 and 4. The US stated that before the US could endorse this part of the work programme, the US would like to see these concerns addressed.
177. Nelson Andrade Colmenares, Coordinator of the Secretariat noted that the GEF is going through a transformation and that the Secretariat will go back to the Governments. He indicated that whatever we do under the GEF programme will be within the framework of the Cartagena Convention and Protocols. He expressed gratitude to Captain Francisco Arias.
178. Delegate from the USA expressed gratitude for the work of the Secretariat.

#### **Agenda item 8: Other Business**

179. The participants of the Meeting were invited to raise other issues not covered by the preceding agenda items, but relevant to the scope of the Meeting.
180. The Chair invited a presentation from Dr. Paul Geerders of UNESCO-IOC, on the data and information mechanism of the GEF CLME project. The CLME project includes the development of an Information Management System (IMS) to serve the governance processes in the CLME region, and of a Regional Ecosystem Monitoring Programme (REMP) to provide information and data to the IMS. He highlighted that in the region there is a need for updated, complete and reliable data and information on

ecosystems and environment. Currently, monitoring of environment and ecosystems is irregular and scattered, and almost always depends on the availability of external funding. Furthermore, access to existing data is difficult for various reasons, such as the reluctance to share data, and the fact that in the region many different methods and technologies are being used for measurements and observations.

181. In his opinion, decision makers usually are more interested in forecasting and in simulations rather than in historical data. Especially they are interested in indicators, as an essential contribution to governance: decision making, planning and policy development. The "signals" provided by the indicators could be relatively simple: good, bad, improving and deteriorating. IMS/REMP is aimed at underpinning the efforts to develop such indicators.
182. Dr. Paul Geerders outlined that the key aspects of a data and information management system such as IMS/REMP should be: quality, consistency and continuity. To ensure an integrated approach as foreseen by CLME, the IMPS/REMP will provide information on a wide range of issues including: ecosystems, the ambient environment, fisheries, and socio-economic considerations. In addition, IMS/REMP will facilitate the exchange of experiences in the region, given the large number of ongoing projects and activities. Moreover, IMS/REMP will provide a space for the inclusion of local and traditional knowledge.
183. Apart from access online, IMS/REMP foresees access through CD/DVDs and (where needed) written publications. Also periodical "State of" reports are foreseen in the form of a synthesis of indicator information on various relevant themes for the region.
184. He mentioned the importance of taking an integrated chain approach to the data and information process, from the initial acquisition in the field to the final provision of information to the users. The challenges in this context include issues such as the need for standardization of methodologies, quality assurance and quality control measures, guaranteed long-term archiving of data, accessibility of the initial data, and availability of metadata.
185. In this context, Dr. Geerders brought up the idea of a regional "basic" monitoring programme for a common set of parameters of environment and ecosystems. The programme would use standard methodologies and relatively simple and robust technology, and would be carried out by well-trained technicians. Such a monitoring programme, although perhaps limited in scope, would solve a number of the current problems concerning the availability of and access to environmental and ecosystem data, and would have a permanent value for a wide range of users and applications, including governance. In addition, such a monitoring programme could provide an opportunity for the creation of eco-related jobs across the region. However, the feasibility of this concept needs to be further investigated with the potential users of the monitoring data, and also in concert with potential funding agencies.
186. Key upcoming activities for IMS/REMP include the establishment of a portal on the Internet, identification of priority themes, definition of priority indicators, ensuring the provision of data and information for these indicators, and the establishment of linkages with other systems. One of the critical aspects will be the identification of a suitable host to ensure the sustainability of the IMS/REMP system once the project has ended.
187. The delegate from RAC CIMAB thanked Dr. Geerders for his presentation and welcomed his recognition of the importance to manage and disseminate data and information and also the importance of sustainability. She highlighted the work done by the Secretariat with the support of the RACs and other partner agencies that resulted in the development of an online Interactive Map which is hosted on the Secretariat's web site and which uses a very similar approach to that shown as a first demo of IMS. While not complex, it meets the initial needs of the countries of the Wider Caribbean and could be developed further in collaboration with the CLME project and its IMS/REMP component.
188. Dr. Geerders responded by welcoming the comments and underlining that IMS/REMP aims to include reference to initiatives such as mentioned by the delegate from RAC CIMAB. He furthermore outlined that as one of the efforts to ensure sustainability, it will be considered to create a demand by the business sector for specific information products and services from IMS/REMP.
189. The USA also welcomed the presentation and indicated that this type of discussion should be further developed by the interim technical group under the Chair of Jamaica. He mentioned information was available on the labs in the Gulf of Mexico region (see Gulf of Mexico Science, volume XXVII, No. 1-2, 2010) and the cover of the journal document would be provided to the Secretariat to add to their database of laboratories.
190. The representative from INVEMAR agreed with the sentiments expressed by USA and CIMAB in terms of the quality of the presentation and the importance of building

