European Commission

FAMENET

AT1.2 2024-11
Ecosystem services and aquaculture report

Version 2.1

September 2025

FAMENET

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Recommended citation:
EUROPEAN COMMISSION - Directorate-General for Maritime Affairs and Fisheries, Unit D.3 (2025): FAMENET ecosystem services and aquaculture report, Brussels.

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Acronyms

AECM	Agri-environment-climate measures
AT	Ancillary Task
CAP	Common Agriculture Policy
CAP-SP	CAP Strategic Plan 2023 - 2027
DG MARE	Directorate-General for Maritime Affaires and Fisheries
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EFF	European Fisheries Fund
EMFAF	European Maritime, Fisheries and Aquaculture Fund
EMFF	European Maritime and Fisheries Fund
EN	English
ENVCLIM	Environmental, climate-related and other management commitments
EU	European Union
EUR	Euro €
FAMENET	Fisheries and Aquaculture Monitoring, Evaluation and Local Support Network
MA	Managing Authorities
MS	Member States
NRW	North Rhine-Westphalia
SCO	Simplified cost options

1 Introduction

1.1 Background

Some types of aquaculture such as algae, bivalve mollusc farming, as well as extensive aquaculture in ponds and wetlands can provide environmental and climate mitigation services, when managed correctly. The European Commission's strategic guidelines for a more sustainable and competitive EU aquaculture (COM(2021) 236 final) specifically support the development of these types of aquaculture in the European Union. Through the European Maritime and Fisheries Fund (EMFF) or European Maritime Fisheries and Aquaculture Fund (EMFAF), the EU helps aquaculture producers adapt to sustainable practices and development in their operations. However, there are other EU funds that can be available to support sustainable aquaculture practices, including environmental and climate mitigation services.

Therefore, DG MARE was interested in exploring with what means EU Member States provide incentives to producers to engage in aquaculture activities which provide environmental and climate mitigation services. Through which financial instruments (national, EAFRD, EMFF/EMFAF) are such activities supported; and how does the support differ between EU funds[1] (e.g. the EAFRD, the EMFF/EMFAF)?

1.2 Policy objectives and challenges to maintaining extensive pond farming

Extensive pond farming, particularly in Europe, has long been an integral part of sustainable aquaculture. As a traditional method, it provides significant environmental benefits, particularly in terms of biodiversity, water purification, and carbon sequestration. However, in recent years, the sector has faced numerous challenges due to changing environmental, economic, and regulatory pressures.

The European Commission, through its "Strategic Guidelines for a More Sustainable and Competitive EU Aquaculture for the Period 2021 to 2030" (SWD(2021) 102 final), outlines key policy objectives to support aquaculture, including extensive pond farming. These objectives aim to foster sustainability, innovation, and economic competitiveness, while also ensuring that aquaculture contributes to food security and the reduction of pressure on wild fish stocks. The EU strategy highlights the need for a balance between ecological stewardship and economic viability, promoting practices that support biodiversity and ecosystem services.

However, despite these positive objectives, the sector faces considerable challenges. One of the main issues is the financial viability of extensive pond farming, particularly in comparison to more intensive aquaculture methods. Extensive pond farming, which typically involves lower stocking densities and less intensive management, often results in lower yields. This makes it difficult for farmers to compete economically, particularly when faced with rising operational costs and fluctuating market prices.

Additionally, regulatory frameworks in some Member States pose significant administrative burdens on farmers. Complying with environmental regulations, such as water quality standards and habitat

[1] *The analysis will focus on EAFRD, EAGF, EMFF, EMFAF and national funding instruments. There are other EU-instruments which support environmental and climate mitigation services such as the LIFE-programme or Horizon Europe (research), but these instruments are managed by the European Commission and are not part of shared management with EU member states.*

protection laws, can be complex and costly, particularly for smaller aquaculture producers. These regulatory hurdles are crucial to protecting the environment but can discourage the continuation or expansion of extensive pond farming.

