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Agenda item 4: Regional Plans on agriculture, aquaculture and stormwater management

Final Draft Regional Plan on Stormwater Management in the Mediterranean

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Note by the Secretariat

In line with Decision IG.25/19 on the Programme of Work and Budget for the biennium 2022-2023 (COP22, Antalya, Türkiye, 7-10 December 2021), that mandated MED POL to develop new regulatory measures in line with Article 15 of the LBS Protocol, and Decision IG.24/10 (COP21, Naples, Italy, 2-5 December 2019), which called for developing six Regional Plans, including on Stormwater, the Secretariat/MED POL Programme developed a first draft of the Regional Plan on Stormwater Management; herein referred to as the Regional Plan. This first draft of the Regional Plan was submitted for the consideration of the Working Group of Designated Experts on Stormwater Management, nominated by the Contracting Parties.

The Working Group on Stormwater held its First Meeting on 26 October 2022, in Athens, Greece. Further to its deliberations, the Meeting concurred with the articles and related measures of the Regional Plan as proposed by the Secretariat, while incorporating a number of technical modifications and amendments. The Meeting agreed to review the proposed deadlines for implementation of measures, as well as the technical aspects of the related measures with the aim of reflecting national interests and concerns. To this aim, members of the Working Group submitted their comments by December 2022. These comments were elaborated by the Secretariat in the form of amendments in the 2nd draft version of the Regional Plan. The basis for the 2nd draft version of the Regional Plan was the text approved by the First Meeting of the Working Group. This 2nd draft version was sent to the Contracting Parties for their non-objection. MED POL Focal Points were copied.

By end of March 2023, members of the Working Group representing nine (9) Contracting Parties sent to the Secretariat their feedback. These included Cyprus, EU, Italy, Malta, Montenegro, Morocco, Spain, Tunisia and Turkey. The Secretariat evaluated the responses received and prepared a final draft of the Regional Plan. Since only 9 Contracting Parties had reviewed the proposed amendments, the final draft, presented in this document, encompasses all proposed amendments; which are kept in brackets highlighted in [blue typeset]. For each proposed amendment, a footnote is inserted indicating the Contracting Parties which proposed, approved or objected to these amendments. A green typeset is used to indicate to Contracting Parties non-objection, while a red typeset is used to highlight those opposing.

In this document, the Secretariat is submitting the final draft version of the Regional Plan incorporating the proposed amendments by the Contracting Parties. These are placed in brackets for the consideration of the 2nd Meeting of the Working Group on Stormwater to be held back-to-back with the MED POL Focal Points Meeting. Further to the deliberations of the 2nd Meeting of the Working Group, the Secretariat will issue a revised version of this document encompassing only the proposed amendments which remained unresolved for the consideration of the MED POL Focal Points, with the aim of endorsing the final draft version of the Regional Plan for submission to the MAP Focal Points (September 2023) and COP23 (December 2023) for adoption.

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List of Abbreviations / Acronyms

BMP	Best Management Practice
GI	Green infrastructure
LBS	Land Based Sources
LID	Low Impact Development
MED POL	Mediterranean Pollution Control and Assessment Programme
SCM	Stormwater Control Measures
SuDS	Sustainable Urban Drainage System
UNEP/MAP	United Nations Environment Programme /Mediterranean Action Plan

Final Draft

Regional Plan on Stormwater Management in the Mediterranean

ARTICLE I

Definition of Terms

For the purpose of this Regional Plan on Stormwater Management; hereinafter referred to as the “Regional Plan”:

- a. "Best Management Practices (BMP)" are physical, structural, and/or managerial practices that, when used singly or in combination, reduce the downstream quality and quantity impacts of stormwater. The term is synonymous with Stormwater Control Measures, Sustainable Drainage System, and Low Impact Development (LID).
- b. "Green Infrastructure (GI)" is the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters.
- c. "Low Impact Development (LID)" refers to the development of a site while maintaining as much of its natural hydrology as possible, such as infiltration, frequency and volume of discharges, and groundwater recharge.
- d. "Nonstructural Stormwater Control Measures" are best management practices that rely on natural measures to reduce flow of stormwater and pollution levels; as such, they do not require extensive construction efforts and do promote pollutants reduction by eliminating the pollutants sources.
- e. "Stormwater" is the portion of precipitation [produced after a heavy rainfall or snowfall]¹ that does not naturally percolate into the ground or evaporate, but flows via rooftops, paved streets, highways, parking lots, overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.
- f. "Stormwater Collection System" is a collection of structures, including retention basins, ditches, roadside inlets and underground pipes, designed to gather stormwater from built-up areas and discharge it, with or without treatment, into local water bodies, e.g. streams, rivers, coastal waters.
- g. "Structural Stormwater Control Measures" are best management practices that rely on the construction and operation of infrastructure and facilities to control the downstream quantity and quality of urban stormwater.
- h. "Urban runoff" means rainwater and snow melt [which can reduce the quality of surface and groundwater]² from agglomerations collected by combined or separate sewers.