- on what is already available in the region. It was felt that this was very important work and emphasized the need for collaboration and the long-term sustainability after the project has ended.
191. The Secretariat demonstrated the map referred to by the delegate from RAC CIMAB and encouraged its use by delegates and partners. Pascal Peduzzi from UNEP DEWA provided information of a similar tool for supporting the UNEP GEO process that could be accessed by all.
192. The Chair thanked Mr. Geerders for his presentation and then invited the RAC Directors to provide an update on the status of their respective Host Agreements between their Governments and UNEP for formal establishment of their agencies as LBS RACs.
193. Dr. Antonio Villasol from RAC CIMAB indicated that the draft of the Host Agreement was extensively discussed, comments were exchanged and the agreement will be presented within Cuba on the 15th June for final discussions. Dr. Villasol was confident that there were no main issues to be resolved and the next step would be approval at the highest level in Cuba and this could take place in the next few months.
194. Dr. Lum-Kong from RAC IMA outlined that the draft host agreement was approved by the board of the IMA and submitted to the Ministry of Housing and Environment for review. The technical review was completed, a cabinet paper prepared and a no-objection request submitted to the Attorney General's office. The next step would be submission to the Cabinet for final approval.
195. The Secretariat responded by expressing great satisfaction with the progress made with the host agreements in both countries and thanked the RAC Directors for their continued efforts and looked forward to these agreements being in place prior to the 1st LBS COP.
196. The Chair then invited the representative of the Government of Aruba to make a presentation. Mr. Gisbert Boekhoudt welcomed the opportunity to participate in the meeting despite not having yet ratified the protocol and to provide a summary of some of the activities taking place in Aruba to support LBS Protocol implementation. These include activities on sewage, solid waste, coastal zone management and environmental awareness. These efforts began with the convening of a multi-stakeholders meeting and these stakeholders continue to provide ongoing input and support in the review and update of the pollution-related action plans developed. Many of these activities will assist the Government of Aruba to comply with the obligations of the LSB Protocol.
197. Mr. Boekhoudt also provided information on ongoing and planned activities including the construction of a new waste to energy facility, development of a linear park as part of their coastal zone management plan and review of their water monitoring programme. Specific details were provided on Aruba's Sewage Treatment Facility emphasizing some of the best management practices employed to reduce negative impacts on the efficiency of the system. The linkages between this treatment plant, discharge of effluent water and maintenance of the bird sanctuary were seen as important especially for the local NGO community.
198. The Secretariat asked questions relating to (1) ratification of the LBS Protocol; (2) extent of sewage treatment and (3) cost recovery measures for solid waste and wastewater.
199. The representative from Aruba responded that the process is well on the way for LBS Protocol ratification but there are different levels of approval that would take place in Aruba and within Holland. With regard to financing, the major part comes from general tax although discussion is ongoing on a possible additional levy. For solid waste, there are also private haulers who charge for collection and there is a payment of about 40.00 USD per ton of garbage disposed at the waste disposal facility.
200. The delegate of Jamaica asked about the measures taken in Aruba to protect the wastewater treatment plant from other industrial waters. The Aruba representative informed that there was first consultation with all stakeholders. He mentioned that there was a visual inspection done before entry into the plant. As far as the management of other industrial wastes, separate containers are put in place for kitchen grease and local motor oils. The kitchen grease is being used for biodiesel and the motor oils are currently being exported.
201. The delegate from Jamaica also asked about their air quality programme and in response the delegate from Aruba described some of their efforts as well as challenges resulting mainly from high humidity and high temperature conditions.
202. The Secretariat provided details on the upcoming Intergovernmental Meetings to be held in Punta Cana, Dominican Republic from 22nd-27th October. These will be: (1) 5th Meeting of STAC SPAW on October 22nd; (2) 7th Meeting of Contracting Parties of the SPAW Protocol on 23rd October; (3) 1st LBS COP on 24th October and

