



Multi-annual National Strategic Plans for the development of sustainable Aquaculture for the period 2021 to 2030

Summary GREECE

“Multi-annual National Strategic Plan for the Development of the Aquaculture for the new programming period 2021-2030”

1. State of the aquaculture sector

Aquaculture in Greece concerns the rearing of aquatic organisms in marine and freshwater waters, but also in brackish (varying salinity) waters (lagoons). Marine aquaculture methods consist of net pens for the main species of Gilthead seabream and European seabass, and mainly the long line method for shellfish (mussels). Freshwater aquaculture in Greece consists of land-based ponds, with the main species of trout, carp, salmon and eel, is not highly developed, mainly due to the low availability of fresh water in the country. Extensive aquaculture in lagoons is based on rearing mugilidae, sea bream, sea bass, etc. In Greece, 6 microalgae plants (*Arthrospira spp* and *Spirulina spp*) are also operated in closed greenhouse tanks where geothermal is used to heat water. In addition, two shrimp farms of the species *Paenaeus monodon* and *Lithopaeneus vanamei* have also been approved recently, in land-based closed-water systems of the biofloc type. The estimated volume of production in 2019 was 130 975 tonnes. The number of staff directly employed in aquaculture for the years 2016-2018 was 3700.

2. Objectives for 2021 to 2027

The country's strategic objective is to reach a sustainable (environmentally and economically) and socially responsible development of aquaculture.

Growth target

The national strategic objective of increasing aquaculture production is set, in the medium term (until 2025), an average annual increase of 3.0 % (up to 156,391 mt), and in the long term (until 2030) an average annual growth of 5 % (up to 200,00 mt), while increasing the value of products by improving their competitiveness.

3. Objectives for Measures for 2021 to 2027 responding to the 13 key areas listed in the “Strategic Guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030”¹

1. Access to space and water

The implementation of the current Special Spatial Planning Framework for Aquaculture will be continued. The main priority remains the designation of Areas of Organized Development of Aquaculture (AODA), each one authorized with a Presidential Decree (7 of them are already issued for an equal number of such areas) and operating under a management body. According to the current Special Spatial Framework, broader suitable for Aquaculture Development Areas (ADAs) are already defined and mapped throughout of Greece, which are receptors of the above-mentioned Areas of Organized Development.

It is necessary to complete and clarify the relevant institutional framework and also to give instructions and guidance to competent services and management bodies in order to ensure the rational implementation of the provisions of the Presidential Decrees and the proper functioning of AODAs.

It is important that a Ministerial Decision is issued in order to define the procedure for the allocation of the marine areas for the establishment of new aquaculture units and also to lay down the conditions for the submission of proposals by the bodies concerned so that to have a clear and transparent evaluation/selection system and a uniform evaluation/selection system for all AODAs.

Emergency plans to deal with pollution incidents shall be drawn up in all AODAs, under the responsibility of their management bodies.

Evaluation and revision of the current Special Spatial Planning Framework for Aquaculture will be carried out.

2. Regulatory and administrative procedures

Many efforts have been made, so far, for the simplification of complex administrative procedures and the creation of a consolidated legislative framework.

¹ COM(2021)236 final

Although the establishment of a “one-stop shop” for the reception of authorisation requests is a very positive measure, there is still the need to deal with delays occurring during the process of expressing opinions by co-competent authorities. An important step in resolving delays in the authorisation process would be the definition of “mandatory deadlines” in the consultation process to be followed by the public administration, but also for businesses in the sector. At the same time, actions will be launched to train the public sector staff involved in these processes. With the expected completion of spatial planning, the corresponding environmental licensing of the activity is also expected to be adapted, as this is a prerequisite for granting approval for the establishment of aquaculture units. The creation of a guide/manual setting out the legal status of the licensing of aquaculture units and all the obligations arising from it will be promoted.

3. Animal health and public safety

Corresponding actions that will contribute to the health and well-being of farmed populations are the support of research and development for:

- Increasing feed yield and improved composition in order to enhance the health of the rearing population.
- The evaluation of new antimicrobials.
- Developing new management and prevention strategies.

Also, should be considered:

- Actions to contribute to better management of biotoxins in shellfish farming as well as the identification of the presence of micro- and nano-plastics in aquaculture growth areas will be launched.
- Actions to minimise the contribution of aquaculture to marine litter by implementing the requirements of the Single Use Plastics Directive.

4. Climate change adaptation and mitigation

- Creation of a database of research findings on the impact of climate change on aquaculture. Recording and processing of parameters that are decisive for the development of aquaculture (e.g., temperature, pH, currents, dissolved oxygen, etc.) and correlation with the physiology and pathology of the farmed organisms.
- Studies and pilot projects to improve the technical characteristics of the facilities (cages, anchorages) in order to be more resilient to extreme weather events.

- Development of abiotic parameters control and regulation systems in marine fish farms in floating cages.
- Promote a medium-term plan for the gradual “re-siting” of units from vulnerable areas to places less affected by climate change, with the establishment of new Aquaculture Development Areas (ADAs) with new plant locations suitable for mitigating the effects of climate change.
- Use of renewable energy technologies and implementation of good practices such as improving the quality of fish feed and optimising feeding rate.
- Develop forecasting models and decision support tools.