Environmental challenges also play a major role. Climate change, for example, has led to increased water temperatures and more frequent droughts, impacting the productivity of pond farming. Reduced water availability is a critical issue, as many pond systems rely on natural water cycles, and any disruption can severely affect fish health and yields. Moreover, changes in land use patterns, such as urbanisation and agricultural intensification, have further reduced the availability of suitable sites for pond farming.

The "Ponderful, Synthesis Report on Sustainable Financing of the Establishment of Ponds and Pondscapes"[2] (2023) underscores the need for innovative financial mechanisms to support the sector. Traditional funding models are often insufficient, and farmers require new incentives, such as payments for ecosystem services, to offset the costs of maintaining ponds that benefit biodiversity but may not yield immediate economic returns.

Furthermore, the recognition of **ecosystem services** provided by pond farming is growing. The study on *Assessment of environmental benefits of the farming of bivalve molluscs and fish farming in ponds and wetlands, and challenges and opportunities in promoting those benefits* (pending publication) demonstrates the value of ponds in regulating water flows, supporting species diversity, and maintaining landscapes that are culturally and historically significant. These services, although not always directly monetised, provide immense long-term value to both society and the environment. As such, there is a need to better integrate the ecological benefits of pond farming into economic frameworks to ensure its sustainability.

While the EU's strategic guidelines lay the foundation for a sustainable future for aquaculture, including extensive pond farming, significant challenges remain. Addressing financial, regulatory, and environmental pressures is essential to maintaining this traditional farming method, which offers substantial ecological benefits but requires greater support to remain viable in a competitive global market.

An opportunity for restoring extensive pond farming and high diversity pond landscapes is offered by the **Nature Restoration Regulation** (NRR). Under the NRR, Member States must plan wetland restoration in their National Nature Restoration Plans. If combined with extensive farming, this means designing restoration measures where wetlands regain their ecological functions, while still being used in a low-intensity, sustainable way.

Another opportunity for extensive pond farming in ponds and wetlands could come with the future “nature credits” which are part of current European Commission’s mandate. “Nature credits” are a market-based instrument under development at EU level, intended to channel private finance into biodiversity protection and restoration. They would work somewhat like carbon credits, but instead

[2] *McDonald, H., Seeger, I., Lago, M., & Scholl, L. (2023): Synthesis report on sustainable financing of the establishment of ponds and pondscapes. PONDERFUL Project (EU Horizon 2020 GA no. ID869296), Deliverable 1.4. The report can be directly accessed here: https://www.ecologic.eu/sites/default/files/publication/2023/33005-D1_4-Sustainable-Financing.pdf.*

of compensating greenhouse gas emissions, they represent quantifiable, verifiable gains for nature (e.g. restored habitats, increased species abundance, improved ecosystem services).

2 Methodology

2.1 Assignment and research questions

FAMENET was commissioned with the ancillary task by DG MARE on the basis of the approved concept note dated from 5 September 2024. An inception report detailing the task was approved by DG MARE in November 2024 (Version 1.4). The core task of the report is to conduct a number of six case studies in different MS. The inception report (version 1.4, November 2024) stipulated (page 7) that the case studies would examine support instruments **for extensive fish farming in ponds and wetlands** (re-numeration of ecosystem services of pond or wetland aquaculture systems). The key target group is DG MARE units D3 and A2.

DG MARE is interested in exploring:

- with what means EU Member States provide incentives to producers to engage in aquaculture activities which provide environmental and climate mitigation services.
- Through which financial instruments (national, EAFRD, EMFF/EMFAF) are such activities supported.
- and how does the support differ between EU funds (e.g. the EAFRD, the EMFF/EMFAF)?

2.2 Methodology implemented

The assignment comprised two main activities:

- Screening of support instruments for extensive fish farming in ponds and wetlands from different sources in the case study regions and evaluation of the "funding efficiency" of the instruments.
- Screening of support instruments in the CAP Strategic Plans in the case study regions that have a comparable intervention logic to EMFF/EMFAF instruments (but not the same funding subjects) and comparison with the EMFF/EMFAF instruments.

In the **first activity**, the available instruments from different EU funds and from national sources were recorded with the help of Geographic Experts.

Eleven instruments financed by the EMFF/EMFAF and one nationally financed instrument supporting extensive fish farming in ponds and wetlands were identified in the case study MS/regions.

