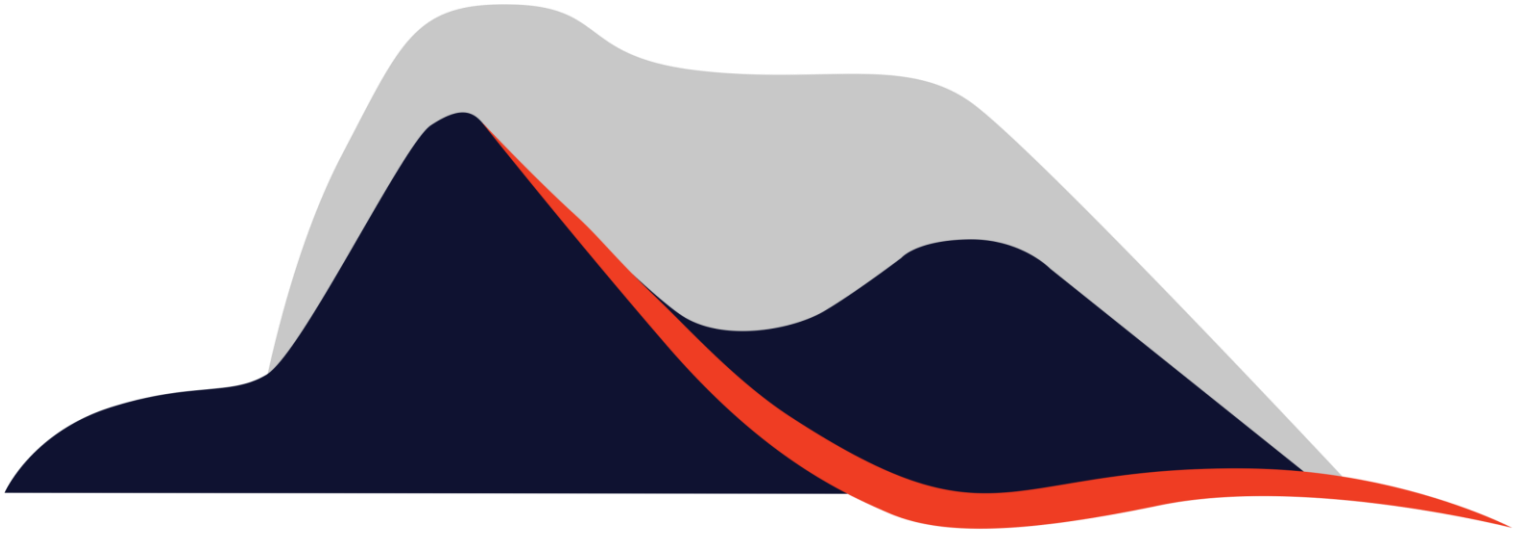


GPA

Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA)