¹ Proposal by Tunisia; accepted by Montenegro and objected to by Cyprus, EU, Italy, Malta, Morocco, Spain, Turkey. In the Secretariat's opinion, this addition does not clarify the definition any further.

² Proposal by Tunisia; accepted by Italy, Montenegro and Morocco and objected to by Cyprus, EU, Malta, Spain, Turkey. In the Secretariat's opinion, this statement is not entirely correct; e.g. if groundwater is contaminated, for example.

ARTICLE II

Scope and Objective

1. The area to which the Regional Plan applies is the area defined in accordance with Article 3 of the LBS Protocol, consisting of the Mediterranean Sea Area as defined in Article 1 of the Convention; the hydrologic basin of the Mediterranean Sea Area; waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit; brackish waters, coastal salt waters including marshes and coastal lagoons; and ground waters communicating with the Mediterranean Sea.
2. The Regional Plan shall apply to the management of urban stormwater in urban agglomerations situated in coastal areas or hydrologic basins discharging to the Mediterranean Sea.
3. The objective of the Regional Plan is to control stormwater runoff and to prevent and significantly reduce inputs of pollutants and other waste into receiving waters.

ARTICLE III

Preservation of Rights

4. The provisions of this Regional Plan shall be without prejudice to stricter provisions respecting the management of urban stormwater contained in other existing or future national, regional or international instruments or programs.

ARTICLE IV

Guiding Principles

5. Regional Plan measures are formulated with the aim of addressing the following principles:
 - a) Integrated Stormwater Management incorporates urban stormwater planning into wider urban planning practices and city design schemes.
 - b) Increased urban stormwater runoff volumes play a major role in harming species' habitat, polluting sensitive potable water sources, degrading water streams, rivers, lakes, and other waterbodies in urban areas, as well as impacting recreational uses.
 - c) Control measures for stormwater runoff are best planned in the early phases of development of new urban areas to be implemented near the source of pollution of new or existing urban development areas.
 - d) Integrated stormwater management should be adopted in the context of adaptation measures to address climate change and to mitigate the impacts of extreme hydrological events.

ARTICLE V Measures

I. Regulatory Framework for Integrated Stormwater Management

6. By [2026-2029],³ the Contracting Parties shall establish a regulatory framework to reduce stormwater runoff volume and peak flows as well as address related pollution aspects. To this aim, the Contracting Parties shall, [as appropriate]:⁴
- a) Develop stormwater management plans that include nonstructural and structural stormwater control measures [covering as appropriate]⁵ further to the items mentioned in Annex I.
 - b) Ensure that stormwater and other wastewater discharge plans, (in case of combined stormwater and sewage collection systems), are based on drainage boundaries instead of administrative boundaries.
 - c) Regulate future land use development while maintaining as much of its natural hydrology in order to minimize stormwater runoff, increase its infiltration, [and harvest rainwater for domestic, industrial and other uses]⁶ (e.g. Sustainable Drainage Systems; Low Impact Development, etc.)
 - d) Identify and control products and sources that contribute pollutants through stormwater.
 - e) Establish monitoring programmes for recipient water (e.g. lakes, water streams, groundwater, etc.), [as appropriate]⁷ in order to undertake the appropriate mitigation measures.

II. Implementation of Urban Stormwater Control Measures

7. By [2029-2032],⁸ the Contracting Parties shall implement the approved stormwater management plans further to the selection of applicable nonstructural and structural control measures stipulated under the applicable guiding elements provided in Annex I. To this aim, the Contracting Parties shall [consider the following elements for inclusion in stormwater management plans, as appropriate]:⁹
- a) Construct separate networks for collection of municipal wastewaters (blackwater from toilets, greywater and industrial wastewater) and urban runoff (rainwater and stormwater) in *newly developed residential, commercial and industrial areas*.

³ Malta proposes 2029; EU 2026; Italy 2030 (in accordance with the proposal for revision the Urban Wastewater Treatment Directive); Malta 2029, Montenegro 2026 to 2029, Tunisia 2026-2029.

⁴ Proposal of Morocco; accepted by Cyprus, Italy, Malta, Morocco, Turkey, Tunisia and objected to by EU, Spain.

