

10th meeting of the Working Group of the Parties to the Protocol on PRTRs

27-28 November 2023

Item 5: Subregional and national activities: achievements, needs and challenges



**Mediterranean
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Mediterranean Action Plan (MAP)

The Mediterranean Action Plan (MAP)—Barcelona Convention System works with Contracting Parties and partners to fulfill the vision of a healthy Mediterranean Sea and Coast that underpin sustainable development in the region.

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MAP was established in 1975 as a multilateral environmental agreement in the context of the Regional Seas Programme of the United Nations Environment Programme (UNEP). Mediterranean countries and the European Community approved MAP as the institutional framework for cooperation in addressing common challenges of marine environmental degradation.

Under the auspices of UNEP/MAP, a framework convention dedicated to the Protection of the Mediterranean Sea against Pollution was adopted in 1976 and amended two decades later to encompass the key concepts adopted at the landmark 1992 Rio Conference and to include coasts in its scope. The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) was adopted in 1995.

UNEP/MAP and the Contracting Parties to the Barcelona Convention – 21 Mediterranean countries and the European Union – have progressively erected a uniquely comprehensive institutional, legal, and implementing framework integrating essential building blocks for sustainability in the Mediterranean.



Biennium 2020-2021: Update of Legal Framework, endorsed by COP 22, Antalya, Turkiye (December 2021)

Decision IG.25/8: Regional Plans on Urban Wastewater Treatment and Sewage Sludge Management in the Framework of Article 15 of the LBS

Decision IG.25/5: Amendments to Annexes I, II and IV to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (LBS Protocol)

The Regional Plan on UWWT is regulating the **collection, treatment, reuse and discharge of urban wastewaters** and the pre-treatment and **discharge of industrial wastewater entering collecting systems** from certain industrial sectors.

The Regional Plan on Sludge is to ensure effective reuse of beneficial substances and exploitation of energy potential of sewage sludge, while preventing harmful effects on human health and the environment

19. Agriculture;
20. Animal husbandry **including animal slaughterhouses and animal by-products industries;**
21. Food processing;
22. Aquaculture **and fishing;**
23. Treatment and disposal of hazardous wastes;
24. Treatment and disposal **of urban** wastewater;
25. Management, **including treatment and disposal,** of urban solid waste;
26. Disposal of sewage sludge;
27. The waste management industry;
28. Incineration of waste and management of its residues;
29. Works which cause physical alteration of the natural state of the coastline **including physical restructuring of rivers, coastline or seabed (water management);**
30. Transport;
31. **Construction;**
32. **Water collection and supply including desalination of seawater.**
33. **Mixed industrial zones including at least one of the above sectors.**

Biennium 2020-2021: Capacity Building

Meeting on Evaluation of Implementation of National Action Plans and Assessments, and Tools to estimate pollutant load from diffuse sources, (Videoconference, 22-23 April 2021)

One of objectives of this meeting was to : review and approve **the proposed estimation techniques for loads from agriculture, catchment runoff, and aquaculture** aiming to complement the NBB/PRTR Methodology;

MED POL FPs approved the documents (Videoconference, 6-7 October 2021)

The Meeting **approved the document and recommended the use of the Guidelines** for the preparation of the 5th Cycle of NBB update for the biennium 2024-2025.

The Meeting further recommended support two volunteering Contracting Parties to test the guidelines.

Morocco and Israel have volunteered the biggening of this Biennium (2022-2023) for Aquaculture and Agriculture respectively



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30 August 2021
Original: English

Meeting of the MED POL Focal Points

Teleconference, 27-28 May and 6-7 October 2021

Agenda item 13: Common methodologies on estimation techniques for the National Baseline Budget (NBB) of pollutants related to:

- a) Non-point source releases from agriculture
- b) Point source releases from aquaculture
- c) Non-point source releases from catchment runoffs

Guideline on estimation techniques and applied methodologies for non-point source releases from agriculture



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<https://www.unep.org/unepmap/meetings/se-arch-meeting-documents>

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Summary of (chosen) pollutants originating from agriculture non-point (diffuse) sources

Sources		Process	Pollutants		
Sector	Subsector		air	water	land
Agriculture	Other from crop production non-point (diffuse) sources	Biomass burning	<i>CO₂, CH₄, N₂O, NH₃, NO_x, volatile organic compounds (VOCs)</i>	BOD, TC or COD, TSS, nutrients	BOD, TC or COD, TSS, nutrients
		Fertilizer application	Air emissions from the equipment including <i>NH₃, NO_x, CO₂</i>	N, P and potassium (K), sulfur (S), magnesium (Mg), calcium (Ca), zinc (Zn), copper (Cu)	N, P, K, S, Mg, Ca, Zn, Cu
		Pesticide application	<i>Air emissions</i> from the equipment	Various insecticides, herbicides, rodenticides, and fungicides.	Various insecticides, herbicides, rodenticides, and fungicides.
		Manure spreading and land application	<i>Air emissions</i> from the equipment and from the soil	N, P, minerals, emerging contaminants (veterinary antibiotics)	N, P, minerals, emerging contaminants (veterinary antibiotics)