United Nations Environment Programme

GPA Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

Graduated

- Persistent Organic Pollutants
- Heavy Metals

UNEP BASEL CONVENTION

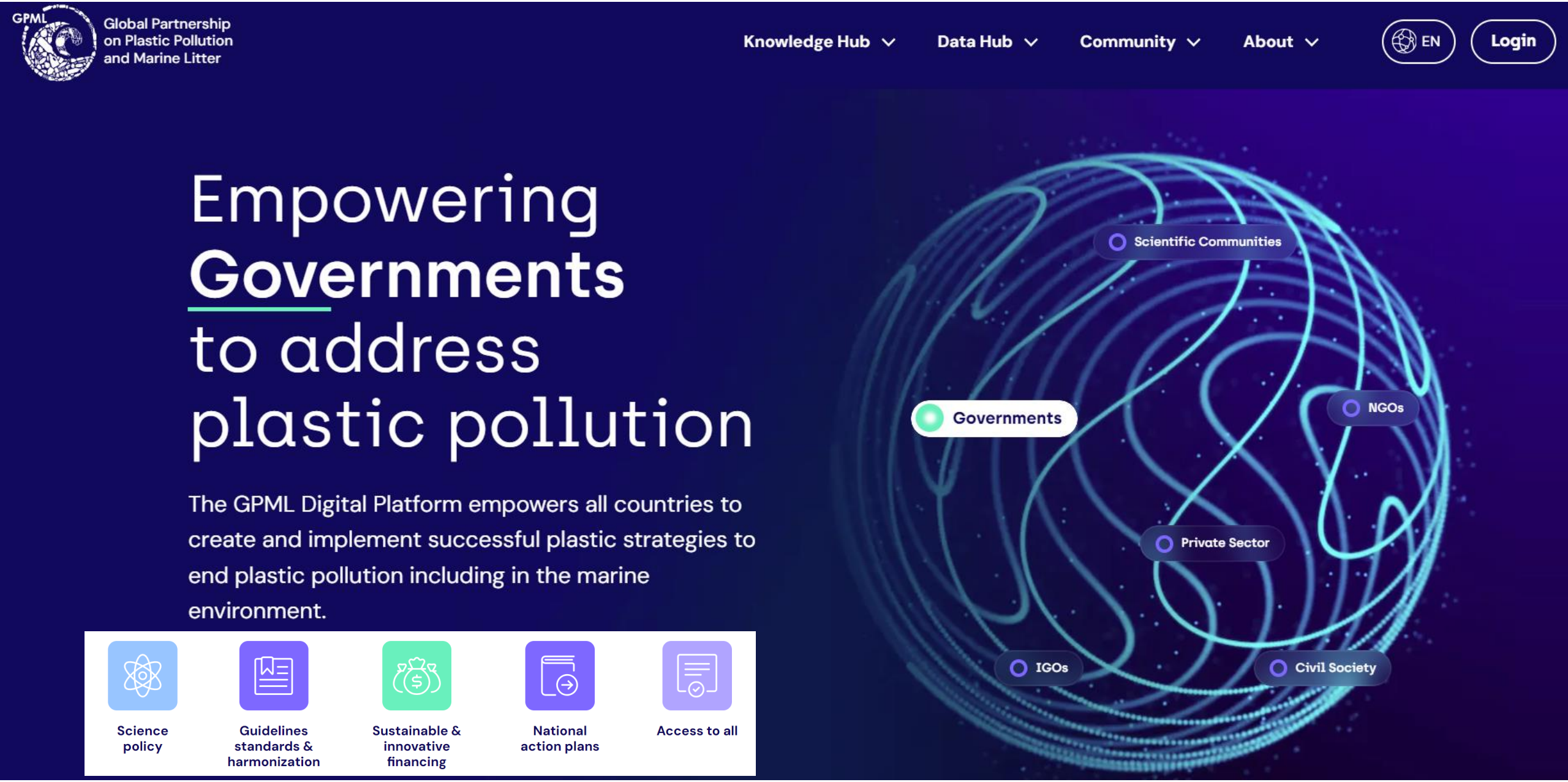
Manila Declaration

- Litter
- Nutrients
- Sewage

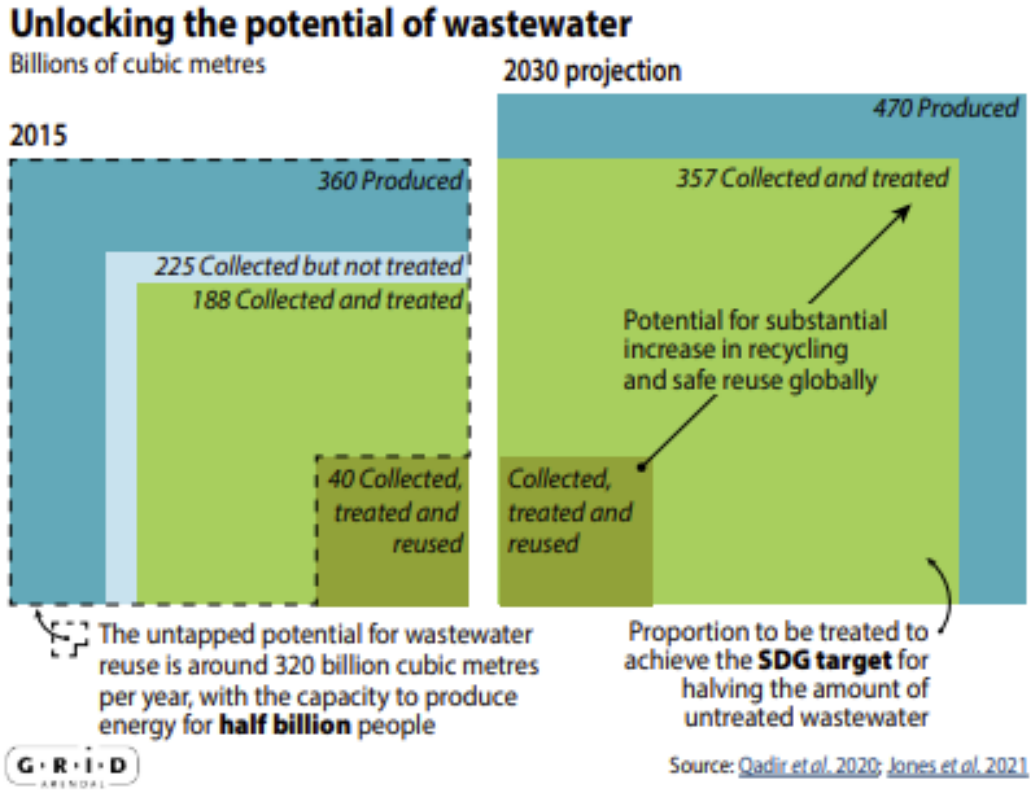
Others

- Radioactive substances
- Oils
- Sediment mobilization
- Alteration/destruction of habitats

Global Partnership on Plastic Pollution and Marine Litter (**GPML**)



Global Wastewater Initiative (**GWWI**)



Nutrient recovery potential from wastewater

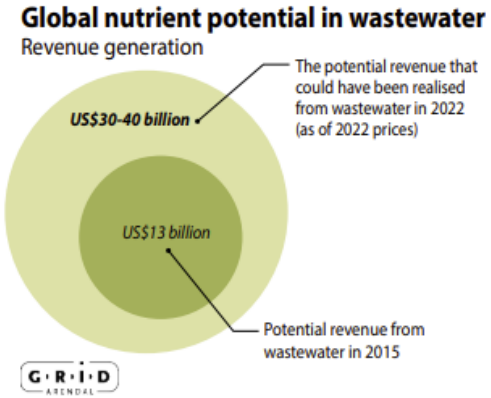
Nutrients such as nitrogen, phosphorous, potassium and organic carbon are important fertilizers and soil improvers for crop production. All of these can be recovered from wastewater. The production and use of synthetic nitrogen fertilizer alone is estimated to account for 5% of GHG emissions.

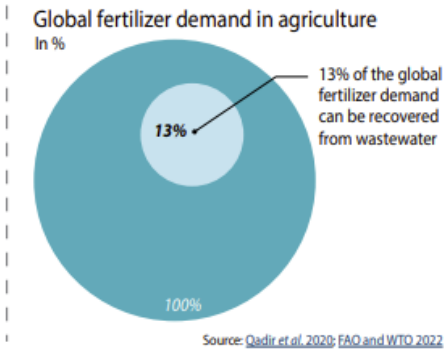
Returning nutrients recovered from wastewater to croplands could reduce demand on synthetic fertilizers, offsetting around 13% of the global fertilizer demand in agriculture.

This would have a potential value of between US$30-40 billion as of 2022 prices, with additional benefits to increase accessibility of fertilizer in low-income regions and prevent them being lost to the environment, reducing pollution pressure on marine and freshwater ecosystem integrity, reducing biodiversity loss.

Nutrient recovery limits the emissions of powerful GHGs such as methane and nitrous oxide from the organic breakdown that occurs during wastewater treatment. Methane and nitrous oxide have respectively 30 times and 300 times more warming potential than carbon dioxide over a 100-year period.

Explore: Nutrient recovery from sustainable sanitation solutions in rural Burkina Faso



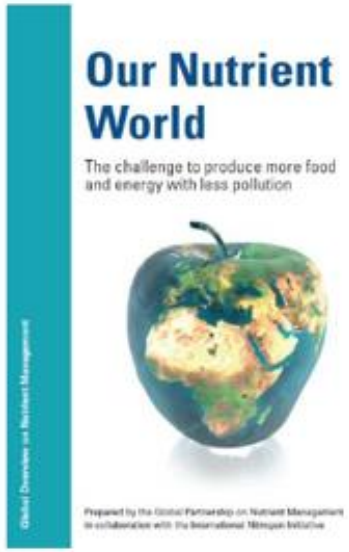


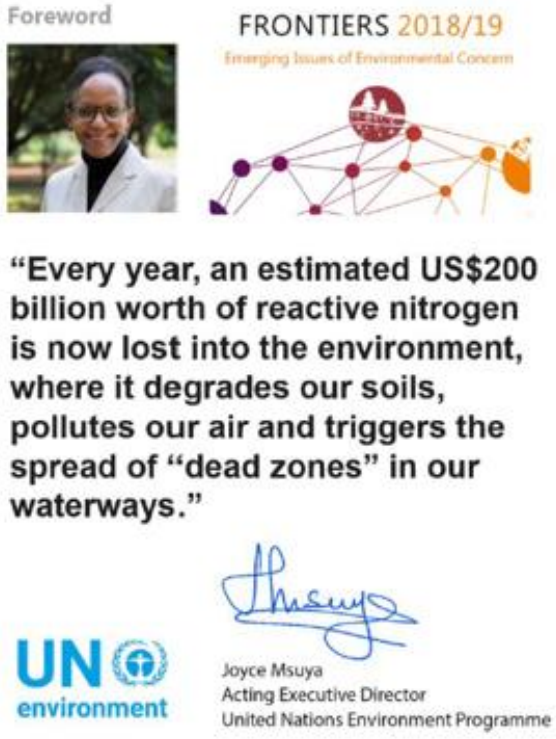
89%

of treated wastewater is being discharged without any resource recovery

We are squandering the potential for recovering clean energy, water and nutrients that could contribute to climate change mitigation, adaptation and resilience.

