

# Recommendations of the Regional Activity Centres in support of LBS Protocol Amendments

*Sixth Meeting of the Contracting Parties (CoP) to the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS) in the Wider Caribbean Region  
Oranjestad, Aruba, 04 October 2023.*



Government Offices of Sweden  
Ministry of the Environment





Small Scale Funding Agreement (SSFA May 2022) – UNEP & RAC IMA & RAC CIMAB ~ USD 300,000. A total of nine projects.

### Objective

Strengthening the cooperation between RACs IMA and CIMAB and the Cartagena Convention Secretariat through Implementation of specific activities under the EU-funded ACP MEAs III and GEF CReW+ Projects

Assisting in the Environmental Pollution Assessment and Management (AMEP) subprogram of Cartagena Convention Secretariat to prevent, reduce and control marine pollution and to assist countries in the implementation of the LBS Protocol.

## Projects of the SSFA (4 of 9 projects in 2023/2024 workplan).

1. Develop Guidelines for classification of waters according to the LBS Protocol. Support by RAC CIMAB.
2. Establish regional criteria and standards for N and P loads in domestic and industrial wastewater discharges. Support by RAC CIMAB.
4. Support RAC-CIMAB in the development of recommendations for amendments to the LBS Protocol to facilitate increased reuse of domestic wastewater including adoption of new criteria or standards for domestic wastewater discharges.
5. Review, Analysis and Report for developing a new Strategy or Protocol on the management of freshwater resources within the framework of the Cartagena Convention with a focus on Source to Sea and Integrated Watershed Management.

## Status of Project components/Activities of SSFA

1. Questionnaire developed with specific information on policy documents, plan, projects, environmental legislation at a country level. Questionnaire sent to LBS focal points through Cartagena Convention Secretariat in November 2022.
2. Few responses from counties. Reminders sent.
3. Draft reports prepared by RAC IMA and RAC CIMAB based on desktop study.
4. Requires verification by countries.

## Preliminary Findings by RAC IMA on Develop Guidelines for classification of waters (Activity 1).

### LBS Protocol Contracting Parties

**Antigua & Barbuda, The Bahamas, Barbados\*, Belize, Grenada, Guyana\*, Jamaica\*, St. Lucia, T&T and USA\*, Aruba\*, France\*.**

- 60% of Contracting Parties currently have legislative framework in line with LBS Protocol.
- 40% have not yet established water classification and/or have not incorporated LBS Protocol into legislative framework.
- 30% have water classification systems that are further defined than LBS Protocol (Class I & II).

# Preliminary Findings by RAC Cimab on Develop Guidelines for classification of waters

Spanish speaker countries evaluated of the analysis of the classification criteria of the coastal zones:  
Guatemala, Honduras, Costa Rica, Nicaragua, Venezuela, Panamá, Cuba, Dominican Republic, Colombia y  
Mexico

. Of the ten (10) countries analyzed, 100% have standards or regulations that define maximum permissible limits of the different internationally recognized environmental quality indicators. However, it is recognize that are outdated; half of the countries (50%) have regulations that are more than 10 years old.

Seven (7) of the countries included in the study, 70%, have legislated, a system of coastal zones classification according to their use (or are in the preparing process), and are: Colombia, Cuba, Honduras, Nicaragua, Panama, Dominican Republic and Venezuela.

Only in four (4) of the countries evaluated (40 %) the standards for discharges to coastal marine areas differentiate the maximum permissible limits of the environmental quality indicators according to the respective classifications of said bodies of water as wastewater receptors (Nicaragua, Cuba, Colombia and Dominican Republic).