⁵ Secretariat proposes to delete “as appropriate” from point (a) as the term is included in point 6 covering all subclauses (a) to (e). Proposal accepted by Cyprus, EU, Italy, Malta, Montenegro, Morocco, Tunisia, Turkey. Objected to by Spain.

⁶ Proposal by Tunisia. Proposal accepted by Cyprus, EU, Italy, Malta, Montenegro, Morocco, Turkey, Spain.

⁷ Secretariat proposes to delete “as appropriate” from point (e) as the term is included in point 6 covering all subclauses (a) to (e). Proposal accepted by Cyprus, EU, Italy, Malta, Montenegro, Morocco, Tunisia, Turkey, Spain.

⁸ Cyprus proposes 2032. EU 2030. Italy 2032. Malta 2032, Montenegro 2029 to 2035.

⁹ Proposal accepted by Cyprus, EU, Italy, Malta, Morocco, Tunisia, Turkey and objected to by Spain requesting measures to be mandatory and not as appropriate.

- b) Implement Green Infrastructure (GI) that complements the piped networks in *existing urban areas serviced with separate stormwater collection systems* and Best Management Practices (BMP) in newly developed areas as indicated in Annex I.
- c) Reduce the adverse impacts of untreated stormwater overflows discharging from *existing combined collection systems* of rainwater or snow melt, domestic sewage, and industrial wastewater in the same pipe with a focus on the following measures:
 - i. Installing stormwater treatment units,¹⁰ in domestic, touristic and industrial areas, [\[to capture, collect and treat the first storm flows \(first flow\) with heavy pollution loads in order\]](#)¹¹ to ensure the adequate capacity of the system for absorption of the peak flow during intense rain events;
 - ii. De-connecting impervious areas from combined sewer systems; and
 - iii. Applying Green Infrastructure (GI) where possible to reduce [\[and recover\]](#)¹² stormwater flows as indicated in Annex I.

III. Operation and Maintenance of Urban Stormwater Systems

8. By [\[2026-2029\]](#),¹³ the Contracting Parties shall implement adequate seasonal maintenance of stormwater collection systems to ensure their efficient functioning and prevent any overflow flooding or pollution. To this aim, the Contracting Parties shall at least implement the following measures:
- a) Maintain an updated inventory list on [\[storm water infrastructure and sources of pollution and archive them in a dynamic alpha-numeric database including\]](#)¹⁴ the locations and functional conditions of overflow structures; as well as sewage storage capacity structures in order to acquire a better understanding of the occurrence of stormwater overflows and their impacts on the quality of receiving water bodies, including potential future issues due to climate change.
 - b) Plan and implement regular road maintenance, street sweeping, storm-drain maintenance, stormwater hotline response, and landscape and park maintenance.

¹⁰ Proposal of Tunisia to include the following footnote. Accepted by Montenegro, Spain. Objected to by Cyprus, EU, Italy, Malta, Turkey. In the Secretariat's opinion, this explanation is not necessary for the purpose of the Regional Plan.

[Decanting is an effective way to combat chronic rainwater pollution. It can be implemented, preferably, before the passage of water in rainwater infrastructures to limit clogging and to concentrate the sediments and pollutants in a place which provides ease of access and maintenance and will not disperse throughout the stormwater infrastructure].

¹¹ Proposal of Tunisia; accepted by Montenegro, Morocco, Spain. Objected to by Cyprus, EU, Italy, Malta, Turkey. In the Secretariat's opinion, this is the role of treatment units. Explanation is not needed.

¹² Proposal of Tunisia. Accepted by Cyprus, EU, Italy, Malta, Montenegro, Morocco, Spain, Tunisia, Turkey.

¹³ Cyprus proposes 2029. EU 2026. Italy proposes 2029, Malta 2029, Montenegro 2026 to 2029, Tunisia 2026-2032, Turkey 2026-2032.

¹⁴ Proposal by Tunisia. Accepted by EU, Montenegro, Spain. Objected to by Cyprus, Italy, Malta, Turkey. Secretariat is of the opinion that the regional plan should not contain measures on how to implement. It should be limited to what is to be implemented. Therefore, this additional text is not necessary.

- c) Perform regular monitoring of [~~quantity and quality~~] stormwater at key urban stormwater structures (e.g. continuous, flow-weighted sampling methods which require flow and water quality data) [~~with the aim of setting thresholds on the quantity and quality of stormwater into recipient water taking into account national water standards and regulations.~~] ¹⁵

ARTICLE VI

Technical Assistance, Transfer of Technology and Capacity Building

9. For the purpose of facilitating the effective implementation of Article V of this Regional Plan, the Contracting Parties collaborate to implement, exchange and share Best Management Practices for application of the stormwater control measures contained in Annex I of this Regional Plan, directly or with the support of the Secretariat. To this aim, the Contracting Parties also collaborate in developing common stormwater best practices guidelines.