From - Guideline on estimation techniques and applied methodologies for non-point source releases from agriculture (UNEP/MED WG.509/35)

Processes and Selected Pollutants (NBB)

Sector in accordance with: LBS, Annex I

NBB classifications – sub-sectors

The processes selected for estimation are:

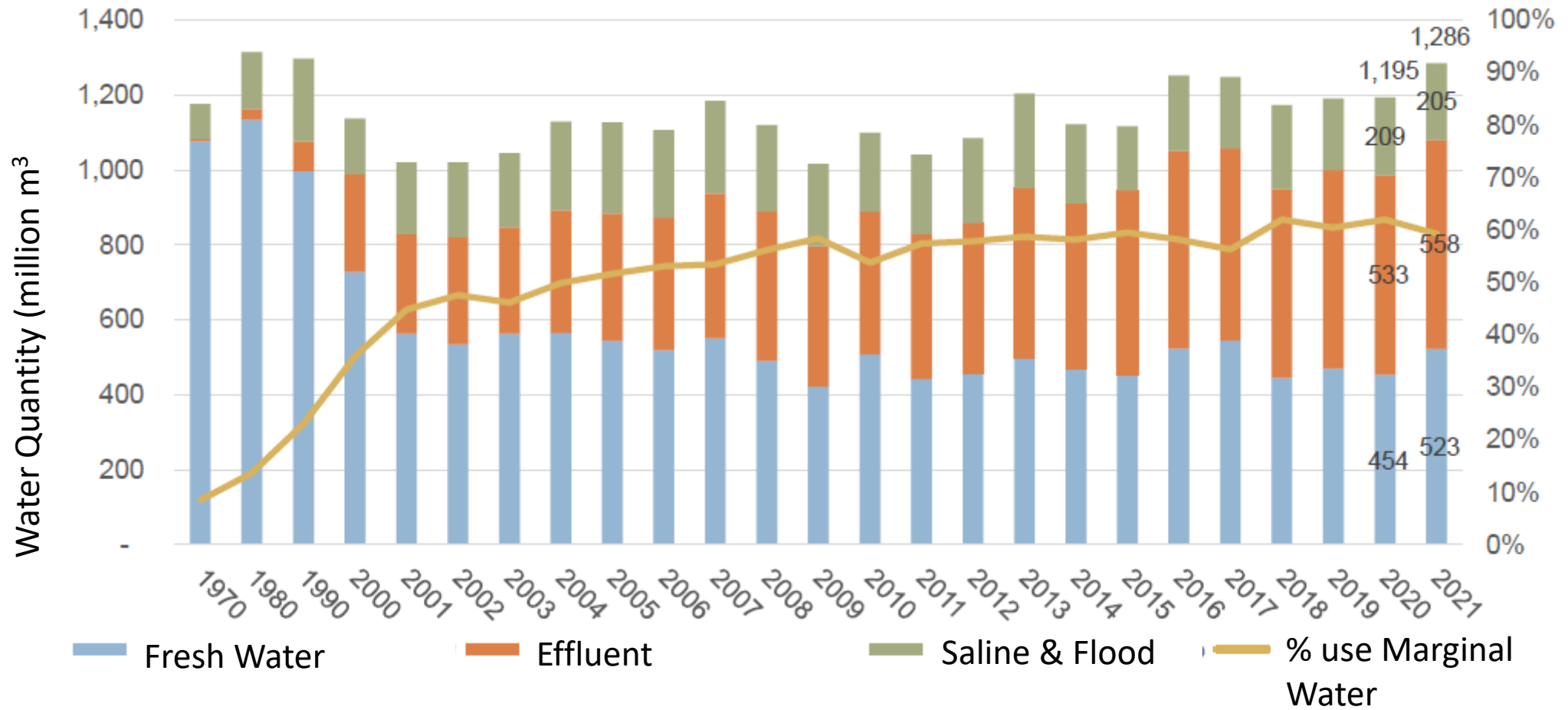
- **Manure** spreading and land application of
 - **Cattle** – Dairy, Feed-lot & pasture cows for meat
 - **Poultry** – Laying hens, Broilers, Turkeys
 - **Sheep and Goats** – for milk & meat
- **Municipal Sewage Sludge land application**
- **Application of Municipal Treated Wastewater** (**Effluent water**) for irrigation.
- **Application of fertilizer**

Loading of pollutants can be a result of application of organic matter directly to the land or via irrigation water

Selected Pollutants:

- **Major Plant Nutrients:** Nitrogen, Phosphorus, Potassium,
- **Salts** - Sodium, Chloride, Boron

Water Use in Agriculture– Fresh, Effluent, Saline & Flood



Challenges and Limitations of NBB data

- **Data collection**

- Accuracy, availability and verification (cross-data between different sources).
- Additional pollutants and sources data – pesticides, medicines, micropollutants, microplastics, (in wastewater and manure), burning of agricultural waste (especially biomass & plastics),

