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Final Draft Regional Plan on Aquaculture 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 Aquaculture, the Secretariat/MED POL Programme developed a first draft of the Regional Plan on Aquaculture 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 Aquaculture Management, nominated by the Contracting Parties.

The Working Group on Aquaculture 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 several technical modifications and amendments. The Meeting agreed to review the proposed deadlines for implementation of measures, as well as the technical aspects of the guiding elements included in the annexes to the Regional Plan 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, only three (3) Contracting Parties sent to the Secretariat their feedback. These were Italy, Malta and Spain which addressed only Articles I and II. The Secretariat evaluated the responses received and prepared a final draft of the Regional Plan, presented in this document. The final draft 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. In this regard, it should be noted that most comments were provided by Italy.

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 Aquaculture 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

EAA	Ecosystem Approach to Aquaculture
EQS	Environmental Quality Standards
GES	Good Environmental Status
IAS	Invasive Alien Species
IMTA	Integrated Multi-trophic Aquaculture
LBS	Land Based Sources
MSP	Maritime Spatial Planning
SQS	Sediment Quality Standards
UNEP/MAP	United Nations Environment Programme /Mediterranean Action Plan
WQS	Water Quality Standards
WSN	Wireless Sensor Networks

Final Draft Regional Plan on Aquaculture Management in the Mediterranean

ARTICLE I Definition of Terms

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

- a. ["Allocated Zones for Aquaculture (AZA)" are specific areas dedicated to aquaculture activities, where any future development thereof and their identification shall be based on the best social, economic and environmental information available in order to prevent conflicts among different users for increased competitiveness, sharing costs and services and to protect and assure investments done.]¹
- b. ["Allowable zone of effect (AZE) " is the area of seabed or volume of the receiving water body in which competent authority allows the use of specific EQSs for aquaculture, without irreversibly compromising the basic environmental services provided by the ecosystem.]²
- c. "Aquaculture" is the farming of aquatic organisms including fish, mollusks, crustaceans, and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of the stock being cultivated.
- d. "Biofloc Technology" is a technique using a variety of micro-organisms to enhance water quality in aquaculture through balancing carbon and nitrogen in the system with the added value of producing proteinaceous feed in situ.
- e. "Climate-Smart Aquaculture" is aquaculture that sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation), and enhances the achievement of national food security and development goals.
- f. "Ecosystem Approach to Aquaculture" strategy for the integration of the activity within the wider ecosystem such that it promotes sustainable development, equity, and resilience of interlinked social-ecological systems.
- g. ["Escapes" are accidental events of cultured organisms breaking free from the confinement cage due to operational or technical failures of an aquaculture facility.]³
- h. "Extractive species" are aquatic organisms from the lower levels of the food web that do not need to be fed – instead they use needed nutrients directly from the aquatic ecosystems.⁴

¹ Proposal by Italy; accepted by Malta and Spain.

² Proposal by Secretariat at the request of the 1st Working Group Meeting; accepted by Italy, Malta and Spain.

³ Proposal by Secretariat at the request of the 1st Working Group Meeting; accepted by Malta and Spain; with objection of Italy requesting revision of definition because escapees do not only occur in cages but also in tanks in land-based facilities; noting that the emission of eggs in fish kept in confined cages or tanks should be also considered.

⁴ Alternative proposal by Italy: "*Marine extractive species*" include a large variety of species, which can be subdivided into three main groups among animals and algae: (1) filter feeders, such as oysters and mussels, (2) deposit feeders, such as polychaetas, sea urchins and sea cucumbers, as well as (3) dissolved nutrient absorbers, such as microalgae and macroalgae."