(5) 15th IGM and 12th Meeting of the Contracting Parties to the Cartagena Convention from 25th-27th October. The Secretariat encouraged all countries to provide responses to their invitations as soon as possible to the Secretariat so that travel arrangements can be coordinated as well as their active participation at the meetings.

203. The USA reminded delegates that copies of additional presentations related to: (1) Assessing Environmental Functionality in Wetlands; (2) NOAA's Marine Debris Programme; (3) EPA's Marine Debris Programme and (4) Department of State sponsored grant project on marine debris were available. The Secretariat confirmed that all of these resources would be uploaded on the CEP web site.

#### **Agenda item 9: Adoption of the Report of the Meeting**

204. The Rapporteur of the Meeting presented the Draft Recommendations that were discussed prior to the review of the Draft Report of the Meeting. Changes to the recommendations were made during the meeting and the Meeting adopted the Report, with amendments and corrections to be introduced in the draft by the Secretariat, as indicated by the participants, and circulated to the participants by June 15, 2012 for review. Comments were to be forwarded to the Secretariat within an additional two (2) weeks.

#### **Agenda item 10: Closure of the Meeting**

205. The Prime Minister of Aruba, Hon. Mike Eman, addressed the 1st LBS STAC meeting. He noted that Aruba is trying to conserve natural resources and have taken measures to attain specific goals. Indicated that Aruba will be lowering carbon by 50% and have been developing wind and solar energy. He indicated that Aruba hopes to build a society based on quality rather than quantity. He indicated that in the past there was extensive progress to the amount of hotel rooms in Aruba, but now the country going in a different direction. He indicated improvements in hospital facility and in other existing infrastructure. He noted that Aruba has been chosen as an example of a sustainable island state. He commented that having so many countries present at the meeting that Aruban participants/observers would have learnt a lot from the meeting

206. Mr. Nelson Andrade thanked the Prime Minister for his inspiring message. He indicated that he was pleased that

the Prime Minister wants a country of quality. Mr. Andrade thanked the President on behalf of the secretariat.

207. Closing remarks were brought by Mr. Nelson Andrade Colmenares. He expressed gratitude to the Government of Aruba for support and contribution to Caribbean Trust Fund. He expressed gratitude that the Prime Minister was able to attend the meeting. Mr. Andrade Colmenares also expressed thanks to the Government of the United States for all the assistance provided. He indicated satisfaction with the level of negotiations and smooth flow of the meeting. He indicated that results from the meeting will be taken to the 1st LBS COP. He expressed thanks to the Mr. Christopher Corbin and AMEP Secretariat and all partners that assisted with the meeting. He expressed gratitude to the chairperson of the meeting and to the Rapporteur for his assistance and help with NPA project in Suriname. He expressed thanks to Mr. Vincent Sweeney. Mr. Andrade also expressed thanks to the interpreters and translators. He highlighted that it was good that all contracting parties of the LBS Protocol were able to attend the meeting.