Under the CAP Strategic Plans (CAP-SP) just one single instrument supporting the management of wetlands and ponds could be identified in Sweden ("VATMARK").

A search in the online Catalogue of CAP interventions[3] confirmed that the CAP Strategic Plans in the Member States do in general not support specifically aquaculture that provides environmental and climate services. There is only one intervention in the Swedish CAP-SP ("VATMARK"), where farmers can get support for maintaining wetlands and ponds in a way that supports biodiversity, but aquaculture activities are very limited since it is not allowed to release and feed fish. This intervention is described together with the other CAP interventions in Chapter 4.

[3] *https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue_interventions.html*

The instruments under EMFF/EMFAF or financed purely by national sources with a focus on extensive aquaculture in ponds and wetlands were examined in terms of their "funding efficiency". Funding efficiency is the ratio of administrative effort to the implementation of instruments and the effects achieved. The assessment of funding efficiency is an innovative approach that has so far only been used in one EMFAF evaluation. A pilot initiative in this respect is the evaluation of the implementation structures and processes of the German EMFAF programme[4], in which the administrative effort and the expected effectiveness (impact forecast) of the types of measures are compared.

The funding efficiency in the case study MS/regions was assessed by Geographic Experts on the basis of a reporting template and through desk research and interviews with the implementing bodies. Various instruments were be compared in terms of effectiveness and efficiency, for example in terms of type, scope and amount of support[5], administrative procedures and controls, as well as results achieved. Instruments with high cost-effectiveness should be identified, i.e. low transaction costs for administration and beneficiaries with good results at the same time.

The results of the assessment of funding efficiency for instruments from EMFF/EMFAF and purely national sources are presented in Chapter 3.

In the **second activity**, instruments from the CAP strategic plans in the case study regions were selected that have a comparable intervention logic to EMFF/EMFAF instruments.

The focus is on Rural Development interventions supported by the CAP Strategic Plans related to the type of intervention: Environmental, climate-related and other management commitments (ENVCLIM), targeted in particular at Specific Objective 6 (contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes). These interventions support the extensive use of agricultural land tailored to specific habitat conditions and pursue traditional cultivation activities to maintain or increase biodiversity and are implemented by annual per-hectare compensation for costs and income foregone. ENVCLIM measures (2nd pillar EAFRD) are designed to work alongside other elements of the CAP's "green architecture," like eco-schemes (1st pillar EAGF).

All interventions were selected from the DG AGRI, Online-Catalogue of CAP interventions[6]. This EU-wide database was supplemented by MS-specific sources of information. The scope and amount of premium were determined for this specific type of area-based rural development intervention. However, it was not possible to assess the funding efficiency as this was the case with EMFF/EMFAF instruments due to a lack of information.

The results of the screening of Rural Development interventions (ENVCLIM measures under Pillar II) are presented in Chapter 4.

In the **final activity**, an attempt was made to analyse how the support differs between EU funds on the basis of the data collected. Although CAP interventions have the same intervention logic as the

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[4] https://www.portal-fischerei.de/bund/fischereipolitische-schwerpunkte/europaeischer-meeres-fischerei-und-aquakulturfond-2021-bis-2027-emfaf/evaluierung-und-programmbegleitung

[5] Regarding the form of support taken into consideration for this analysis, in principle all forms of support by the EU should be considered. However, financial instruments such as loans or guarantees are usually not applied for environmental and climate mitigation services.

[6] https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue_interventions.html

support instruments for extensive aquaculture in ponds and wetlands (compensation for the provision of ecosystem services by area-based premiums), they target different objects of support (agricultural areas and not ponds and wetlands), meaning that the support instruments are not directly comparable, e.g. in terms of the amount of the per-hectare premiums. An attempt was therefore made to determine the possibilities offered by the various EU funds to beneficiaries (aquaculture or agricultural businesses) to combine different measures on the land to obtain the most attractive compensation possible.

The results of the comparative analysis are presented in section 4.2.