- i. ["Framework conditions" are related to creation of knowledge, market conditions, access to finance, regulations and support mechanisms.]⁵
- j. ["Harmful species" are species causing or tending to cause harm to human activities/health or local ecosystems and biodiversity.]⁶
- k. "Integrated multi-trophic aquaculture" is a type of aquaculture that combines in a single farm area different species from various trophic levels, such as fish, seaweed and shellfish, [as well as sea urchin, sea cucumber, polychaetas often used in IMTA].⁷ These extractive species [such as seaweed and shellfish] use the wastes from finfish, such as organic matter and nutrients from uneaten feed and fish faeces; thus, providing ecosystem functions by limiting the impact of pollutants.
- l. "[Invasive]⁸ Alien Species" are species or subspecies of aquatic organism occurring outside its known natural range and the area of its natural dispersal potential.
- m. "Maritime Spatial Planning" is the process by which countries analyze and organize human activities in marine areas to achieve ecological, economic and social objectives.
- n. ["Mixing zones" are defined portions of the water body in the vicinity of discharge points where wastewater discharge undergoes initial dilution, and where the priority substances exceed the relevant EQS values. Water immediately outside the permitted mixing zone is required to meet all water quality criteria.]⁹
- o. ["Pollutants" are substances present in concentration that may be harmful to the quality of aquatic or terrestrial ecosystems and human health.]¹⁰
- p. "Recirculating aquaculture systems" are land-based aquaculture facilities – either open air or indoors – that minimize water consumption achieving high rates of water re-use by mechanical, biological and chemical filtration, allowing the control of culture conditions and [nutrient]¹¹ discharge.

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.

⁵ Proposal by Secretariat. Footnote in Paragraph 7(b) moved to Article 1; accepted by Italy, Malta and Spain; with no objections.

⁶ Proposal by Secretariat at the request of the 1st Working Group Meeting; accepted by Italy, Malta and Spain; with no objections.

⁷ Proposal of Italy for the consideration of the Meeting.

⁸ Proposal by Secretariat; accepted by Malta and Spain; with objection from Italy proposing to keep the definition of "Alien Species," according to the art. 3 of Reg. 708/2007/EC as is, and to add also the definition of "Invasive alien species" as reported at art. 3 of Reg 1143/2014/EU as "Alien species whose introduction or spread has been found to threaten or adversely impact upon biodiversity and related ecosystem services."

⁹ Proposal of Malta; accepted by Italy and Spain; with no objections.

¹⁰ Proposal by Secretariat at the request of the 1st Working Group Meeting; accepted by Italy, Malta and Spain; with no objections.

¹¹ Proposed to delete by Italy as discharge refers not only to nutrients but also to many other compounds, such as metabolites, chemicals, chemotherapeutants, etc.

2. The Regional Plan shall apply to the aquaculture sector activities in the coastal regions or hydrologic basins discharging pollutants into the Mediterranean Sea.
3. The objective of the Regional Plan is to ensure that aquaculture sector activities are sustainable and are managed in a way such as to minimize pollution and potential ecological effects.

ARTICLE III **Preservation of Rights**

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

ARTICLE IV **Guiding Principles**

5. The Regional Plan measures are formulated in line with the following principles:
 - a) Aquaculture development and management should take into account the full range of ecosystem functions and services; reduce the likelihood of local biodiversity loss and pollution of the environment; and should not threaten their sustained delivery to society.
 - b) Aquaculture should improve human well-being and equity for all relevant stakeholders and takers.
 - c) Aquaculture should be developed in the context of other sectors, policies and goals.

ARTICLE V **Measures**

- I. Regulatory and Institutional Frameworks for Operating Aquaculture Facilities
6. By [2026],¹² the Contracting Parties shall establish a regulatory framework that sets the operational requirements to be met by aquaculture facilities as a precondition to operate. For the purpose of this Regional Plan, the requirements shall address capabilities, processes to control pollution and performance measurement. The requirements shall be updated, when necessary, to reflect changes in local environmental conditions (e.g. drought, flooding, increasing temperatures, eutrophication, local pollution, hypoxia and anoxia, etc.), as well as recent developments of new innovations in the basal technology of aquaculture operations.
7. By [2026],¹³ the Contracting Parties shall establish institutional structures and take measures to:
 - a) Enforce, as appropriate, the adopted operational requirements addressing the pollution control aspects of paragraph 6.
 - b) Provide the framework conditions to encourage aquaculture facilities to adapt their operations further to new innovations and technological developments.