208. Chairperson of the meeting, Panama officially closed the meeting. She expressed appreciation to participants, observers and guests and the CEP Secretariat. She expressed thanks to the government of Aruba, Prime Minister, and Government Minister. She expressed gratitude to the hotel personnel who assisted with the meeting. She officially adjourned the session and the meeting.

209. The Meeting was closed on Thursday, 7 June 2012 at 5:20 p.m. by the Chairperson of the Meeting and the Secretariat.





## **Annex I: Agenda**



## AGENDA

1. Opening of the Meeting
2. Election of Officers
3. Organization of the Meeting
  - a. Rules of Procedure
  - b. Organization of Work
4. Adoption of the Agenda
5. Review of Programme Activities for the 2010/2012 including those of the LBS Regional Activity Centres (RACs) and Working Groups
6. Technical Presentations on Relevant Regional and Global Initiatives
7. Review and Endorsement of the Draft AMEP Work Plan and Budget for the 2013/2014 Biennium
8. Other Business
9. Adoption of the Meeting Report
10. Closure of the Meeting



## **Annex II: Recommendations of the Meeting**

### **The Meeting:**

**Having convened** the First Meeting of the Scientific, Technical and Advisory Committee to the Protocol Concerning Pollution from Land-based Sources and Activities (LBS STAC) in the Wider Caribbean Region, Oranjestad, Aruba, 5-7 June 2012;

**Making reference** to the Fifth Meeting of the LBS ISTAC held in Panama City, Panama in 2010;

**Recommends** to the First Conference of Parties to the Protocol Concerning Pollution from Land-based Sources and Activities (LBS COP) in the Wider Caribbean Region:

### **RECOMMENDATION I**

**Having reviewed** the draft of the Workplan and Budget for the activities of the AMEP sub-programme for the biennium 2013-2014, as shown in UNEP(DEPI)/CAR WG.33/3;

**Noting** the effort by the Secretariat to secure additional sources of funding for new projects including from new GEF Project Proposals;

#### **Recommends that:**

1. Based on the discussions and specific recommendations of the STAC on the Work Plan and Budget, and those presented in the body of this report, the Workplan and Budget for the biennium 2013-2014 be sent to the First Conference of Contracting Parties to the LBS Protocol for approval and the Fourteenth Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme and Eleventh Meeting of the Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region for information.
2. Countries assist the Secretariat in identifying potential partners and sources of funding for ongoing and new projects and activities in particular unfunded projects.
3. In the development and implementation of new projects and activities, efforts be made to use existing expertise and capacity in the region including the LBS RACs and RAN;
4. Where funds are limited, countries should decide on what projects should be considered of higher priority for further development and implementation;
5. The Secretariat and countries should enhance partnerships with the private sector at national and regional levels to assist in pollution prevention, reduction and control projects and activities;
6. In the future revision of the draft PIF for the follow-up project to REPCar activities to be executed by the Secretariat relating to POPs, mercury and other priority non-point pollutants as identified by the Contracting Parties under Annex 1.C of the Protocol should focus only on those chemicals as they relate to the management of agricultural non-point source activities under Annex IV of the LBS Protocol and other priority non-point pollutants as identified by the Contracting Parties under Annex 1 of the LBS Protocol. A revised draft PIF will be circulated to the Parties for endorsement with sufficient time to review and comment on the scope of the proposed activities.

## RECOMMENDATION II

**Taking into consideration** the proposed activities of the sub-programme of Assessment and Management of Environmental Pollution (AMEP) for the period 2010-2012, as appears in the document UNEP(DEPI)/CAR WG.33/INF.3;

**Taking note of** the significant progress made by a number of Contracting Parties to the Cartagena Convention concerning ratification and implementation of the LBS Protocol;

**Welcoming** the ratification of the LBS Protocol by the Governments of Bahamas, Guyana and Grenada during the last biennium and the entry into force of the LBS Protocol in August, 2010;

**Noting** the need for additional resources, both at the national and regional levels for implementation of the LBS Protocol;