2.1 Case study selection

Case studies were conducted in the following seven member states: Austria, Germany (North Rhine-Westphalia, Saxony), Hungary, Italy, Poland, Spain (Andalusia), and Sweden. The planned number of six case studies was exceeded. In the end, eight case studies were carried out.

The following table lists the support instruments that are financed from various EU funds or nationally and have different focuses:

- Supporting extensive fish farming in ponds and wetlands (aquaculture).
- Supporting the management of wetlands and ponds in an agricultural context.
- Supporting high-diversity landscape features (but no aquaculture) in an agricultural context which provide ecosystem services and support for biodiversity.

Table 1: Overview of case studies and instruments

Case studies / Number of instruments	**Supporting extensive fish farming in ponds and wetlands**			**Support under the CAP 2023-2027 (EAGF/EARDF)**	
	EMFF	**EMFAF**	**National funds**	**Supporting the management of wetlands and ponds**	**Supporting high-diversity landscape features in an agricultural context**
Austria			1		1
Germany (North Rhine-Westphalia)		1			1
Germany (Saxony)		1			1
Hungary	2	1			1
Italy	1	1 (under development)			1
Poland	1	1 (continuation)			1
Spain (Andalusia)	1	1			1
Sweden		none		1	
Total: 8	**5**	**6**	**1**	**1**	**7**

Source: FAMENET, 2025.

3 Support instruments for extensive fish farming in ponds and wetlands financed under EMFF/EMFAF and national sources, and assessment of their "funding efficiency"

3.1 Identified support instruments

All support instruments for extensive fish farming in ponds and wetlands described below are financed from national sources or from EMFF/EMFAF. No specific instruments supporting extensive aquaculture could be identified supported under the CAP Strategy Plans.

In **Austria** a **national subsidy** (without EU funding) for the environmentally friendly and resource-conserving management of carp ponds was assessed. This support was originally included in the Rural Development Programme (RDP) in the 2007 to 2013 programming period (agri-environmental measures, ÖPUL 2007 M214/M28 financed under the CAP/EAFRD) and was then only financed nationally (from federal and state funds). Because the funding comes from the Rural Development Programme and is very closely related to agri-environment-climate funding, area premiums are used. In RDP agri-environmental funding, pond funding was administratively difficult to process because pond areas and siltation zones - in contrast to arable land - change dynamically. Only the changeover to the use of data from the standardised value assessment ("Einheitswertbescheid") in national funding has largely solved the area problem. However, the premium of 450 EUR per hectare per year is very low, because there is not enough funding available to pay out a higher premium. An increase from EU funds would therefore be very welcome.

In **Germany/North Rhine-Westphalia** a support instruments under **EMFAF** for pond farming focusing on biodiversity conservation and sustainable practices was assessed. Measure 2.2.4 promotes environmental services in the management of (carp) warm water ponds. There are two modules, with and without fish stocking, which offer high premiums of EUR 900 to EUR 1,200 per hectare per year. The EMFAF flat-rate payment per hectare is linked to practical management requirements for the beneficiary - in contrast to similar subsidies from nature conservation funds, which often impose very complex management requirements.

In **Germany/Saxony the** Support Directive for Pond Management and Nature Conservation (FRL TWN/2023) was assessed. Pond promotion is very important in Saxony: Saxony has allocated EUR 11.5 million of a total of EUR 16.7 million for the funding guideline 'Pond management and nature conservation (FRL TWN/2023)' under the **EMFAF** measure type 2.1.4 (payment for environmental services). The EMFAF only finances ponds used for fishing (measures T1-T3); nature conservation ponds without economic use (measures T4a-T4d) are supported by other **national funds** (GAK). There are six different measures with different nature conservation objectives, each with its own subsidy amount per hectare. The subsidies per hectare and per year range from EUR 205 to EUR 770 for organic carp production (organic carp production with participation in the organic control procedure in accordance with Regulation (EU) 2018/848). Each measure has its own management requirements. Seventeen general conditions must be met and, depending on the measures, up to 17 additional specific conditions (a total of 34) must also be complied with. These general conditions are further detailed by additional specific maintenance requirements. It is likely that a total of approximately 50 conditions must be met (estimate). The pond areas must be registered in the LPIS agricultural land information system which can lead to problems.