¹² Proposal by Secretariat.

¹³ Proposal by Secretariat.

II. [Implementation of Measures in line with Good Management Practices of Aquaculture]¹⁴

8. By [2028],¹⁵ the Contracting Parties shall take measures to ensure that aquaculture facilities have established operational processes and acquired equipment and instrumentation in order to:
- a) Control and reduce the release of potentially detrimental substances to the marine environment further to the relevant list of substances under Annex I.C of the LBS Protocol.¹⁶
 - b) Implement measures to minimize elevations of levels of pollutants in the water column and sediments in accordance with the guiding elements provided in Annex I.A for land-based aquaculture and Annex I.B for sea-based aquaculture.

III. Implementation of Measures Contributing to Sustainable Aquaculture

9. By [____],¹⁷ the Contracting Parties shall regulate the significant aspects of aquaculture processes that promote the sustainability of aquaculture in terms of fostering responsible, economically viable, environmentally sustainable, climate smart aquaculture [(CSA)] that do not create significant pollution impact causing disruption to the ecosystem and ~~cause the~~¹⁸ loss of biodiversity at local scale, i.e. in the influence areas of operations. To this aim, the guiding elements included in Annex II.A for land-based aquaculture and Annex II.B for sea-based aquaculture shall be considered for inclusion in the aforesaid regulatory framework, as appropriate.
10. By [____],¹⁹ the Contracting Parties shall implement measures promoting responsible, economically viable, environmentally sustainable, climate smart aquaculture as per the regulated aspects of Paragraph 9.

IV. Implementation of Measures Contributing to Reduction of Plastics from Aquaculture]

11. By [____],²⁰ the Contracting Parties shall regulate key aspects contributing to the generation of plastic waste from aquaculture activities in the context of sustainable ~~consumption and~~ production, ~~as well as processing along the value chain]~~²¹ and circular economy. ~~To this aim, guiding elements to be considered for inclusion in the regulatory framework are provided in Annex III.]~~²²

ARTICLE VI

Technical Assistance, Transfer of Technology and Capacity Building

12. [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 practices on management of land-based and sea-based aquaculture, directly or with the support of the

¹⁴ Proposal by Italy to reverse order of sub-Articles II and III as regulation comes first and then comes implementation of measures.

¹⁵ Proposal by Secretariat.

¹⁶ Relevant pollutants for the aquaculture facilities to be defined also based on IMAP Ecological Objectives 5 and 9 and relevant common indicators

¹⁷ Proposal of 2026 by Italy; and 2028 by Malta.

¹⁸ Proposal by Secretariat.

¹⁹ Proposal of 2026 by Italy; and 2028 by Malta.

²⁰ Proposal of 2028 by Malta.

²¹ Proposal by Italy.

²² Proposal by Italy to delete Annex III and to incorporate the issue of plastic waste as an additional point in both Annexes II.A and II.B (see footnote in title of Annex III)

Secretariat. To this aim, the Contracting Parties also collaborate in preparing and implementing common technical guidelines.]²³

ARTICLE VII
Timetable for Implementation

13. [The Contracting Parties shall implement the measures included in this Regional Plan as per the timelines associated with these measures.]²⁴

ARTICLE VIII
Reporting

14. [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.]²⁵

ARTICLE IX
Entry into Force

15. [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.]²⁶

²³ Proposal by Secretariat similar to other Regional Plans.

²⁴ Proposal by Secretariat similar to other Regional Plans.

²⁵ Proposal by Secretariat similar to other Regional Plans.