**Noting further** the challenges in sourcing financing for new pollution prevention projects especially from the GEF;

**Having made note of** the success of the efforts by the Secretariat in promoting awareness of the Cartagena Convention and the LBS Protocol to various stakeholders of the Wider Caribbean Region such as through the Regional LBS Collage Competition;

### Recommends that:

1. The Secretariat continue to work directly with non-contracting parties to assist them in their ratification process and to continue to expand the use of communication tools and the web site to demonstrate the benefits, in particular economic benefits, of the LBS Protocol to Member Governments;
2. Non-Contracting Parties to the LBS Protocol expand their efforts to ratify the LBS Protocol to ensure a coordinated regional approach to pollution prevention, reduction and control;
3. The Secretariat support fund-raising and engage in outreach at the national and regional levels in order to implement the LBS Protocol and support the development and implementation of the new projects and activities in the approved 2013-2014 Work Plan; These efforts should focus on NGOs, civil society and the private sector, among others.
4. Future meetings of the STAC and CoP including the 1<sup>st</sup> LBS CoP seek to include broader representation, such as from NGOs and the private sector. The 1<sup>st</sup> LBS CoP should include a Panel Discussion and/or Side Event involving the private sector and NGOs as part of its agenda.
5. The Secretariat seek to explore other sources of financial and technical support for non-GEF eligible countries.

## RECOMMENDATION III

**Taking into consideration** the continued importance of assessment and monitoring including laboratory strengthening at the national and regional levels for the collection of baseline data collection among the countries of the Wider Caribbean Region;

**Understanding** the need for information products to assist in decision-making processes related to environmental management;

**Noting** the progress made by the Secretariat in the development of data and information products and the establishment of a Clearing House Mechanism at UNEP-CAR/RCU;

**Further Noting** the importance of having data and information inform policy and regulatory reforms at the national level;

**Having reviewed** the work conducted to date by the Interim Technical Working Group on Monitoring & Assessment;

**Welcoming** the willingness of the Government of Jamaica to continue to chair this working group;

**Taking into account** the need to submit the results of the working group to the 1<sup>st</sup> LBS COP, 15<sup>th</sup> IGM and 12<sup>th</sup> COP of the Cartagena Convention scheduled for Dominican Republic in October 2012;

**Recognizing** the need for Contracting Parties of the Cartagena Convention to submit regular reports to the Secretariat;

**Recommends that:**

1. The Secretariat, jointly with the LBS/RACs, continue to build capacity in the use of decision-making tools and to use these tools to bring added value to the outputs of existing environmental monitoring data being generated by AMEP Projects and activities.
2. The Interim Working Group on Monitoring and Assessment continue its work through one form or another and provide on-going advice and support to the STAC and COP.
3. The existing Interim Working Group continue to work on the outline of the proposed State of Convention Area Report and to: (a) update this document based on discussions at the 1<sup>st</sup> LBS STAC meeting; (2) give specific consideration to the presentation of data in the relevant tables in the report and (3) present this report to the 1<sup>st</sup> LBS COP and then to the 15<sup>th</sup> IGM and 12<sup>th</sup> COP of the Cartagena Convention.
4. Countries should ensure completion of the Cartagena Convention reporting template for submission to the 15<sup>th</sup> IGM and 12<sup>th</sup> Meeting of Contracting Parties of the Cartagena Convention.
5. The 1<sup>st</sup> LBS COP includes an agenda item for discussion on the dissemination of sensitive environmental data in particular on recreational water quality

#### **RECOMMENDATION IV**

**Noting** the presentations on the use of assessment tools, best management practices, models and technologies being used for pollution prevention, reduction and control in the Wider Caribbean Region.

**Further noting** the presentation on the Regular Process and the potential linkages with the work under the LBS Protocol.

**Noting with thanks** the offer by the USA to make available training materials on topics related to the LBS Protocol and by INVEMAR for their willingness to assist in the translation of this material into Spanish and its dissemination.