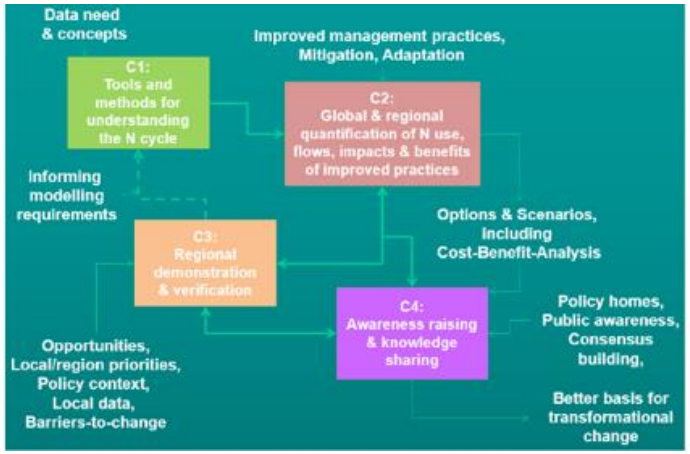
Global Partnership on Nutrient Management (**GPNM**)





International Nitrogen Initiative

Towards the INMS
International Nitrogen Management System
www.inms.international



Global Partnership on Nutrient Management
GPNM


UN@ environment assembly
THINK BEYOND
LIVE WITHIN
#SolveDifferent
UN environment
United Nations Environment Programme

UNEA4 Resolution 14: Sustainable Nitrogen Management

Operative Paragraphs

- **OP1:** Consider the options for facilitating **improved coordination of policies across the global nitrogen cycle** at the national, regional and global levels
- **OP2:** exploration of the options for **better management of the global nitrogen cycle** and how they could help to achieve the Sustainable Development Goals
- **OP3: Coordinate existing platforms** for assessment of the multiple environmental, food and health benefits of possible goals for improved nitrogen management
- **OP4:** Provision of appropriate **training and capacity for policymakers and practitioners** to develop widespread understanding and awareness of nitrogen cycling and opportunities for action
- **OP5: Sharing existing information and knowledge** in the development of an evidence-based and intersectorally coherent approach


UNEP@50
UN environment programme
1972-2022

UNEA5 Resolution 2: Sustainable Nitrogen Management

Operative Paragraphs

- OP1: Encourages Member States to accelerate actions **to significantly reduce nitrogen waste globally by 2030** and beyond through the improvement of sustainable nitrogen management;
- OP2: Also encourages Member States to share information on **national action plans**, as available, according to national circumstances;
- OP3: Requests the Executive Director of the UNEP to:
  - (a) Support Member States, at their request, in the development of national action plans for sustainable nitrogen management, subject to the availability of resources;
  - (b) Identify possible modalities for the options being considered for improved coordination of policies across the global nitrogen cycle at the national, regional and global levels, including, among other options, for an intergovernmental coordination mechanism for nitrogen policies, as specified in subparagraph (a) of resolution 4/14;
  - (c) Present to the Committee of Permanent Representatives, at its 159th meeting, to be held in 2022, a briefing on the implementation of resolution 4/14, including on the status of the assessment requested in subparagraph (c) of the resolution, and a road map for further implementation of the resolution in the period leading up to the sixth session of the Environment Assembly;
  - (d) Invite Member States to nominate focal points to join the United Nations Environment Programme Working Group on Nitrogen;
  - (e) Report to the Environment Assembly, at its sixth session, on the progress achieved in the implementation of the present resolution and of resolution 4/14.

UNEP Working Group on Nitrogen

Photo by James Baltz/ unsplash

In March 2022, the resumed fifth session of UNEA (UNEA-5.2) adopted a second resolution on "Sustainable nitrogen management" (resolution 5/2), encouraging Member States to accelerate actions to significantly reduce nitrogen waste globally by 2030 through the improvement of sustainable nitrogen management and to share information on national action plans, as available, according to national circumstances.

In March 2019, the first resolution on "Sustainable nitrogen management" (resolution 4/14) was adopted and a UNEP Working Group on Nitrogen was convened by the Executive Director to facilitate its implementation. Following UNEA 5.2, the mandate of the Working Group on Nitrogen was expanded to respond to resolution 5/2 and strengthen the engagement and ownership of its implementation by Member States and stakeholders.

Resolution 5/2 operative paragraph 3(d) also requested the Executive Director of the United Nations Environment Programme (UNEP) to invite Member States to nominate focal points to join the UNEP Working Group on Nitrogen. Focal points will participate in the meetings of the UNEP Working Group on Nitrogen and serve as contact point between UNEP and their country.

Global Partnership on Nutrient Management

GPNM

COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA

Marine Pollution

Marine Litter and Plastic Pollution & Nutrients Pollution

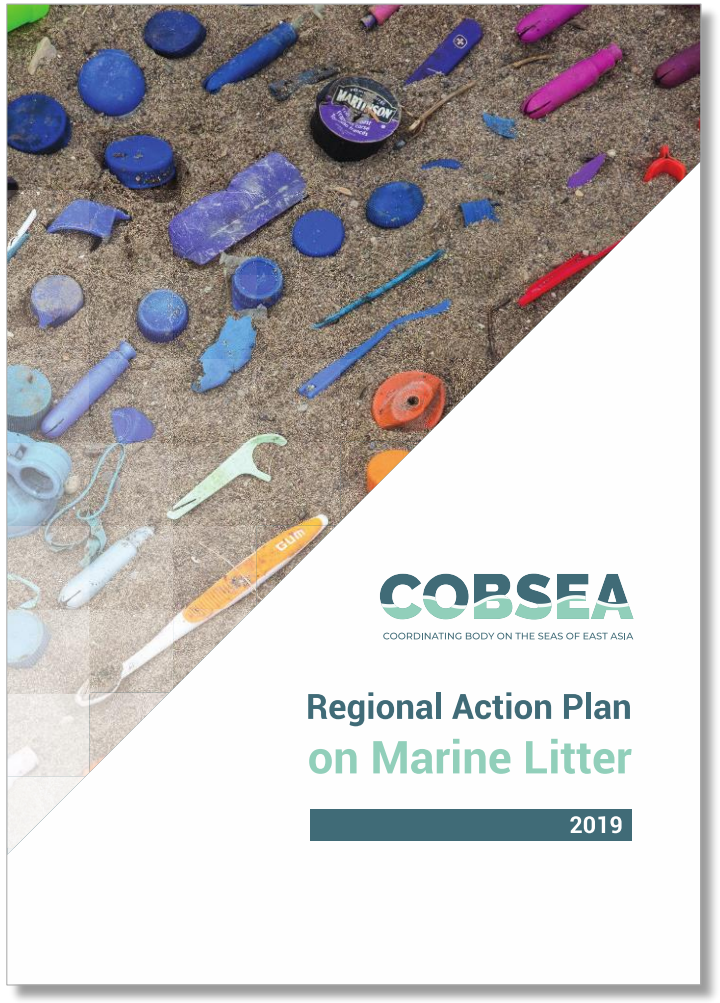
SUSTAINABLE DEVELOPMENT GOALS

14.1
By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

Kunming-Montreal Global Biodiversity Framework

TARGET 7
Reduce pollution risks and the negative impact of pollution from all sources, by2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including: reducing excess **nutrients** lost to the environment by at least half including through more efficient nutrient cycling and use; reducing the overall risk from **pesticides and highly hazardous chemicals** by at least half including through integrated pest management, based on science, taking into account food security and livelihoods; and also preventing, reducing, and working towards eliminating **plastic pollution**.

COBSEA Regional Action Plan on Marine Litter Pollution



Adopted in 2008 and revised by IGM 24 (2019), aligns with UNEA & 2030 Agenda
Identify common priorities and provides a Regional Framework for cooperation in tackling marine litter.