In Hungary support instruments financed under **EMFF and EMFAF** were assessed: Hungarian Fisheries Operational Programme (MAHOP) 2.5.1-2017 & 2018 Promoting the development of aquaculture that provides environmental services; MAHOP_PLUSZ-2.3.1-24. The MAHOP-2.5-2018 call yielded 30 support certificates, with a total approved amount of approximately 209.97 million HUF, which was fully disbursed. A premium of HUF 70,200 per hectare was offered (ca. 174 EUR for 5 years). The measure provides sustainable investments for more than 10 years, serving the objectives. The new MAHOP_PLUSZ-2.3.1-24 measure for the 2023 to 2027 period offers higher premiums (496 EUR / ha for 5 years) and applies a simplified selection procedure. External evaluators no longer select the projects. This task is taken over by the MA which speeds up the process. But it is too early to make a judgment of the effectiveness and efficiency of the newly adapted measure.

In **Italy** two support instruments were assessed: **EMFF**, Measure 2.54 – Environmental Services Provided by Aquaculture (Art. 54 Reg. EU 508/2014). **EMFAF** continues to provide support through Specific Objective 2.1 – Promoting sustainable aquaculture, notably under Action 5, Operation 27: "Environmental Services". The EMFF, Measure 2.54 offered a maximum premium of 336 EUR per hectare per year (Veneto region). The EMFAF action is still under development. Experts' views on EMFF, Measure 2.54 gave mixed feedback. Experts acknowledge the importance and ecological value of extensive aquaculture and support efforts like Measure 2.54. However, significant **concerns** were raised during interviews: lack of generational renewal, insufficient economic viability, burdensome bureaucracy, and regional disparity in implementation. The feedback leans towards supportive of the concept but critical of the effectiveness and coverage of the actual policy instrument.

In **Poland** since the 2007-2013 period carp producers are entitled to compensation payments (from **the EFF, then EMFF and finally EMFAF**) that enable them to maintain the production. These payments (amounts per hectare and requirements to be met by producers) have been slightly modified with each programme period, but their main characteristics and rationale remain largely the same. There is no other source of funding for aquaculture producers – if they have other farming activity they can also get EAFRD funding, but not for the fishponds. The amount of payment depends on the package selected by the beneficiary (producer) and ranges from 250 to 318 EUR per ha and per year. The effectiveness of this instrument seems to be high, in the sense that it prevents producers from ceasing or modifying production. The effectiveness could potentially have been even higher if all the packages envisaged were actually launched, which is not the case due to low funding (the Natura 2000 package is not used up to now).

In **Spain/ Andalusia** two support instruments were assessed: **EMFF** 2.4.1 – 2023 Promoting the development of aquaculture for environmental services; and **EMFAF** – 2024 SO 2.1 Promoting sustainable aquaculture activities reinforcing the competitiveness of aquaculture production and ensuring at the same time environmentally sustainable activities in the long term. The EMFF action offered EUR 281 for each hectare and year in production of the aquaculture facility providing the eco-system service in extensive culture or EUR 400 for each hectare and year in production of the aquaculture facility providing the eco-system service in semi-intensive culture. The aid compensates up to 100% of the loss of revenue incurred by the aquaculture enterprise that provide eco-system services in areas inside the Nature 2000 Network specifically in wetlands. In EMFAF the same premiums are applied. The aid compensates for management requirements imposed by Natura 2000 and its effectiveness is assessed a very high.

3.2 Overview of assessment criteria for funding efficiency

The following criteria were applied in the case studies to provide sufficient evidence for a comparative analysis of the instruments. Effectiveness and efficiency are assessed on an ordinal scale ranging from low, medium, high, to very high.

- Characteristics of the support instrument:
  - Title of the instrument (in EN).
  - Context information (MS, programme background, new or old instrument).
  - Type (grant, SCO, financial instrument).
  - Scope (target group, eligible services).
  - Amount of support (in EUR).
  - Conditionalities for support.
  - Brief summary of the characteristics of the instrument.