**Recommends that:**

1. The Secretariat continues its efforts to compile and disseminate case studies, experience notes and best management practices in the Wider Caribbean region;
2. The Secretariat seek additional support and financing to assist in having existing and future Programme outputs and existing training material translated into the three working languages of the region – English, Spanish and French;

3. Countries assist in sharing information especially on appropriate technologies and national experiences that could be used to assist in the implementation of the LBS Protocol;
4. Contracting Parties should apply, where applicable, appropriate tools and methodologies to assist them in meeting their obligations of the LBS Protocol;
5. Countries in the Wider Caribbean Region submit names of appropriate national experts to support the Regular Process;
6. The Secretariat continues to collaborate closely on the development of the proposed Regional Workshop in the Wider Caribbean on the Regular Process and periodically advise Contracting Parties on its status.

#### **RECOMMENDATION V**

**Having taken note** of the work conducted under the GEF funded Caribbean Large Marine Ecosystem Project;

**Noting further** the recognition of pollution as one of the three issues impacting shared marine living resources;

#### **Recommends that:**

1. Contracting Parties ensure that priority pollution issues are reflected in the regional Strategic Action Programme (SAP) to be developed under the GEF CLME Project;
2. The Secretariat continue to collaborate closely with the Project Management Unit of the CLME Project on issues related to the successful implementation of the LBS Protocol in the Wider Caribbean Region;
3. The Secretariat work closely with other regional and sub-regional governmental organisations within the region to coordinate work programmes and activities for improved collaboration and management of land-based sources of marine pollution that may affect the Wider Caribbean Region;

#### **RECOMMENDATION VI**

**Noting the** presentation by the representative of the UNEP Global Programme of Action on their priorities and global partnerships;

**Recognizing** the importance that the implementation of the LBS Protocol will have in meeting the GPA's objectives;

**Welcoming** the continued support of NOAA to the development and implementation of National Programmes of Action for Pollution Prevention in the Wider Caribbean Region;

#### **Recommends that:**

1. The Secretariat continue to cooperate with the GPA to facilitate development and implementation on national and regional projects and activities relating to nutrients, marine litter and wastewater management as well as future development and implementation of NPAs.

**Annex III: List of Documents**



## LIST OF DOCUMENTS

### Working Documents

UNEP(DEPI)/CAR WG.33/1	Provisional agenda
UNEP(DEPI)/CAR WG.33/2	Provisional annotated agenda
UNEP(DEPI)/CAR WG.33/3	Draft Workplan and Budget for the sub-programme on the Assessment and Management of Environmental Pollution (AMEP) for 2013-2014
UNEP(DEPI)/CAR WG.33/4	Report of the First Meeting of the Scientific, Technical and Advisory Committee (STAC) to the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol) in the Wider Caribbean Region (to be prepared during the meeting)