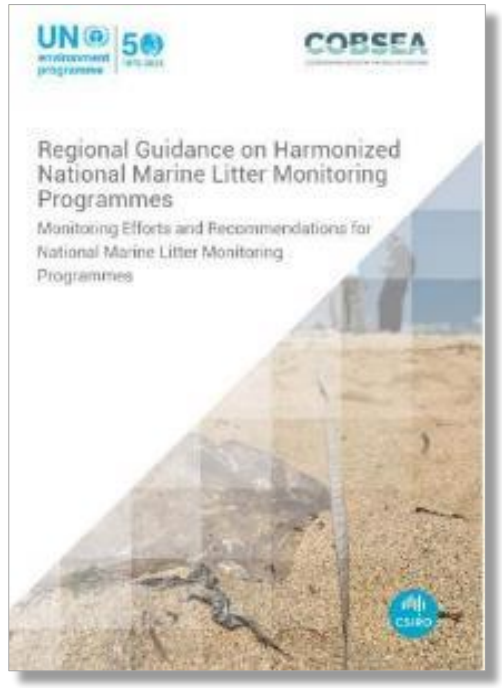
COBSEA Working Group on Marine Litter & Expert Group on Monitoring.

ACTION 1: prevent and reduce marine litter from land-based sources

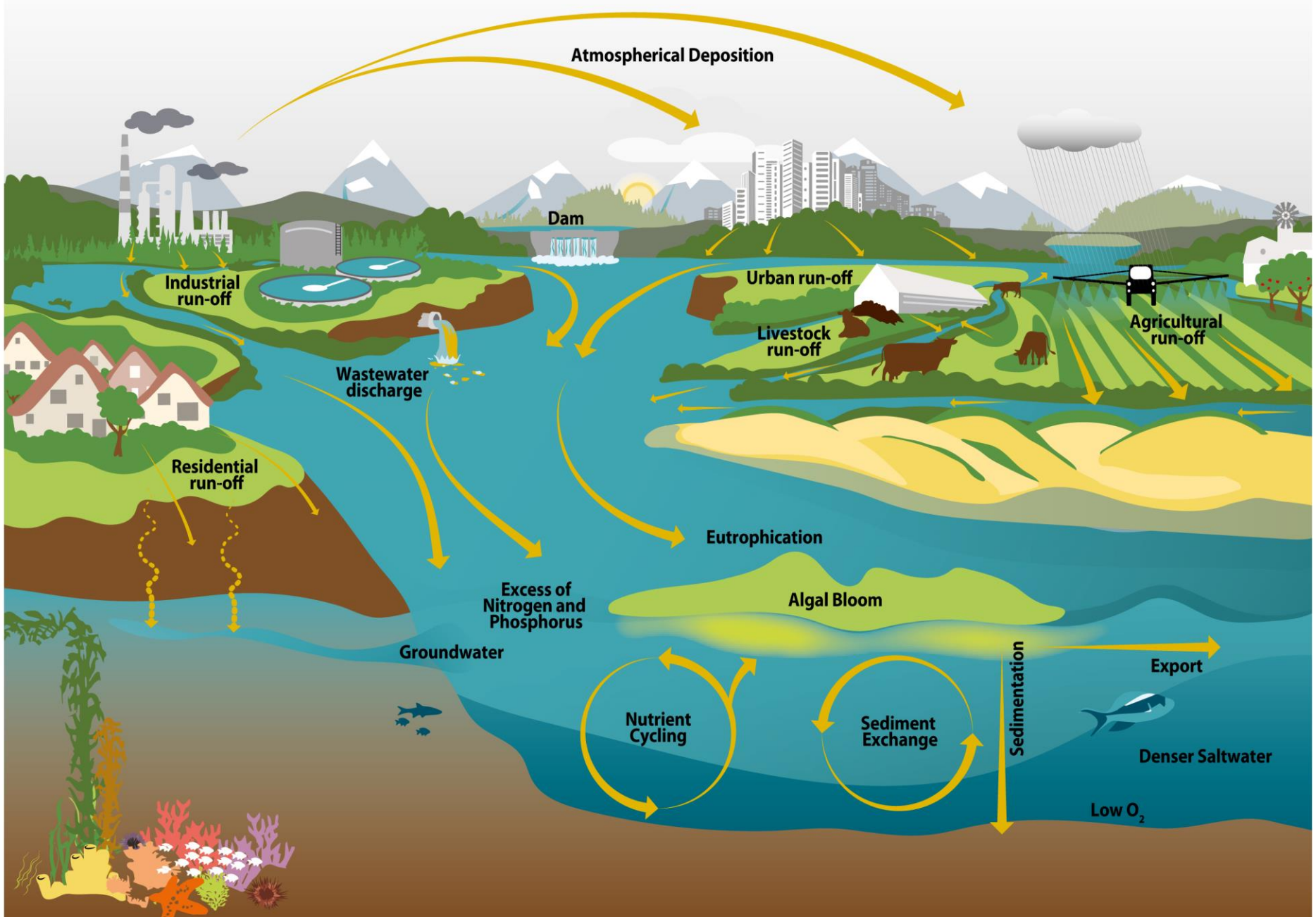
ACTION 2: prevent and reduce marine litter from sea-based sources

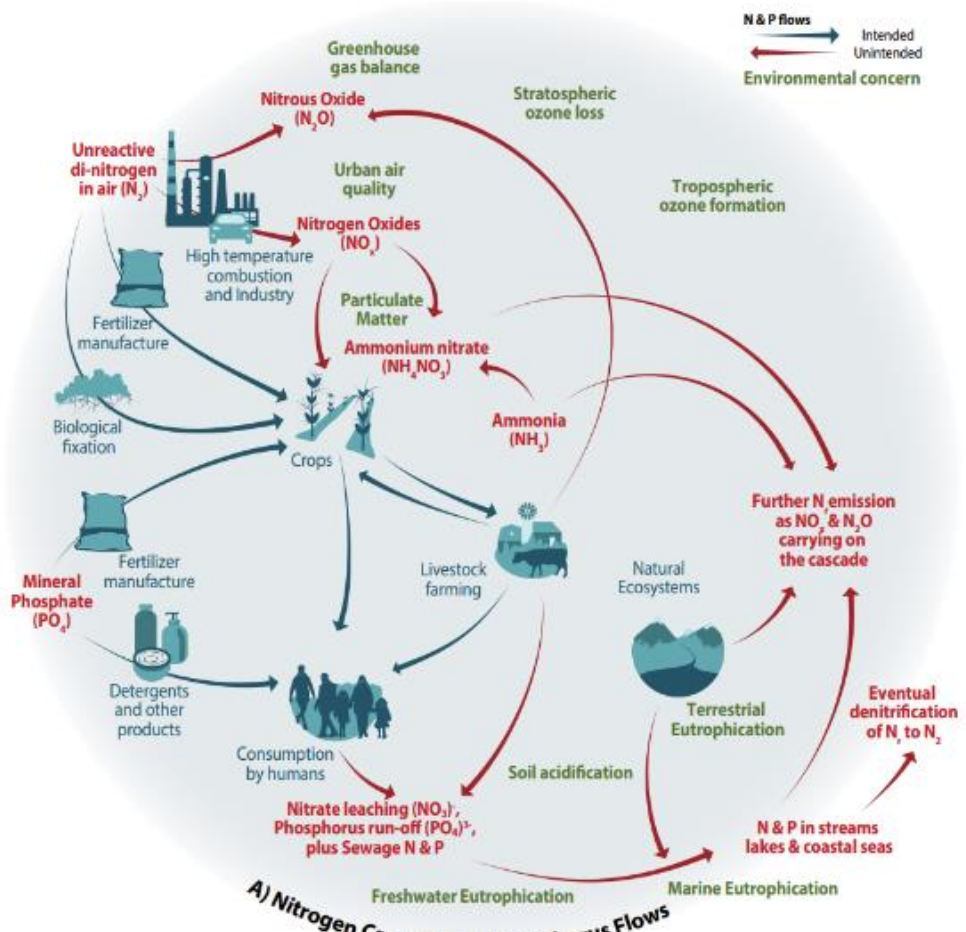
ACTION 3: strengthen monitoring and assessment