# Summary of the analysis of the classification criteria of the coastal zones

## PRINCIPAL FINDINGS

Classes established in the LBS Protocol	Nicaragua	Venezuela	Colombia	Honduras	Panama	Cuba	Dominican Republic
<p><b>Class I:</b> Waters in the Convention application area (Wider Caribbean Region) that, due to environmental characteristics that are inherent or specific to them, their biological or ecological fragility or human use, are particularly sensitive to the impact of domestic wastewater.</p>	<p><u>NTON 05007 -98 (2000):</u>  Types 3 and 4</p>	<p><u>Decree 883 (2005):</u>  Classes 1, 2 and 3</p>	<p><u>Decree 1076 (2015):</u>  According to the uses: Types: 2, 5, 7 and 8  Regarding discharges: Class I</p>	<p><u>Executive Agreement 003 (2020):</u>  Types b, e and g</p>	<p><u>Draft Decree (2007):</u>  Classes 1 M, 2 M</p>	<p><u>NC 521 (2007):</u>  Classes A, B and C</p>	<p><u>NA-CACS-(2012):</u>  Classes D2 and E</p>
<p><b>Class II:</b> Waters in the Convention application area, other than class I waters, which due to oceanographic, hydrographic, climatic or other factors, are less sensitive to the impact of domestic wastewater and where such discharges do not expose human beings or living resources that could be adversely affected by these inputs.</p>	<p><u>NTON 05007 -98 (2000):</u>  Types 5 and 6</p>	<p><u>Decree 883 (2005):</u>  Class 4</p>	<p><u>Decree 1076 (2015):</u>  According to the uses: Types 6 and 9  Regarding discharges: Class II</p>	<p><u>Executive Agreement 003 (2020):</u>  Types c, d, f and h</p>	<p><u>Draft Decree (2007):</u>  Class 3 M</p>	<p><u>NC 521 (2007):</u>  Classes D, E and F</p>	<p><u>NA-CACS-(2012):</u>  Classes F and G</p>

# GUIDELINES PROPOSALS FOR THE CLASSIFICATION OF COASTAL -MARINE WATERS

## 1. Establish the classification of the coastal and marine receiving areas, according the next criteria (most used criteria):

- Actual and prospective uses
- Environmental quality of the water bodies

## 2. Elaboration or update of the standards or limite for discharges

It is **strongly recommend** that the maximum permissible discharge limits of the different environmental quality indicators included in the discharge standards be established according to the classifications of the receiving bodies

**It is recommend** not to make the standards or criteria for discharges more complex, because can become incompressible and their application impractical.

**It is recommend** apply the Principle of Graduality, which is nothing more than defining discharge limits progressively over time.

The standards or regulations for the water bodies' classification, and particularly coastal marine as wastewater receptors must be preceded by rigorous scientific studies on the environmental water quality and on the hydrodynamic characteristics of these areas (dilution factors, currents, bathymetric and waves). In the same way, consultation processes carried out with all the actors involved in the actual and potential use of these areas. The approval of studies and consultations by the corresponding environmental authorities.

**It is recommend** to including the dates or periods to update or at least establish conditions for such a process



## Further Work Required to Develop Guidelines for Classification of waters according to the LBS Protocol.

- Structured approach to ensure consistency of methodology.
- Incorporation and/or updating of existing legislative framework (**support of the countries is need**).
- Evaluation of water bodies for categorisation and/or designation by use
- Establishment of mixing zones/ability of receiving bodies to assimilate waste.
- Establishment of protected areas.

## Establish regional criteria and standards for N and P loads in domestic and industrial wastewater discharges (Activity 2).

- Questionnaire developed to obtain information.
- Summary of the criteria and national standards of countries of the Wider Caribbean and other regions
- Survey on designation of sensitive sites, classification system, regulatory framework in country for pollution control, key economic and water related statistics.
- Prepare a final report on Integration of work by RAC IMA and RAC CIMAB (sub-regional reports) and preparation of the final report in both languages.

## Preliminary Findings by RAC IMA on establish regional criteria and standards for N and P loads.

- At a minimum, existing criteria for Nitrogen (Nitrates) and Phosphorus (Phosphates/TP)
- Nitrogen and Phosphorus species being analysed are not uniform
- Disparity in parameters being analysed for industrial effluent types
- Overall disparity in the maximum permissible levels of parameters

## Preliminary Guidelines by RAC IMA on establish regional criteria and standards for N and P loads

- Consistency required for N and P species analysed and respective criteria among contracting parties
- Proposals of N and P criteria will need to account for variety of industries and better understanding of differentiation of testing parameters between domestic and industrial wastewater across the region.
- Consider use of maximum permissible limits across a particular time frame.
- Consistency in the use of maximum permissible limits by loading vs concentration.