5. Producer and market organisations

- Nationwide information events are organised in order to encourage new initiatives for the establishment and recognition of Producer Organisations (POs), Associations of POs and interbranch organisations, presenting also good practices and successful actions from other Member States.
- Continue to support already recognised POs through Production and Marketing Plans.
- Cooperation between producer organisations in different Member States will be intensified.
- Support for actions of POs to improve the competitiveness of marine aquaculture products compared to third countries with similar natural environments but not comparable farming conditions, contributing, inter alia, to ensure a level playing field.

6. Control

The correct and full application of the Control Regulation to aquaculture products will be pursued in order to achieve maximum monitoring of production. The control of traceability rules will be strict also for imports of aquaculture products, regarding products of illegal, unregulated and unreported fishing, as well as the respect of conditions for safe farming.

7. Diversification and adding value

Breeding of new species for Greek aquaculture is being considered to improve the response to market imbalances and serious disease outbreaks. New species could be not only fish but also *Holothuria* sp., algae etc. In addition, supporting of actions concerning packaging, treatment and processing of aquaculture products will be continued with a view to the production of value-added products.

8. Environmental performance

- Provide basic data to identify the environmental impacts of aquaculture activity.
- Identification of acceptable limits and maintenance of water quality within acceptable limits, in particular for shellfish farming.
- Provide quality data on environmental conditions and on maintaining the health of farmed organisms.
- Development/improvement of methods to prevent and treat escapes and predators (mammals, birds).
- Establishment of a waste management action plan.
- Enhancing the use of renewable energy sources.
- Development of more sensitive environmental risk assessment and forecasting models.
- Supporting organic aquaculture and other systems with an even lower environmental footprint, such as recirculating systems water (RAS) and Integrated Multitrophic Aquaculture (IMTA), although more research is needed.

9. Communicating on EU aquaculture

- Actions to open up the aquaculture sector to the public e.g., through visits, especially young people, to farms for information on farming conditions, participation/co-organisation of educational/information programmes at the national and international levels, organisation of visits to aquaculture facilities (e.g. school excursions), etc.
- Actions to develop online monitoring and dissemination of information on the environmental situation of the aquaculture units in local communities and consumers with a view to improving the information on the operating conditions of aquaculture and reducing the negative image of aquaculture as a result of conflicts in the use of the coastal zone.
- Actions to involve local actors, including consumer organisations and NGOs, in the activities (and/or management) of ADA management bodies.
- Scientific events on the benefits and impacts (economic, social, environmental) of aquaculture on local society and ecosystem management.
- Promotion of fishing tourism activities, which will open aquaculture to the public and highlight its output and aquaculture as environmentally friendly.
- Development of local labels of aquaculture products, including lagoon products as “local” and “fresh”.
- Promotion of the specific characteristics of lagoon products, as essential aquaculture products with a positive environmental footprint, given that contributes to the conservation and protection of sensitive shrimp.

- Participation of the country in the communication campaign for the promotion of sustainable EU aquaculture, with a view to informing the public that European aquaculture ensures high-quality products while respecting the environment and animal welfare, contributing to the achievement of the objectives of the European Green Deal and of the Farm to Fork Strategy.
- Support for actions of aquaculture collective bodies for products such as sea fish, mussels, lagoon products, etc.

10. Integration in local communities

The aim is to extend local development with Community-Led Local Development (CLLD) initiatives to all sectors of the blue economy.

11. Data and monitoring

Greece implements an Integrated Fisheries Monitoring System (IFMS) where aquaculture is involved, although sometimes there is missing or incorrect data. The mandatory declaration of production data and operating parameters of the plants should be introduced, while in order to achieve the objectives it will seek to interconnect with information systems and registers already established under requirements of Union or national legislation, as well as the possibility of interconnection between them so that all necessary information can be extracted. Provisions will also be laid down for penalties for failure to submit data or to submit incomplete or inaccurate or incorrect data to the Integrated Fisheries Monitoring System (IFMS) since it is a contractual obligation of producers. All the data processing, in collaboration with the Greek Statistical Authority, will be sent to international organisations and will be accessible in aggregated form to the producers' collective bodies and to any interested party.

12. Knowledge and innovation

- The need for further research and innovation to ensure productivity, sustainability and diversification in aquaculture has been stressed, while at the same time promoting innovation in the products on the markets.
- Promote and strengthen cooperation and networking between stakeholders (public and private), both at the national, regional, and international levels.
- Strengthening national participation in European and regional organisations and bodies dealing with aquaculture activity.
- Improving knowledge and training of human resources including the acquisition of new competencies.
- In cooperation with the Ministry of Education, research will be carried out on the creation of public vocational training institutes for aquaculture technicians.

4. Funding

Funding of measures and actions for aquaculture in the period 2021-2027 will be achieved mainly through the Greek EMFAF Programme 2021–2027, but also through InvestEU.

The Recovery and Resilience Fund will also support financial lines existing in the Operational Program 2014-2020 of measures and actions, but also independent new actions.

In addition, EU and international programmes will be used and transnational partnerships between public and private entities will be supported.