ARTICLE VII

Timetable for Implementation

10. The Contracting Parties shall implement the measures included in this Regional Plan as per the timelines associated with these measures.

ARTICLE VIII

Reporting

11. The Contracting Parties shall report on implementation of measures stipulated in this Regional Plan in line with the reporting requirement and timelines provided in Article 26 of the Convention and Article 13, paragraph 2(d) of the LBS Protocol.

ARTICLE IX

Entry into Force

12. The present Regional Plan shall enter into force and become binding on the 180th day following the day of notification by the Secretariat in accordance with Article 15, paragraphs 3 and 4, of the LBS Protocol.

¹⁵ Cyprus requested to maintain brackets for further review. Italy, Malta, Montenegro, Morocco, Spain and Turkey are against the setting of quantitative and qualitative thresholds. EU is opposed to removing them. Secretariat is of the opinion that setting thresholds is very complicated and a severe measure in the case of Stormwater. It should be deleted.

ANNEX I

Guiding Elements for Best Management Practices including Structural and Nonstructural Urban Stormwater Control Measures for Implementing Article V on Measures

With the view to implementing Article V on structural and nonstructural control measures to be considered for preventing, reducing and treating stormwater flows, as well as slowing and holding back stormwater that runs off from sites, the following guiding elements shall apply, as appropriate:

Description of Control Measure	Type of Measure	Aim of Control Measure	Implementation Stage
Watershed and land use planning	Non-Structural	Minimize impervious areas	Planning
Conservation of natural areas	Non-Structural	Maintain the predevelopment hydrology of a site	Site Planning/ Preconstruction
Earthwork minimization	Non-Structural	Limit the degree of clearing to prevent soil compaction, prevent erosion from steep slopes	Grading stage/ Preconstruction
Erosion and sediment control	Structural & Non-Structural	Temporary practices to minimize soil erosion and prevent off-site delivery of sediment	Construction
Reforestation and soil conservation	Non-Structural	Improve the quality of native vegetation and soils present at the site	Site planning/ Preconstruction
Pollution prevention	Non-Structural	Prevent contact of stormwater runoff with pollutants natural and anthropogenic (e.g. from volcanic ashes, gas stations, outdoor storage of materials, informal dump sites, etc.)	Planning
Rainwater harvesting (GI) ⁺	Structural	Reduce runoff volume from rooftops in rain barrels, tanks or cisterns	Post Construction/ Retrofit
Bioswales, vegetated areas (GI)	Structural	Reduce runoff volume and improve quality through infiltration and evapotranspiration via vegetation	Post Construction/ Retrofit
Subsurface volume reduction (GI)	Structural	Reduce runoff through infiltration via pervious pavement, infiltration trenches, seepage pits, etc.	Post Construction/ Retrofit
Peak reduction and runoff treatment (GI)	Structural	Hold a volume of stormwater for an extended time in detention/retention basins, wetlands, lagoons, etc.	Post Construction
Aquatic buffers and managed floodplains	Non-Structural	Reserve a vegetated zone adjacent to streams, shorelines, or wetlands	Planning/ Construction/ Post Construction
Water stream rehabilitation	Structural	Stabilize streambanks and/or prevent channel incision/ enlargement to reduce downstream delivery of sediments and attached nutrients from urban agglomerations	Post construction/ Post development

⁺ GI: Green Infrastructure

Description of Control Measure	Type of Measure	Aim of Control Measure	Implementation Stage
Municipal housekeeping	Non-Structural	Provide source treatment of pollutants before they enter the storm-drain system like street sweeping and sediment cleanouts of sumps and storm-drain inlets	Post construction/ Post development
Snow management	Non-Structural	Removal, slipperiness control, transport, and dumping	Post construction/ Post development
Detection and elimination of illicit discharge	Non-Structural	Prevent pollutants from illegal cross-connections from introducing into the storm-drain system due to spills, leaks etc.	Post construction/ Post development
Stormwater Education	Non-Structural	Municipal efforts to make sure individuals understand how their actions and behaviors can influence water quality.	Post development
Residential Stewardship	Non-Structural	Municipal programs to enhance residential practices that can reduce the volume or improve the quality of runoff produced on their property (e.g. installing rain barrels or rain gardens, downspout disconnection, storm-drain marking, waste pickups, and yard waste composting).	Post construction/ Post development