- Administrative effort for the implementation of the policy instrument (efficiency):
  - Activities for information, advisory, public relations (link to website).
  - Procedure for the selection of projects.
  - Procedure for the approval of projects.
  - Procedures for administrative audits including on-site inspections.
  - Summarised assessment of the administrative effort (low, medium, high, very high).

- Effectiveness of the policy instrument:
  - The intended target group was reached.
  - The allocated funds were largely disbursed.
  - Target values of output and result indicators were largely achieved.
  - The funded operations largely proved to be a sustainable investment.
  - Evaluations, experts and practitioners from the relevant funding area provide positive feed-back on the results achieved.
  - Summarised assessment of the effectiveness of the instrument (low, medium, high, very high).

- Ratio of administrative effort and effectiveness of the policy instrument:
  - Best possible ratio: low effort and very high effectiveness.
  - Very good ratio: low effort and high effectiveness.
  - Good ratio: medium effort and high effectiveness.
  - Acceptable ratio: high to very high effort and high to very high effectiveness.
  - Unfavourable ratio: high to very high effort and low to medium effectiveness.

3.3 Summary of case studies

The following overview (table 3) summarises the key features of the individual instruments under the EMFF and EMFAF. The administrative effort to implement the instruments and the effectiveness of the instruments are rated on an ordinal scale (low, medium, high, very high). Furthermore, the ratio between effort and effectiveness is presented by means of categorisation.

The overview presented in table 3 does not go into every detail.

Table 2: Overview of case study findings

MS / region	Title of instrument	Characteristics	Admin. effort	Comments	Effectiveness	Comments	Ratio
Austria	Promotion of ecologically valuable, extensive and biological management of ponds (**National funding scheme**)	• National grant since 2015, but resources are limited. • 6-year commitment and 17 management requirements which are easy to monitor. • Premium of EUR 450/ha /a which is quite low plus 100 EUR supplement for organic management. • Low threshold for eligibility (minimum 0.5 ha pond area). • Max. 1 500 kg carp/ha.	Low	• The eligible area is easy to determine using the taxation value • Easy EXCEL-based application • No audit authority involved but national control experienced in pond management (!) inspects 5% to 10% of farms	Very high	• Long-term preservation of 1,600 ha ponds was achieved (ca. 80 beneficiaries) • High proportion of ponds under organic management (46%)	Best ratio possible
Germany (North Rhine-Westphalia)	**EMFAF** - Remuneration for environmental services (M2.2.4)	• Module 1: EUR 900 per hectare per year for extensive pond management that allows low-density fish stocking and includes measures like pond maintenance and cultural landscape preservation. • Module 2: EUR 1 200 per hectare per year for conservation ponds that are managed according to the criteria of Module 1 but are not stocked with fish such as carp, thus fostering a more natural ecosystem.	High	• There are 14 conditions for the management of the funds that must be fulfilled, e.g. stocking density less 400 kg (!) per ha, natural feeding, non-intrusive maintenance techniques, rescue of amphibians, locally sourced materials, record keeping, annual reporting, training programmes, advisory services.	High	• Both the utilization of the funding and the results achieved are considered to be very positive. Stocking density is very low (max. 400 kg/ha); ecological standards are very high. • The target group in NRW is very small and can be easily reached.	Acceptable ratio

Germany (Saxony)	**EMFAF** - Pond Management and Nature Conservation (FRL TWN/2023)	• The EMFAF only finances ponds > 0.1 ha used for fishing (measures T1-T3); nature conservation ponds without economic use (measures T4a-T4d) are supported by national funds only. • Under EMFAF, six different measures with different nature conservation objectives are supported, each with its own subsidy amount per hectare ranging from EUR 205 to EUR 770 for organic carp production. • Each measure has its own management requirements (stocking of carp max. 400kg/ha). • Commitment for 5 years.	High	• High, due to rigorous compliance requirements, complex monitoring and detailed auditing processes. • Seventeen general conditions must be met and, depending on the measures, up to 17 additional specific conditions. These general conditions are further detailed by specific maintenance requirements (ca. 50 conditions in total).	Very high	• Very High, reflecting the systematic and thorough implementation process and effective use of funding. • Effectively engages aquaculture enterprises within Saxony, ensuring sector-specific impact. • Effective fund disbursement aligned with project compliance and achievement of environmental objectives.	Acceptable ratio
Hungary	MAHOP 2.5.1-2017 & 2.5.1-2018 Promoting aquaculture for environmental services (**EMFF**)	• Grant ca. EUR 174/ha for 5 years period. • Eligible areas according to water management license and property register. • Management plans and Logbook are mandatory.	Medium	• Application is demanding (many forms and declaration). • Project selection is done by a specific committee. • On-site inspection is well organized.	Very high	• Instrument is very well received by beneficiaries. • Sustainable investment for more than 10 years serving the objectives.	Very good ratio