## Summary of the criteria and national standards of the Spanish-speaking countries of the Wider Caribbean Sea for N and P for discharges of domestic wastewater

### PRINCIPAL FINDINGS

Only in six of the countries assessed (Colombia, Panama, Mexico, Venezuela, Cuba and the Dominican Republic), the regulations clarify or specify the application (that is, emissions concentrations limits) for the discharge of domestic wastewater in coastal marine waters. In the remaining countries (Honduras, Nicaragua and Guatemala), the limitations on the discharge are addressed equally to all receiving bodies and the marine waters are mentioned among them

There is no uniformity regarding the forms or compounds of nitrogen and phosphorus included in the national standards. Within the phosphorus compounds, total phosphorous (TP) prevails. Nitrogen compounds are assess indistinctly in their different forms: total nitrogen (TN), total Kjeldahl nitrogen (TKN), ammonia nitrogen (as soluble ammonia  $\text{NH}_3$  or as ammonium ion  $\text{NH}_4^+$ ), nitrite ( $\text{NO}_2^-$ ) or nitrate ( $\text{NO}_3^-$ ).

A marked dispersion appears in terms of the maximum permissible concentrations for the different forms or compounds of the nutrients, including for the receptor bodies classified in a similar way

## Summary of the criteria and national standards of the Spanish-speaking countries of the Wider Caribbean Sea for N and P for discharges of industrial and domestic wastewater

### PRINCIPAL FINDINGS

The discharge standards include the maximum permissible nutrients limits (and in general of almost all indicators) in terms of concentration and not of pollutant load (flow multiplied by concentration), therefore, the flow factor does not have taken into account when assessing the impact of substances or compounds that can cause damage to the receptor body.

The Dominican Republic is the only country of those studied where the values of the permissible limits of discharge of municipal wastewater in coastal waters are specify, depending on the size of the tributary population. Guatemala also has an “atypical” standard since includes nutrient discharge limits for all municipalities, for periods and according to specific percentages of treatment plants operating correctly.

The limits for discharge into water bodies and marine areas, are not related to the assimilation capacity and with the exception of Cuba, in the remaining countries studied the regulations are not linked to ecosystems services and uses planned.

# CHALLENGES/NEXT STEP in the establishment of regional criteria and standards for N and P loads in domestic wastewater discharges

LBS National Focal Point  
review/confirm/validate the summary of the criteria and national standards of each countries for N and P (discharges domestic wastewater)

Technical session between RACs to propose regional standards for N and P for the discharge of domestic wastewater

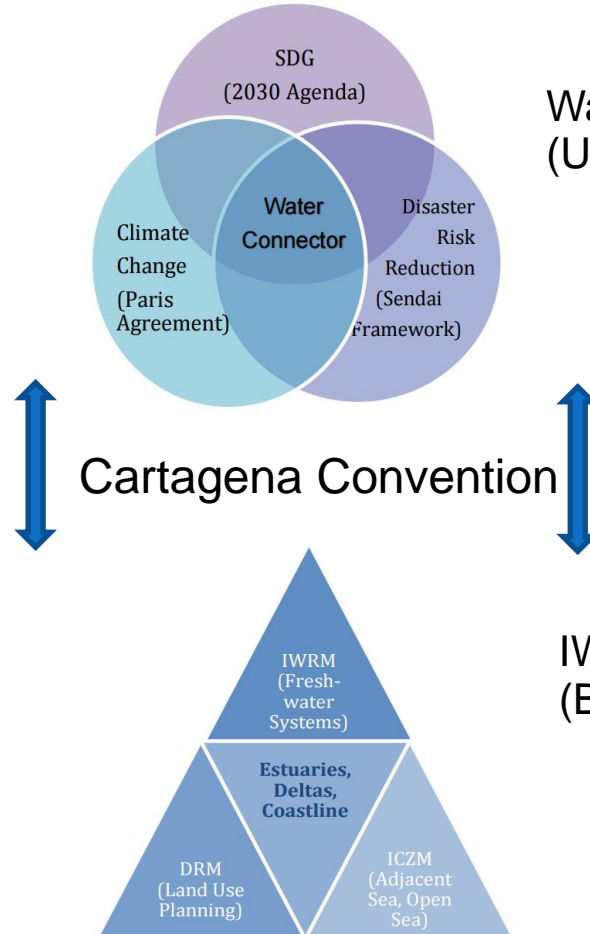
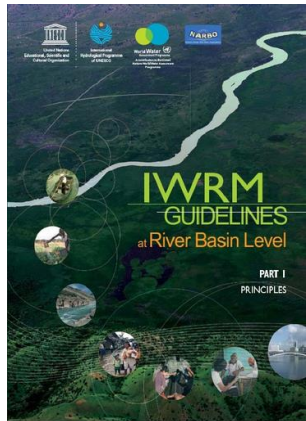
Propose regional standards for N and P for the discharge of domestic wastewater