### Information Documents

UNEP(DEPI)/CAR WG.33/INF.1	Provisional list of documents
UNEP(DEPI)/CAR WG.33/INF.2	List of participants
UNEP(DEPI)/CAR WG.33/INF.3	Status of Activities for the sub-programme on the Assessment and Management of Environmental Pollution (AMEP) for 2010-2012
UNEP(DEPI)/CAR WG.33/INF.4	Report of the Activities for the LBS Regional Activity Centres IMA (Trinidad and Tobago) and Cimab (Cuba) for 2010-2012
UNEP(DEPI)/CAR WG. 33/INF.5	Report of the Interim Working Group on Environmental Monitoring and Assessment
UNEP(DEPI)/CAR WG. 33/INF.6	CEP Technical Report 52: Domestic and Industrial Pollutant Loads and Watershed Inflows in the Wider Caribbean Region (Updated CEP Technical Report No. 33). (English, Spanish, French)
UNEP(DEPI)/CAR WG. 33/INF.7	CEP Technical Report 61: Mainstreaming National Programmes of Action in the Wider Caribbean – (Summary)
UNEP(DEPI)/CAR WG.32/INF.9/Rev.3	Template for National Reporting on the Cartagena Convention and its Protocols
UNEP(DEPI)/CAR WG.33/INF.8	GEF IWCAM Final Project Report
UNEP(DEPI)/CAR WG.33/INF.9	GEF IWCAM Final Project Conference Summary, Kingston, Jamaica, 16-18 November, 2011
UNEP(DEPI)/CAR WG.33/INF.10	GEF-Project Proposal: Implementing Integrated Land, Water & Wastewater Management in Caribbean SIDS (PIF)
UNEP (DEPI)/CAR WG.33/INF.11	GEF-REPCar Final Project Report
UNEP(DEPI)/CAR WG.33/INF.12	GEF REPCar Recommendations of Final Project Steering Committee, Cartagena, Colombia, June 29-30, 2011
UNEP(DEPI)/CAR WG.33/INF.13	Status of the Cartagena Convention and its Protocols
UNEP(DEPI)/CAR WG.33/INF.14	GEF CReW Inception Phase and 1st Project Steering Committee Report, Kingston, Jamaica, February 7-8, 2012
UNEP(DEPI)/CAR WG.33/INF.15	Lab Capacity Survey Report
UNEP(DEPI)/CAR.WG.33/INF.16	Hot Spot Assessment Diagnostic Tool for SIDS (GEF IWCAM/CEHI)
UNEP(DEPI)/CAR.WG.33/INF.17	Workshop Summary for Regional Experts Workshop on Environmental Monitoring and Assessment, Montego Bay, Jamaica, September 26-30, 2011
UNEP(DEPI)/CAR WG.32/4	Report of the Fifth Meeting of the Interim Scientific, Technical and Advisory Committee (ISTAC) to the Protocol Concerning Pollution from Land-based Sources and Activities, Panama City, Panama, 24-28 May, 2010

UNEP(DEPI)/CAR IG.30/3	Workplan and Budget for the Caribbean Environment Programme for the biennium 2010-2011
UNEP(DEPI)/CAR IG.30/Rev 1/ Add.	Workplan and Budget for the Caribbean Environment Programme for 2012
UNEP(DEPI)/CAR IG.30/6	Report of the Fourteenth Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme and Eleventh Meeting of the Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Montego Bay, Jamaica, 6-9 October, 2010

### Reference Documents

IAEA, 2011	Report of the Assessment Meeting for the Project: Use of Nuclear Techniques to address the Management Problems of Coastal Zones in the Caribbean Region (RLA/7/012)
UNEP, 2010	Directory of Focal Points of the Caribbean Environment Programme.
UNEP, 2012	Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Protocol Concerning Cooperation in Combating Oil Spills, Protocol Concerning Specially Protected Areas and Wildlife and the Protocol Concerning Pollution from Land-based Sources and Activities
UNEP, 1999	Final Act of the Conference of Plenipotentiaries to Adopt the Protocol Concerning Pollution from Land-based Sources and Activities in the Wider Caribbean Region
UNEP/GC/3/Rev.3, 1988	Rules of Procedure of the Governing Council of UNEP
UNEP, 2008	Rules of Procedure for the Meetings of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)
UNEP, 2010	Financial Rules for the Cartagena Convention, its Caribbean Environment Programme and Terms of Reference for the Caribbean Trust Fund.
UNEP, 2010	Guidelines for Establishment and Operation of Regional Activity Centres and Regional Activity Networks for the Cartagena Convention.
UNEP, 2008	Marine Litter in the Wider Caribbean: A Regional Overview and Action Plan
UNEP-CAR/RCU, 2012	Agricultural Pesticides Residues in Caribbean Coastal Waters. Colombia, Costa Rica and Nicaragua 2008-2011 – GEF REPCar
UNEP, 2012	Report of Third Intergovernmental Review Meeting on the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Pollution (GPA) and Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
UNEP/NOAA 2012	The Honolulu Strategy: A Global Framework for Prevention and Management of Marine Debris

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