ACTION 4: create enabling conditions for action, e.g. knowledge sharing

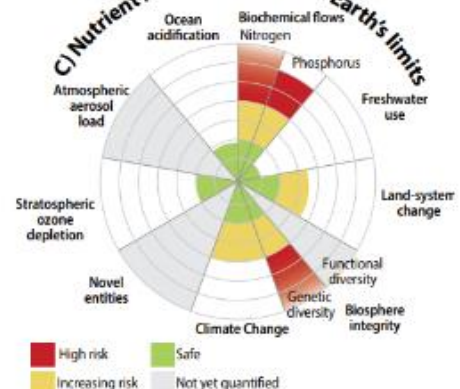


Excess nutrients impact water, ecosystems and people





A) Nitrogen Cascade and Phosphorus Flows



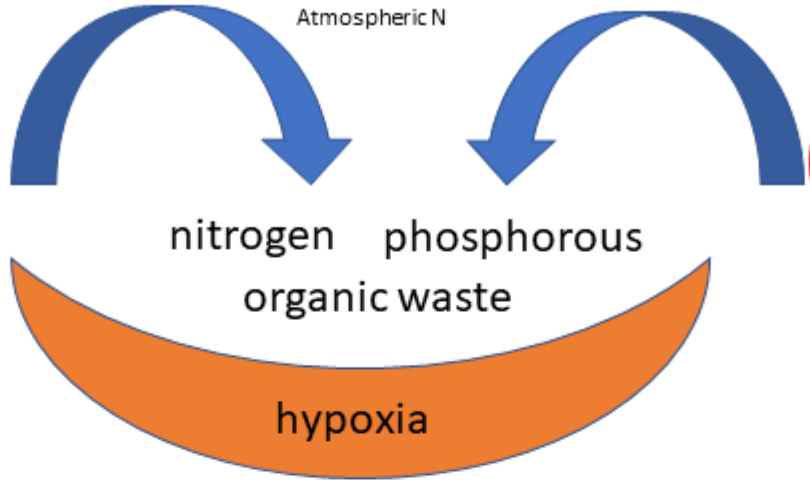
Ecosystem services in the COBSEA Region in 2015

Terrestrial and **freshwater** ecosystems provide at least **US$ 7 trillion** worth of services each year

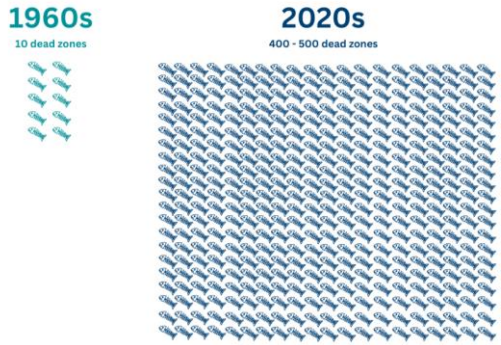
Coastal and **marine** ecosystems contribute at least **US$ 10 trillion** worth of services each year

GRID-Arendal/Studio Atlantis, 2022

70 – 80% global ocean and freshwater eutrophication can be attributed to **Agriculture pollution**



Municipal & Industrial Wastewater
may now be responsible for nearly **25% - 30%** of total nitrogen pollution annually released into oceans



1960's
10 dead zones
Limited km2

2020's
400 – 500 dead zones
+/- EU km2

35 million mts N/P fertilizer
Ag Land: 1 billion hectares
Aquaculture: 2 mts
Cattle: 900 million
Pigs: 400 million
Sheep/Goats: 1.1 billion
Poultry: 4 billion

"Green Revolution"

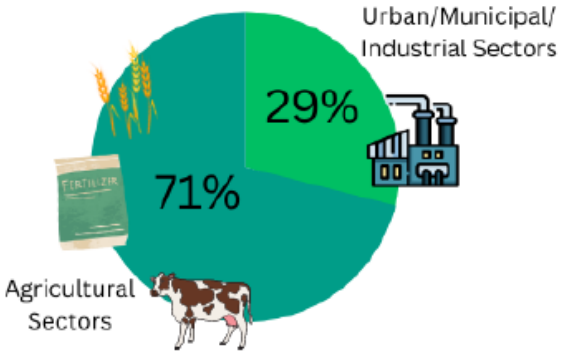
185 million mts N/P fertilizer
Ag Land: 5 billion hectares (38% globe)
Aquaculture: 106 mts
Cattle: 1.5 billion
Pigs: 1.2 billion
Sheep/Goats: 2.2 billion
Poultry: 22 billion

3 billion people
Global GDP: $ 1.2 trillion

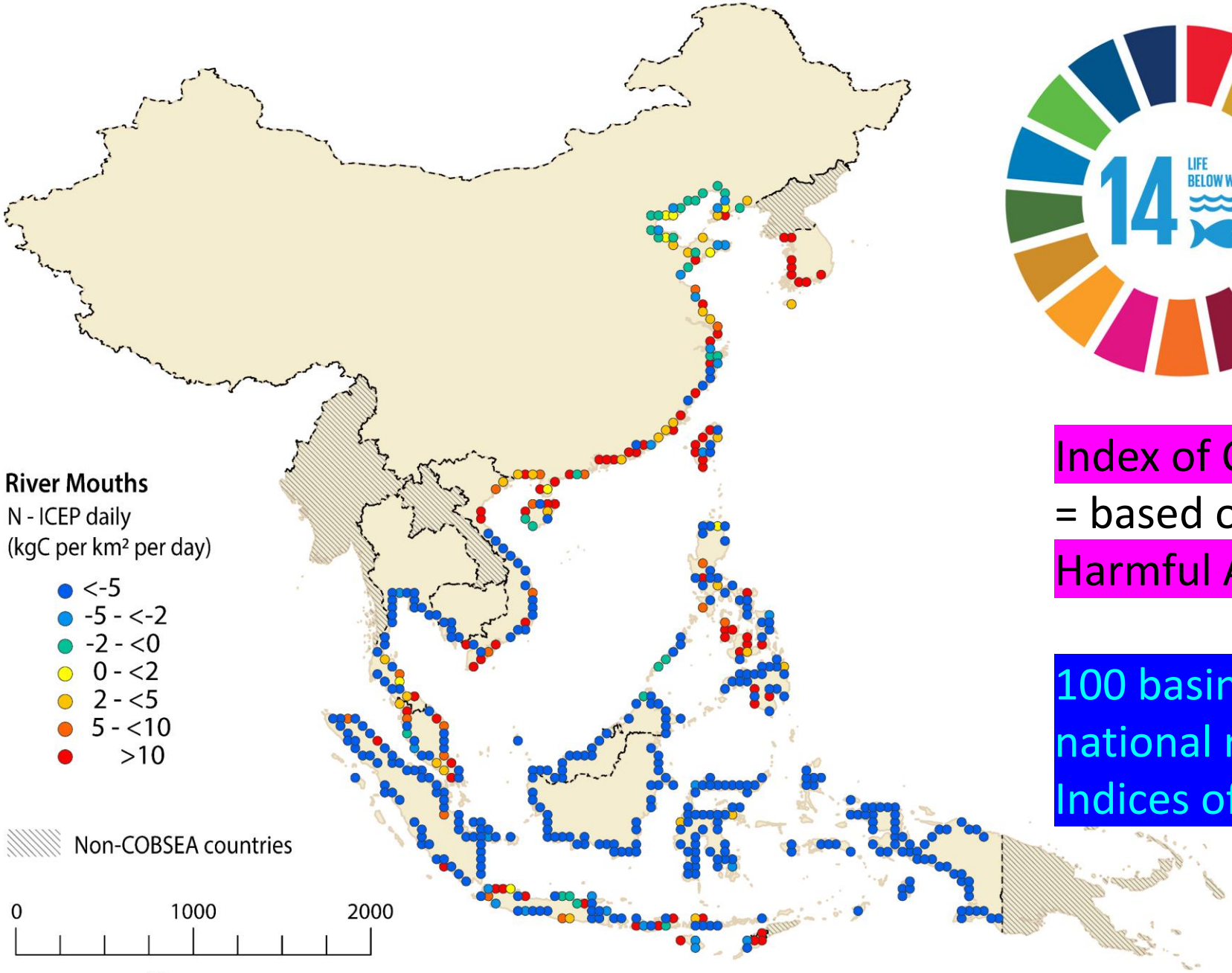
"Expansion"

