

Draft Regional criteria & standards for Nitrogen and Phosphorus loads in domestic and industrial wastewater discharges

Sixth Meeting of the Scientific and Technical
Advisory Committee (STAC) to the LBS Protocol
and Activities in the Wider Caribbean.

RAC/IMA

Feb 2nd, 2023

Small Scale Funding Agreement

Small Scale Funding Agreement (SSFA May 2022) – UNEP & RAC IMA

Objective - Strengthening the cooperation between RAC IMA 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 the UNEP Caribbean Regional Coordinating Unit to prevent, reduce and control marine pollution and to assist countries in the implementation of the LBS Protocol.

Activities of the SSFA

1. Develop Guidelines for classification of waters according to the LBS Protocol with support by RAC CIMAB
2. Establish regional criteria and standards for N and P loads in domestic and industrial wastewater discharges with support by RAC CIMAB
3. Organize a Regional Workshop on Index of Coastal Eutrophication & Harmful Algal Blooms with External Consultant, Staff of RAC CIMAB and selected country/agency experts that form part of the Regional Activity Network.
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.

Activities of the SSFA

6. Promote LBS Protocol Ratification in Non-Contracting Parties (English Speaking countries), including development of promotional and awareness material for ratification
7. Implement Training on innovative low-cost integrated water and wastewater management such as through webinars, MOOC, training programmes with the participation of civil society.
8. Update CReW+ clearinghouse mechanism on financial options, small- and large-scale wastewater treatment technologies, and wastewater and water management policies and practices developed.
9. Develop/Review/Update one national pollution/nutrients reduction strategy and plan in one English speaking country.

Nitrogen (N) and Phosphorus (P)

- General inclusion under Annex I – Primary Pollutants, as Nitrogen and Phosphorous compounds
- LBS Protocol currently has no limits for N and P containing compounds
- Existing Effluent Limitations for Class I and Class II waters into domestic water for other parameters (pH, BOD, TSS, Faecal Coliforms, Fats Oils Grease, floatables)

Activity 2

Establish regional criteria and standards for N and P loads in domestic and industrial wastewater discharges with support by RAC CIMAB

- Summary of the criteria and national standards of the English-speaking countries of the Wider Caribbean Sea for N and P for discharges or discharges of industrial and domestic wastewater.
- Surveys to national or regional experts from English-speaking countries on limits, criteria or standards for N and P, including which compounds they propose and the limits.
- Survey on designation of sensitive sites in countries or classification system.
- Information Paper LBS STAC

Preliminary Results

- LBS Protocol Contracting Parties
 - Antigua & Barbuda, Belize, Jamaica, T&T and USA
- Limitations
 - Limited response to questionnaire
 - Desk study – restricted to information available online/Open access
 - Ongoing legislative changes in progress

Antigua and Barbuda

- Environment Management and Protection Act (2019)
 - Schedule VII - Water Quality Management Criteria and Guidelines

COUNTRY	RULES OR REGULATIONS FOR THE DISCHARGE OF WASTEWATER INTO COASTAL AREAS AND/OR INLAND WATER BODIES (YEAR)	NUTRIENTS INCLUDED	MAXIMUM PERMISSIBLE LIMITS BY NUTRIENTS	REFERENCE
ANTIGUA & BARBUDA	Environmental Protection and Management Act, 2019	Nitrate Nitrite Total Nitrogen Total Phosphorus	Nitrate - 50 mg/L Nitrite - 3 mg/L Total Nitrogen - 0.4 mg/L (Class AA,A) 0.8 mg/L (Class B) Total Phosphorus - 0.025 mg/L (Class AA,A) 0.5 mg/L (Class B)	Water Quality standards to protect human health, aquatic life and aesthetic qualities

Belize

- The Environmental Protection Act 1995
 - Effluent Limitation Regulations 2009 Amendment