²⁶ Proposal by Secretariat similar to other Regional Plans.

ANNEX I.A

Guiding Elements for Control and Reduction of Pollution from Land-Based Aquaculture Facilities for implementing Article V on Measures

With the view to implementing Article V.8(a) on control and reduction of release of substances from intensive aquaculture facilities, the following guiding elements shall ~~apply~~ [be considered by the Contracting Parties in the development of the regulatory frameworks, as appropriate, with the provision of justifications, as applicable].²⁷

- a) Based on the findings of an environmental assessment and level of compliance in line with national standards, installation, as appropriate, of wastewater filtration and treatment systems based on mechanical filtration (e.g. settlement ponds, drum filters) and biofiltration technologies to control ~~entry~~ [release]²⁸ pollutants (both of dissolved and solid matter origin) into the recipient waters by reducing the amount per cube meter discharged of pollutants [and to improve abatement measures to reduce solid residues].²⁹
- b) [Recycling/reuse of water from aquaculture activities, as appropriate, based on emerging technologies that minimize water and energy consumption and support the integration of aquaculture and vegetable production.]³⁰
- c) Utilization of fixed/portable certified monitoring devices in order to control water quality [such as temperature, dissolved oxygen, pH and nutrients where appropriate]³¹ and help fish farmers to adopt sustainable feed management practices that can improve feed efficiency and the overall environmental sustainability of the farming operations.
- d) Optimizing effluent discharge systems which may include:
 - i. Installment of pipeline systems.
 - ii. Installment of diffusers [at the end of the pipelines and where possible adopt] effective artificial aeration systems at the end of the pipelines ~~[and pumps]~~.³²
 - iii. ~~[Improved abatement measures to reduce solid residues.]~~³³

²⁷ Proposal by Malta.

²⁸ Proposal by Italy.

²⁹ Proposal by Secretariat.

³⁰ The 1st Working Group Meeting expressed a strong opinion to remove this paragraph for a number of reasons related to non-feasibility to apply the proposed technologies at large scale economically and technically. But at the request of the Secretariat, further reflection/analysis from the Secretariat's side will be provided with a decision to be taken in the 2nd Working Group Meeting.

³¹ Proposal by Secretariat.

³² Proposal by Secretariat.

³³ Proposal to delete by Secretariat as it is covered in point (a).

ANNEX I.B

Guiding Elements for Control and Reduction of Pollution from Sea-Based Aquaculture Facilities for implementing Article V on Measures

With the view to implementing Article V.8(b) on the measures to minimize increase of levels of pollutants in the water column and sediments from intensive aquaculture facilities, the following guiding elements shall [apply] [be considered by the Contracting Parties in the development of the regulatory frameworks, as appropriate, with the provision of justifications, as applicable]:³⁴

- a) Adopt and implement the concept of mixing zone where possible based on a dispersion model further to established Environmental Quality Standards (EQSs), Water Quality Standards (WQS) and Sediment Quality Standards (SQS).
- b) [Employ, where possible, monitoring devices and remote sensing (e.g. satellite imagery)].
- c) [Ensure regular [movement] [rotation]³⁵ of cages in aquaculture sites to avoid development of anoxic zones, if needed.]
- d) Establish a no-activity zone around cages, [where possible,] to protect the wildlife and reduce pollution release [in the area] adjacent to the cages.³⁶
- e) Use new environmentally friendly antifouling agents (TBT-free, preferably also copper free).
- f) Control release of substances through a monitoring design based on the “control versus impact” [experimental] approach of local environmental/ecological conditions, [carried out at least two times per year (one during spring or autumn and the second one during the warm season)] of:³⁷
 - i. Sediments: [total phosphorus, total nitrogen, total organic carbon, grain size structure, redox potential, and/or sulfides, benthic biodiversity composition and structure (species richness, and other biological and ecological indexes currently in use in the environmental monitoring of local conditions at sea);] and ³⁸
 - ii. Water column: [temperature, salinity, pH, dissolved oxygen, total phosphorus, total nitrogen, ammonia, nitrites and nitrates, orthophosphates, suspended solids,] particulate organic matter and chlorophyll-*a*. [etc.]³⁹
- g) [Adopt any possible best practice such as efficient feeding practices, as appropriate, using high digestible feeds, real-time feed monitoring systems to control the distribution of feed in suitable portions, optimize feeding time intervals, improve feed efficiency, and reduce feed waste in discharged waters.]⁴⁰

³⁴ Proposal by Malta.