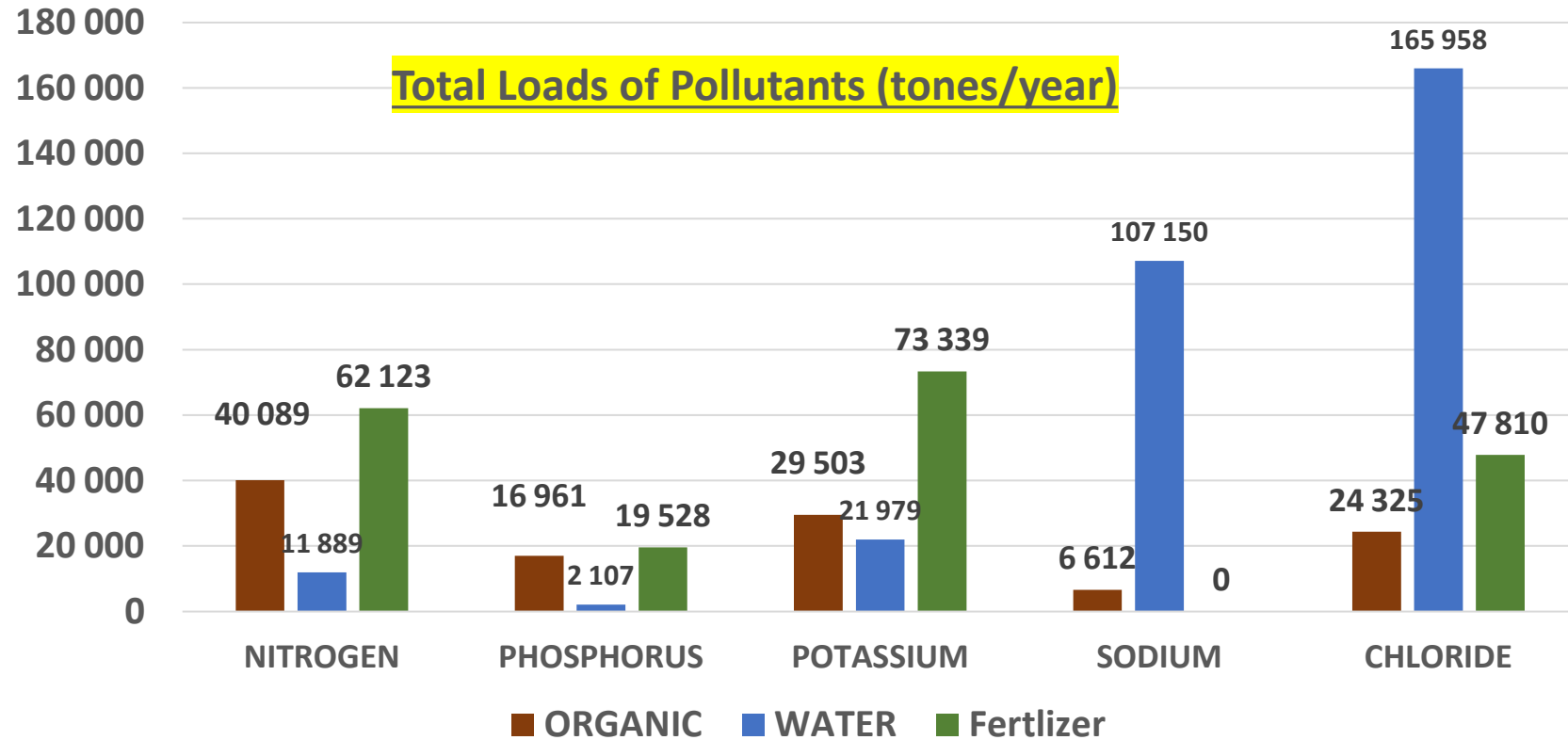
- **Selecting emission coefficients**

- Manures – estimation (International EFs)
- Sludge and effluent – actual measurements (National measured data-average)
- Fertilizers – recommended land application by the experts (National legislations)

Available preliminary data was used, data verifications will be needed for results from relevant National Authority

Work is ongoing

Application to land of : organic matter, irrigation with treated wastewater & fertilizer



Total		114,101	38,596	124,821	113,762	238,093
kg/hectare calculated		321	108	351	320	669
kg/hectare - Limit		250	60-100	300-500	900	1,500

Preliminary Findings

- **Fertilizers** are the main contributors of Nitrogen and Potassium despite using the wastewater and organic matter
- **Irrigation waters** (fresh water + treated wastewater + Shafdan, WWTP) are the main input of Sodium and Chloride
- **Manure and Fertilizers** are supplying the Phosphorus at similar rates
- **Chloride is** the foremost problematic pollutant which might cause ground and surface water pollution and raise the salinity of the soil. Especially when using the treated wastewater –
- **Sodium** is also a major pollutant which might damage the soil structure (SAR).

Thank you

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