7.8 billion people
Global GDP: $ 96 trillion
80% wastewater untreated
29% of N released to ocean

Share of total nitrogen released into global oceans by

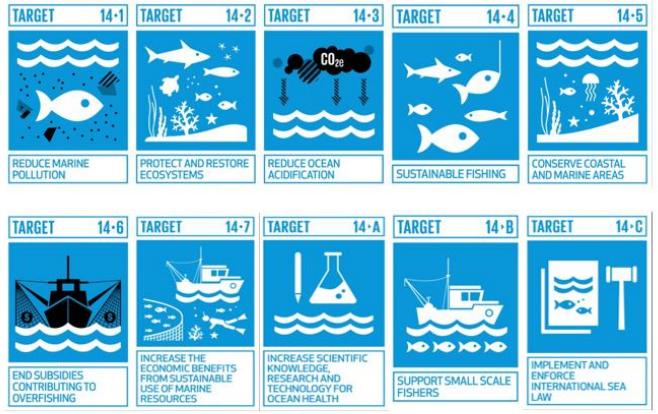


Nitrogen-Index of Coastal Eutrophication for COBSEA watersheds (year 2000)



SUSTAINABLE DEVELOPMENT GOALS

COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA



Index of Coastal Eutrophication Potential

= based on excess N or P, which fuels

Harmful Algal Blooms

100 basins draining 45% of COBSEA national river basins have POSITIVE Indices of Coastal Eutrophication

COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA

Food and Agriculture Organization of the United Nations

GEF8 Clean and Healthy Ocean Integrated Program

ADB ASIAN DEVELOPMENT BANK

United Nations Educational, Scientific and Cultural Organization · Intergovernmental Oceanographic Commission

CAF DEVELOPMENT BANK OF LATIN AMERICA

European Bank for Reconstruction and Development

gef global environment facility INVESTING IN OUR PLANET

Address hypoxic zones by curbing coastal pollution through policy and regulatory measures and infrastructure investments combined with nature-based solutions

GEF8 CHO IP Child Project: ***Seeding a Nutrient Pollution Reduction Strategy for the coastal waters of Thailand***

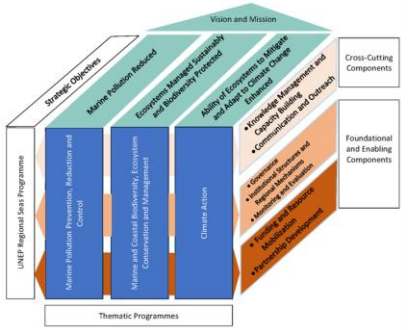
Plankton bloom samples from 11 August 2023
at Bang Sean Beach, Chonburi Province

GEF8 Clean and Healthy Oceans – Thailand Child project Inception and validation workshops (May and Sept 2024)

TOWARDS A POLLUTION FREE PLANET

LIVING IN HARMONY WITH NATURE

CLIMATE STABILITY



COBSEA

COORDINATING BODY ON THE SEAS OF EAST ASIA

21-22 October 2024 | Siem Ream, Cambodia

Sixth meeting of Working Group on Marine Litter (WGML-6)

Second meeting of Working Group on Marine and Coastal Ecosystems (WGMCE-2)

23-25 October 2024 | Siem Ream, Cambodia

Twenty-sixth Intergovernmental Meeting (IGM 26) of COBSEA

COBSEA Collaborative Action Framework on Nutrients Management (CAF-NM)

Vision: COBSEA participating countries enjoy healthy marine and coastal ecosystems and the life-sustaining services these provide by ensuring that risks from excess nutrients are minimized, where possible, at source, including threats from eutrophication and hypoxia.

Goal: To establish a collaborative framework on nutrients management, covering the progressive reduction of impacts from excess nutrient emissions on marine and coastal ecosystems of the seas of East Asia.

COBSEA CAF-NM Overall Objectives

To support and assist COBSEA participating countries in increasing their **capacities to develop national strategies/activities on nutrient pollution reduction**, using a watershed scale approach, where land-based (e.g. agriculture and point sources) and in-water nutrient sources (e.g. aquaculture, submarine groundwater discharge) are addressed, including development and resource mobilization for pilot projects.

To support and assist COBSEA participating countries, as requested, in **implementing institutional, policy and regulations relating to nutient pollution reduction and management** including identifying measures to reduce discharge of untreated sewage, nutrients and sediments, and promote recovery of nutrients and water from wastewater, including sharing of best practices amongst COBSEA participating countries.

To contribute to implementation of relevant regional and global commitments including the Strategic Directions of the COBSEA for the period 2023-2027, the UNEA Resolutions on Sustainable Nitrogen Management, SDGs 6 and 14, the Kunming-Montreal Global Biodiversity Framework.

Desk Review on Nutrient Pollution as a Regional and Transboundary Challenge in the East Asian Seas Region

2021

UN environment programme 50 1972–2022 | COBSEA COORDINATING BODY ON THE SEAS OF EAST ASIA | GPNM

DRAFT

COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA

Reducing Nutrient Excess in the Watersheds and Seas of East Asia

A draft strategy and action plan

Executive Summary
Key Messages

COBSEA IGM25:

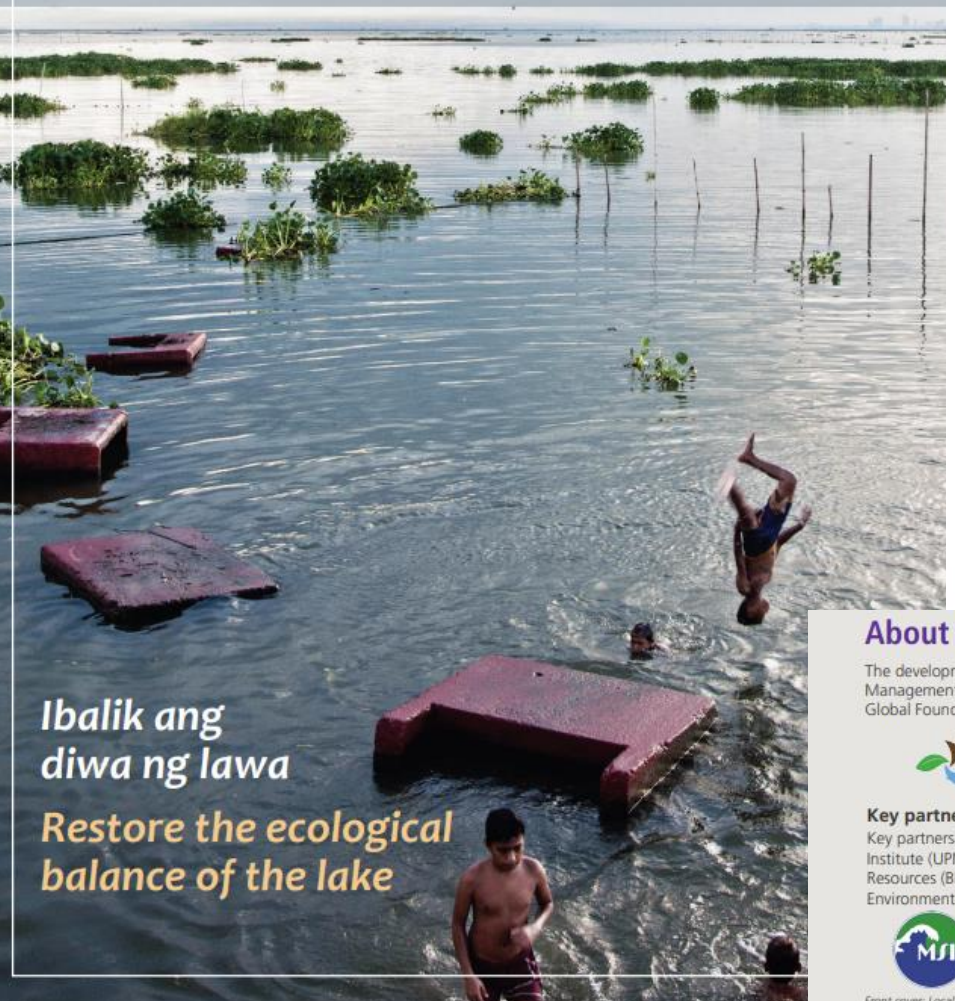
October 2022, Viet Nam

COBSEA IGM26:

23-25 Oct 2024, Cambodia

Laguna de Bay

2013 Ecosystem Health Report Card



Natural resource values and human activity threats

About the report card

The development of the first Ecosystem Health Report Card for Laguna de Bay was jointly implemented by the Partnerships in Environmental Management for the Seas of East Asia Resource Facility and the Laguna Lake Development Authority (LLDA), under the UNEP/GEF Project on Global Foundations for Reducing Nutrient Enrichment and Oxygen Depletion from Land-based Pollution in Support of Global Nutrient Cycle.

PEMSEA · UNEP · gef · GPA

Key partners

Key partners include the LLDA Technical Working Group, the external experts from the University of the Philippines-Marine Science Institute (UPMSI), University of the Philippines-Los Baños (UPLB), University of Santo Tomas (UST), and the Bureau of Fisheries and Aquatic Resources (BFAR), and the science communication team from the Integration and Application Network, University of Maryland Center for Environmental Science.

MSI · BFAR · ian.umces.edu

For more information, visit http://llda.gov.ph

LAGUNA DE BAY

Laguna de Bay scored a low passing mark, 76%, a C-, in water quality. The Lake consistently is within the Department of Environment and Natural Resources (DENR) guidelines for class C waters in DO, BOD, nitrate, and total coliforms. However, it scored 0% in chlorophyll *a* and 59% in phosphates. Water quality was affected by high population and industralization.

The Lake received an F in Fisheries (48%), with 53%, 68%, and 22% scores in fish native species composition, zooplankton ratio, and catch per unit effort (CPUE), respectively. Invasive fish species and competition among fisherfolk contributed to the low scores.

Even though the DENR guidelines are met in most water quality indicators, the chlorophyll *a*, phosphates, and zooplankton ratio scores show that the Lake is highly eutrophic. These results have a negative impact on the fisheries of Laguna de Bay. Overall, these scores are not only a cause of concern for fisheries, but the whole community and all the industries supported by the Lake.

How are the scores calculated and what do they mean?

The 2013 Laguna de Bay report card measured indicators for water quality and fisheries for the West, Central, East, and South bays. Six water quality indicators were compared to the Department of Environment and Natural Resources (DENR) guidelines for class C waters (suitable for fisheries and recreation) which were then combined and represented as a percent score for each bay. The three fisheries indicators were calculated as ratios or percentages that are then combined as a percent score for each bay. The grading scale follows the typical scale used in Philippine universities.

A 91–100%: All the indicators meet desired levels. Quality of water in these locations tends to be very good, most often leading to preferred habitat conditions for aquatic life.

B 83–91%: Most indicators meet desired levels. Quality of water in these locations tends to be good, often leading to acceptable habitat conditions for aquatic life.

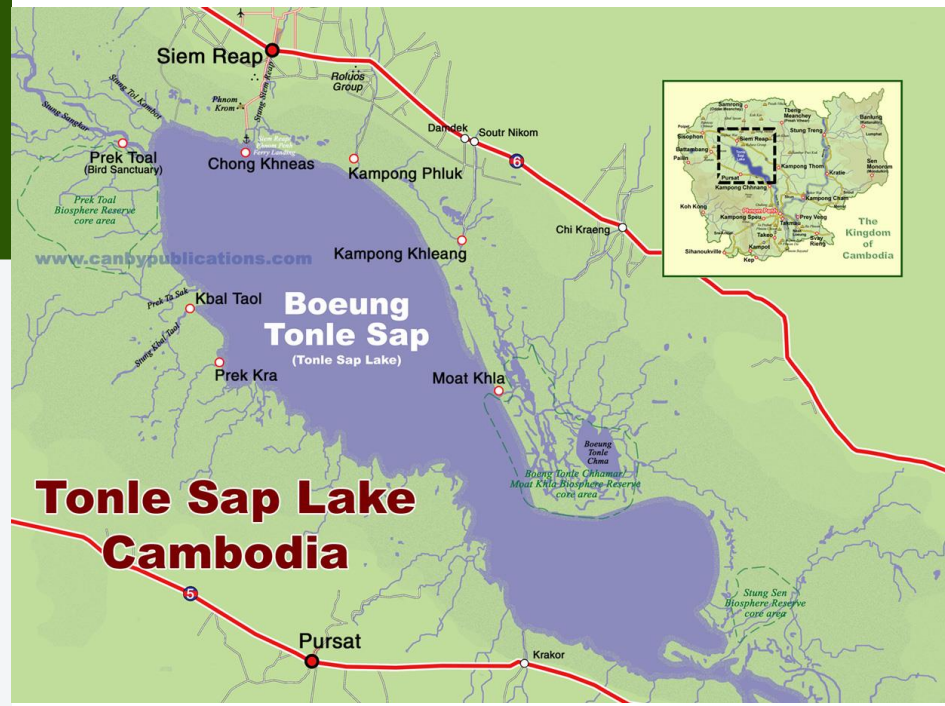
C 75–83%: There is a mix of good and poor levels of indicators. Quality of water in these locations tends to be fair, leading to sufficient habitat conditions for aquatic life.

D 70–74%: Some or few indicators meet desired levels. Quality of water in these locations tends to be poor, often leading to degraded habitat conditions for aquatic life.

F 0–70%: Very few or no indicators meet desired levels. Quality of water in these locations tends to be very poor, most often leading to unacceptable habitat conditions for aquatic life.

ID: GEF-10892 | ONGOING

Towards Sustainable Phosphorus Cycles in Lake Catchments (uP-Cycle)



Timeline

38% Complete

Start Date:
13 October 2023

End Date:
31 August 2026

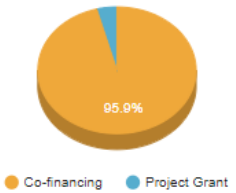
Objective

To support lake ecosystems recovery through phosphorus emissions reductions from land to water to improve the protection and restoration of freshwater and coastal ecosystems, bringing together the global lake management and sustainable phosphorus management communities including developing and testing a sustainable phosphorus management framework in Chile to inform international application.