³⁵ Proposal by Secretariat.

³⁶ Proposal by Malta.

³⁷ Proposal by Secretariat; objection by Italy.

³⁸ Proposal by Italy.

³⁹ Proposal by Italy.

⁴⁰ Proposal by Secretariat; objection by Italy as best practices are only related to feeding and do not consider other relevant aspects, e.g. biosecurity.

ANNEX II.A

Guiding Elements for Environmentally Sustainable Land-Based Aquaculture for implementing Article V on Measures

With the view to implementing Article V.9 on responsible, economically viable, environmentally sustainable, climate smart land-based aquaculture processes, the following guiding elements shall ~~apply~~ [be considered by the Contracting Parties in the development of the regulatory frameworks, as appropriate, with the provision of justifications, as applicable]:⁴¹

- a) [Employment, as appropriate, of integrated multitrophic aquaculture, biofloc technologies and integrated multitrophic recirculating system, as well as parallel farming with extractive species, ~~where possible~~.]⁴²
- b) [Combined use of efficient feeding practices facilities, as appropriate, using real-time feed monitoring systems to control the ~~delivering~~ [distribution] of food in suitable portion and correct intervals to optimize the discharge systems].⁴³
- c) ~~Types of feed that can be used~~ [Utilization of good quality and highly assimilable]⁴⁴ feed, in order to maximize growth, animal health [and welfare], and reduce feed waste and related negative impacts on water quality.⁴⁵
- d) ~~Control rules on use of pharmaceuticals to curb the spread of pathogens to farmed organisms through infected material~~ [Enforcement of control rules on use of pharmaceuticals in order to minimize the risk of antibiotic resistance and potential impacts on ecosystems and at the same time to curb the spread of pathogens to farmed organisms and wild fauna.]⁴⁶
- e) ~~Implementing measures to avoid escapes and reporting severe cases of accidents in order to prevent the introduction of harmful aquatic organisms, including IAS and pathogens.]~~ [Implementation of measures to avoid fish escapes (e.g. site survey, equipment, technical assessment, staff training, etc.)]⁴⁷
- f) Establishment of [Environmental] Monitoring Programmes [(EMP)] of ~~discharges in line with the following arrangements~~ [effluent water quality at high spatial and temporal scale, as appropriate, taking into account acceptable thresholds of pollutants (both dissolved, such as nutrients, and of solid nature)].⁴⁸
- g) [Reporting to environmental authorities on:]
 - i. ~~Monitoring of discharge areas as well as the end of the settlement tank taking into account acceptable thresholds of pollutants (both dissolved, such as nutrients, and of solid nature).~~⁴⁹

⁴¹ Proposal by Malta.

⁴² Proposal by Egypt. Italy requesting information on the amount of production actually coming from IMTA and from other culture systems before expressing objection/non objection to this point. The statements should be based and related on real aquaculture context in the Mediterranean.

⁴³ Proposal by Secretariat; objection by Italy.

⁴⁴ Proposal by Secretariat.

⁴⁵ Proposal by Italy.

⁴⁶ Proposal by Italy.

⁴⁷ Proposal by Secretariat further to inputs by Italy, Cyprus and Egypt (Noting that other aspects of this measure are also covered in point g(ii))

⁴⁸ Proposal by Italy.