## Review, Analysis and Report for developing a new Strategy or Protocol on the management of freshwater resources within the framework of the Cartagena Convention with a focus on Source to Sea and Integrated Watershed Management (Activity 5)

- ❑ Design and send questionnaire to the English speaking countries.
- ❑ Update of work done by J. Eugenio Barrios O. on “Outline of Technical Paper on the incorporation of freshwater issues into the LBS Protocol”.
- ❑ Review of work in other countries on management of fresh water resources including the EU Waters framework directive.
- ❑ Prepare Report with the information about the national management of freshwater resources with a focus on Source to Sea and Integrated Watershed Management.



# Conceptual Framework for IWRM integration to the Cartagena Convention



Water as a connector among the global commitments (UN Water, 2020)

Assist CP in reporting to SDG Indicator 6.5.1 “Degree of integrated water resources management implementation.”

IWRM, DRM and ICZM integration (Barrios, 2021)

(Barrios, 2021), Outline of Technical Paper on the incorporation of freshwater issues into the LBS Protocol

Develop recommendations for amendments to the LBS Protocol to facilitate increased reuse of domestic wastewater including adoption of new criteria or standards for domestic wastewater discharges (Activity 4)

Objective:  
proposal  
amendments to  
the LBS  
Protocol

Activities included:

Compile national standards for wastewater discharge specifically indicators that are now included in Annex III of the LBS Protocol (SST, BOD<sub>5</sub>, pH, fats and oils, fecal coliforms, E Coli).

Summary of limits or standards for other regions of the same indicators or other selected ones.

Results of surveys of national or regional experts on other indicators/parameters to be included in Annex III of the LBS Protocol (and its limits).

Proposal of new limits (or not) to the indicators already included in Annex III of the LBS Protocol and with the proposal of new indicators (if considered necessary).

Amend Annex III on wastewater to include criteria or standards for wastewater reuse and/or adopt a decision to develop these at the national level based on some proposed criteria

Proposal to include or update any article in the annexes of the LBS Protocol

# Questionnaire / Discussion

## Annex I

### Source Categories, Activities and Associated Pollutants of Concern

**Priority Source Categories and Activities Affecting the Convention Area? Are the same today?**

**Domestic Sewage**

**Agricultural Non-Point Sources**

**Chemical Industries**

**Extractive Industries and Mining**

**Food Processing Operations**

**Manufacture of Liquor and Soft Drinks**

**Oil Refineries**

**Pulp and Paper Factories**

**Sugar Factories and Distilleries**

**Intensive Animal Rearing Operations**

# Questionnaire / Discussion

## Annex I

### *Primary Pollutants of Concern ;?*

Organophosphate compounds  
Heavy metals and their compounds;  
Crude oil and hydrocarbons;  
Used lubricating oils;  
Aromatic polycyclic hydrocarbons;  
Biocides and their derivatives;  
Pathogenic microorganisms;  
Cyanides and fluorides;  
Detergents and other non-biodegradable surfactants;  
Nitrogen and phosphorus compounds;  
Persistent synthetic materials and other materials,  
Compounds with hormone-like effects;  
Radioactive substances;  
**Pharmaceuticals including antibiotics, isotats, estrogens;**  
**Illicit drugs:**  
**Beauty and grooming products including ointments, creams and lotions;**  
**Microplastics;**  
**Hospital waste;**

# Questionnaire / Discussion

## ANNEX III

### Annex III Domestic Wastewater

Does your country consider it appropriate to classify waters in the area of application of the Cartagena Convention (Wider Caribbean Region) into Class I and Class II as proposed in Annex III to the LBS Protocol?

Please indicate which of the parameters included in Annex III (Domestic wastewater) your country considers essential to maintain in order to assess effluent limits and which others should be included

Does your country consider appropriate the effective dates of compliance with the effluent limits as set out in Section C of Annex III of the LBS Protocol?

# Recommendation to COP

LBS RACs to continue to work and report to the LBS STAC7 and LBS COP7 for further review, recommendation and decision as appropriate.

## Challenges

- Verification of information. Countries response to SSFA Questionnaire will capture relevant and required information.
- Assistance from all Focal Points in verifying the information RACs have acquired in sub-regional reports
- Provide updates to your responses and assist in review of document.

Thank You!



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