COUNTRY	RULES OR REGULATIONS FOR THE DISCHARGE OF WASTE WATER INTO COASTAL AREAS AND/OR INLAND WATER BODIES (YEAR)	NUTRIENTS INCLUDED	MAXIMUM PERMISSIBLE LIMITS BY NUTRIENTS	REFERENCE
BELIZE	Effluent Limitation Regulations, 2009	Ammonia Nitrate Phosphate	Nitrate - 10 mg/L Phosphate - 5 mg/L	Garment Industry Battery Manufacturing Poultry Industry Brewery Industry Sugar Industry
			Nitrate - 10 mg/L Phosphate - 30 mg/L	Fish Industry
			Nitrate - 30 mg/L Phosphate - 5 mg/L	Dairy Industry
			Nitrate - 10 mg/L Phosphate - 1 mg/L	Shrimp Processing
			Ammonia - 1 mg/L Nitrate - 3 mg/L Phosphate - 5 mg/L	Other Industries or commercial activities

Jamaica

- Natural Resources Conservation (Wastewater and Sludge) Regulations, 2013

COUNTRY	RULES OR REGULATIONS FOR THE DISCHARGE OF WASTE WATER INTO COASTAL AREAS AND/OR INLAND WATER BODIES (YEAR)	NUTRIENTS INCLUDED	MAXIMUM PERMISSIBLE LIMITS BY NUTRIENTS	REFERENCE
JAMAICA	NCRA Wastewater and Sludge Regulations, 2013	Ammonia/Ammonium Nitrate Phosphate Total Nitrogen	Nitrate - 30 mg/L Phosphate - 10 mg/L	Sewage Effluent Standards for Existing Plants
			Total Nitrogen - 10 mg/L Phosphates - 4 mg/L	Sewage Effluent Standards for Plants other than Existing Plants
			Ammonium - 1 mg/L Nitrate - 10 mg/L Phosphate - 5 mg/L	Trade Effluent Standards

Trinidad & Tobago

- Environmental Management Act, 2000
 - Water Pollution Rules, 2019

COUNTRY	RULES OR REGULATIONS FOR THE DISCHARGE OF WASTE WATER INTO COASTAL AREAS AND/OR INLAND WATER BODIES (YEAR)	NUTRIENTS INCLUDED	MAXIMUM PERMISSIBLE LIMITS BY NUTRIENTS	REFERENCE
TRINIDAD AND TOBAGO	Environmental Management Act Water Pollution Rules, 2019	Ammonia Nitrate Total Phosphate	Ammonia - 0.5 mg/L Nitrate - 10 mg/L Total Phosphate - 0.1 mg/L	Protection of Aquatic Life & Aquatic Ecosystems
			Ammonia - 0.5 mg/L Nitrate - 10 mg/L Total Phosphate - 0.5 mg/L	Recreation in Marine Environments

USA

- Federal Water Pollution Control Act or Clean Water Act (CWA)
 - Water Quality Standards (Florida)

COUNTRY	RULES OR REGULATIONS FOR THE DISCHARGE OF WASTEWATER INTO COASTAL AREAS AND/OR INLAND WATER BODIES (YEAR)	NUTRIENTS INCLUDED	MAXIMUM PERMISSIBLE LIMITS BY NUTRIENTS	REFERENCE
UNITED STATES OF AMERICA	Clean Water Act; Surface Water Quality Standards (Florida)	Total Nitrogen Total Phosphorus Nitrate	Total Nitrogen Total Phosphorus - Numeric interpretations expressed as spatial average (30 days) and applied over a spatial area consistent with derivation	Predominantly Marine Waters
			Nitrate - 10 mg/L	Drinking water

N and P Criteria Summary

- Increased differentiation required between domestic and industrial wastewater across the region
- Consider use of maximum pollutant loads across a particular time frame
- Proposals of N and P criteria will need to account for variety of industries and industrial parks/hubs
- Questionnaire feedback from Contracting Parties necessary for progress

Thank You



Government Offices of Sweden
Ministry of the Environment