⁴⁹ Proposed for deletion by Secretariat as covered in point (f)

- ii. ~~[Continuous monitoring of effluent water quality at high spatial (local scale — e.g. 1–10 m) and temporal (resolution at least 1 hour, better if less) scales using various means such as Wireless Sensor Networks (WSNs) connected to early warning systems based on ecosystem functional thresholds, with the aim of achieving Good Environmental Status (GES) of coastal waters.]⁵⁰~~
- iii. [Lethal incidents of protected species occurred during the farming activity.]⁵¹
- iv. [Severe cases of fish escape events manifested by significant impacts on the ecosystem (e.g. disease transmission, genetic pollution, competition for resources, habitat modifications).]⁵²
- v. [Use of energy and green/renewable energy and the use of natural resources (water and space).]⁵³
- vi. [Use of antibiotic/antiparasitic treatments and fish losses during the farming activity.]⁵⁴

⁵⁰ Proposed for deletion by Secretariat as covered in point (f)

⁵¹ Proposal by Italy.

⁵² Proposal by Italy.

⁵³ Proposal by Italy.

⁵⁴ Proposal by Italy.

ANNEX II.B

Guiding Elements for Environmentally Sustainable Sea-Based Aquaculture for implementing Article V on Measures

With the view to implementing Article V.9 on responsible, economically viable, environmentally sustainable, climate smart sea-based aquaculture processes, the following guiding elements shall ~~apply~~ [be considered by the Contracting Parties in the development of the regulatory frameworks, as appropriate, with the provision of justifications, as applicable].⁵⁵

- a) [~~Identification of Allocated Zones for Aquaculture (AZA)~~] and selection of aquaculture sites on the basis of the Ecosystem Approach to Aquaculture (EAA) and based on the risk of ecosystem tipping points; [~~in order to avoid inducing biodiversity loss, as well as,~~] [also taking into consideration the carrying capacity of the system to avoid impact on ecosystems and biodiversity loss.] Where applicable, [~~on the basis of~~] [the process of AZA should be coherent with] the Maritime Spatial Planning (MSP) [~~with the aim~~] to avoid spatial conflicts with other activities such as fishing, coastal tourism, mining, etc. ⁵⁶
- b) [For every AZA, identification of an Allowable Zone of Effect (AZE) in the close vicinity of each farm].⁵⁷
- c) [~~Adoption of cultivable organisms belonging to different trophic levels such as extractive species (seaweeds and invertebrates); thus, facilitating and spread at Basin-scale the definitive adoption of Integrated Multi-trophic Aquaculture (IMTA) farms.~~] [Implementation, as appropriate, of the farming of aquatic organisms belonging to lower trophic levels such as extractive species and promoting the adoption of Integrated multi-trophic Aquaculture].⁵⁸
- d) [~~Control rules on use of pharmaceuticals to prevent the spread of pathogens and new introductions of Invasive Alien Species.~~] [Enforcement of control rules on use of pharmaceuticals in order to minimize the risk of antibiotic resistance and potential impacts on ecosystems, and at the same time, curb the spread of pathogens to farmed organisms and wild fauna].⁵⁹
- e) [~~Reporting of escapes including IAS and pathogens.~~] [Implementation of measures to avoid escapes (e.g. site survey, equipment, technical assessment, staff training, etc.)]⁶⁰
- f) [Establishment of Environmental Monitoring Programmes (EMP) to assess the potential polluting effect of fish farms based on related IMAP Ecological Objectives and Indicators].⁶¹
- g) [Reporting to environmental authorities on:]
 - i. [Lethal incidents of protected species occurred during the farming activity].⁶²
 - ii. [Severe cases of accidents, introduction of invasive alien species, and associated non-target species, including pathogens].⁶³

⁵⁵ Proposal by Malta.

⁵⁶ Proposal by Italy.

⁵⁷ Proposal by Secretariat; objection by Italy noting that the this is not exactly the concept of AZE.