Co-financing:
$ 46,388,488

Project Grant:
$ 2,000,000

Total Value:
$ 48,388,488



Portfolio:
International Waters

Country:
Global

Partners:
The UK Centre for Ecology and Hydrology (CEH) in collaboration with the Chilean Ministry of Environment

Implementing Agencies:
UNEP

Marine Pollution:
Actions to Tackle Marine Plastic Pollution

Growing concerns about marine plastic pollution continue to draw global attention.
In response, the international community is working on a global treaty toward ending plastic pollution.
Countries are improving waste management, companies are developing new recycling technologies, and civil society is tackling the problem through campaigns and volunteer efforts.
At the 10th OOC, discussions will focus on bringing together the efforts of governments, local authorities,
businesses, and citizens to address marine waste, with a special focus on plastic pollution, and to encourage coordinated global action.

10th OOC - 7 Areas of Action:

- Marine Protected Areas
- *Marine Pollution*
- Blue Economy
- Climate Change
- Sustainable Fisheries
- Maritime Security
- Digital Oceans

United Nations

2025 UN OCEAN CONFERENCE
June 2025, France

MINISTÈRE DE L'EUROPE ET DES AFFAIRES ÉTRANGÈRES
Liberté Égalité Fraternité

France Diplomacy

Press Room | English

THE MINISTRY | FOREIGN POLICY | COUNTRY FILES | COMING TO FRANCE

Third UN Ocean Conference (UNOC3) (Nice, 9-13 June 2025)

- **4-6 June 25: One Ocean Science Congress (Nice)**

  Organized with the Ifremer oceanographic institute and the CNRS (French National Centre for Scientific Research), the One Ocean Science Congress will bring together over 2,000 international scientists. Their mission will be to:

  - Identify innovative indicators and solutions for ocean health,
  - Support the creation of the International Panel for Ocean Sustainability (IPOS) and the intergovernmental organization Mercator Ocean International (MOi).

- **7 June 2025: Ocean Rise & Resilience Coalition (Nice)**

  Organized by the city of Nice and the Ocean & Climate Platform, the Ocean Rise & Resilience Coalition Summit will invite elected representatives and leaders of coastal cities and regions, as well as governments of island States under threat from rising sea levels. It will focus on stepping up collaboration and access to knowledge and finance for adaptation to ocean and climate change.

- **7-8 June 2025: Blue Economy and Finance Forum (Monaco)**

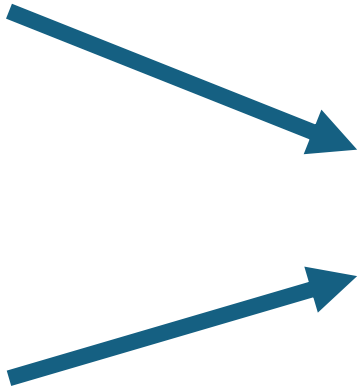
  Organized by Monaco, the Blue Economy and Finance Forum will seek to bring on board Heads of State and Government, business, finance and civil society to invest significantly in the blue economy and sustainable shipping, and to propose innovative blue financing tools.

Convergence 2026!!

SCS-SAP Regional Focus:

- **Regional Working Groups (RWGs)**
- **Regional Scientific and Technical Committee (RSTC)**
- **TDA and SAP processes**

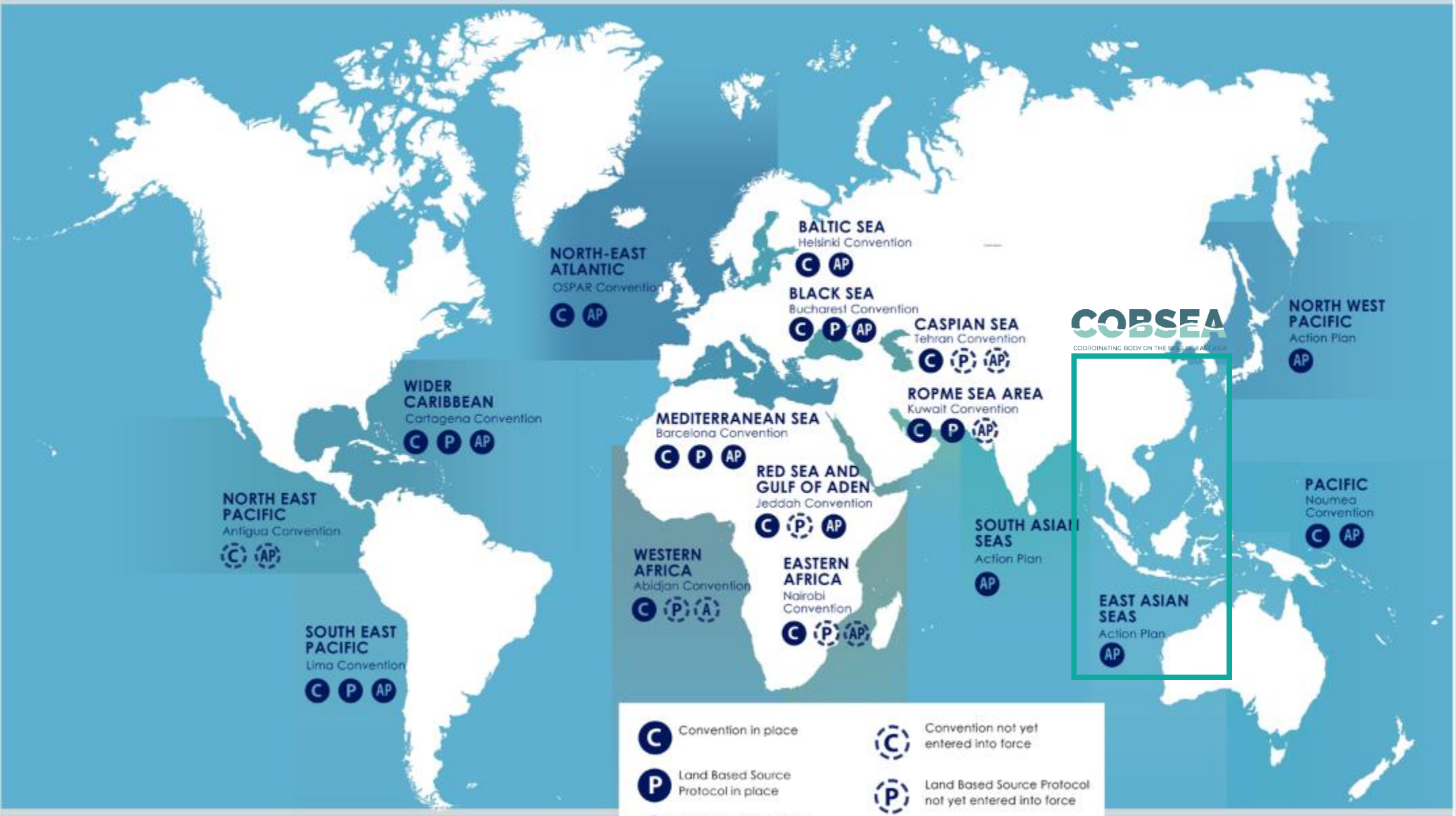
- **Options Paper for Regional Cooperation**



COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA

2024 ——— **2026**

REGIONAL SEAS PROGRAMMES



UN environment programme

Regional SEAS

14 LIFE BELOW WATER