⁵⁸ Proposal by Secretariat further to proposals by Greece, Cyprus and Egypt; objection by Italy.

⁵⁹ Proposal by Secretariat further to proposals by Italy, Malta, Cyprus and Egypt.

⁶⁰ Proposal by Secretariat further to proposals by Italy, Greece, Cyprus and Egypt.

⁶¹ Proposal by Secretariat; objection by Italy.

⁶² Proposal by Italy.

⁶³ Proposal by Italy.

- iii. [Use of energy and green/renewable energy and the use of natural resources (water and space).]⁶⁴
- iv. [Use of antibiotic/antiparasitic treatments and fish losses during the farming activity].⁶⁵

⁶⁴ Proposal by Italy.

⁶⁵ Proposal by Italy.

ANNEX III⁶⁶

Guiding Elements for Environmentally Sustainable Management of Plastic Waste from Aquaculture Activities for implementing Article V on Measures

With the view to implementing Article V.11 on the reduction of generated plastic waste from aquaculture activities, the following guiding elements shall [\[apply\]](#) [\[be considered by the Contracting Parties in the development of the regulatory frameworks, as appropriate, with the provision of justifications, as applicable\]](#):⁶⁷

- a) [\[Replace to the extent possible plastic infrastructure components with other of physical nature.\]](#)⁶⁸
- b) [\[Use higher density plastics \(e.g., Polyethylene terephthalate \(PET\) or Ultra-high molecular weight polyethylene \(UHMWPE\)\) which are more resistant to fragmentation, UV-irradiation.\]](#)⁶⁹
- c) [\[Re-design aquaculture operations to reduce intentional or unintentional dumping of plastic into the surroundings \(e.g., plastic bag feed sacks\) and put in place mitigations plans and actions.\]](#)⁷⁰
- d) [\[Reduce single-use plastic with the introduction of relevant alternatives and invest in developing recovery, cleaning and re-distribution schemes.\]](#)⁷¹
- e) [\[Develop mandatory recycling policies and schemes, including the establishment of plastic inventory and Standard Operations and Procedures \(SOPs\) for inactive and damaged equipment stored on the sea cages and along the shorelines for long periods.\]](#)⁷²
- f) [\[Minimize the use of plastic types with low levels of recyclability.\]](#)⁷³
- g) [\[Reduce to the extent possible the use of equipment consisting of different types of plastic \(i.e., different lifespan and different approach for collection and recycling\).\]](#)⁷⁴
- h) [\[Ensure to the extent possible that all packaging is reusable or recyclable.\]](#)⁷⁵
- i) [\[Reduce to the extent possible packaging and over-packaging to minimize packaging waste.\]](#)⁷⁶

⁶⁶ Italy proposes to delete Annex III, and to incorporate the issue of plastic waste as an additional point in both Annexes II.A and II.B as follows: *"Implement national regulations and best practices for management and reduction of plastic wastes from aquaculture (e.g. use of biodegradable materials in farming and packaging, marking and tracking gear, maintenance schemes for infrastructures)."*

⁶⁷ Proposal by Malta.

⁶⁸ Greece is of the opinion that replacing the plastic infrastructure may be difficult to implement as many marine farms use plastic cages and nets for rearing aquatic organisms and their replacement would require significant cost. Secretariat does not see the implementation of this point means a full restructuring/replacement of the sector's infrastructure but an incentive to promote the use of different alternative components, giving the statement "to the extent possible" which does not impose to restructuring all aquaculture facilities

⁶⁹ Proposal by Secretariat.

⁷⁰ Proposal by Secretariat; objection by Italy.

⁷¹ Proposal by Secretariat; objection by Italy.

⁷² Proposal by Secretariat; objection by Italy.

⁷³ Proposal by Secretariat.

⁷⁴ Proposal by Secretariat.

⁷⁵ Proposal by Greece.

⁷⁶ Proposal by Greece.