	MAHOP_PLUSZ-2.3.1-24 (**EMFAF**)	• Grant ca. EUR 496/ha for 5 years period (based on a scientific model for fish production). • Eligible areas according to water management license and property register. • Management plans and Logbook are mandatory. • If the ambition of the project is reduced, the amount of the grant will be reduced proportionally. • No production limit required.	Too early to make a judgement	• Online application and a simplified project selection procedure were introduced. • The FAIR EUPR (Development Policy Database and Information System for EU Programmes) is used for application management and controls.	Too early to make a judgement	• 90% of the previous applicants want to continue, they will definitely apply.	Too early to make a judgement
Italy	**EMFF**, Measure 2.54 – Environmental Services Provided by Aquaculture (Art. 54 Reg. EU 508/2014)	• Specifically activated in Friuli Venezia Giulia and Veneto. • Example from Veneto Region: Maximum contribution EUR 366 per hectare per year.	Very high	• There are very extensive conditionalities for support (see case study). • Friuli Venezia Giulia: administration is “extremely complex” and facing difficulties with new programming.	Medium	• Funds available under Measure 2.54 of the EMFF were effectively disbursed. • The instrument demonstrated clear effectiveness where implemented (in Veneto and parts of Friuli Venezia Giulia). However, its limited geographic scope, implementation complexity, and persistent environmental and socio-economic challenges result in an overall rating of	Unfavourable ratio

						medium effectiveness. To achieve higher effectiveness, broader adoption, simplification of procedures, and integration of stable, long-term support measures are essential.	
	EMFAF - Action 5, Operation 27: "Environmental Services".	• Under development; previous EMFF methodologies not yet applicable—new economic parameters being discussed at national level	Not clear		Not clear		Not clear
Poland	Aqua-environmental compensations (EFF, **EMFF, EMFAF**)	• Eligible pond area at least 1 ha. • Commitment of 5 years for the following options: 1. Basic package (mandatory): ca. EUR 250/ha/year (max. 1 500 kg carp/ha). 2. Extended package for valuable fish species: basic package plus ca. EUR 68/ha/year (3.75% of total production). 3. NATURA 2000 package: basic package plus ca. EUR 44/ha/year (not used up to now).	Medium	• The farmer must meet four legal requirements for good aquacultural practice (production limit, logbook, permits & veterinary care, training). • An Intermediate Body checks the applications and verifies the eligible surface for 100% of beneficiaries. • Each year a sample of 10% of farms is controlled.	High	• Almost all eligible ca. 650 farms will obtain funding (full coverage of the sector). • Effectiveness seems to be high, in the sense that it prevents producers from ceasing or modifying production. The effectiveness could potentially have been even higher if all the packages envisaged were actually launched, which is not the case due to low funding.	Good ratio

Spain (Andalusia)	EMFF 2.4.1 – 2023 / **EMFAF** – 2024 SO 2.1 Promoting sustainable aquaculture activities reinforcing the competitiveness of aquaculture production and ensuring at the same time environmental sustainable activities in the long term	• There are two schemes which offer annual compensation per hectare. • for extensive production: ca. EUR 281/ha/year. • for semi-extensive production: ca. EUR 400/ha/year. • Compensation is only provided for farms located within the Natura 2000 Network areas. This is the sine qua non condition. Compensation for the loss of revenues of the farms, as they are subject to management requirements imposed by them in the Natura 2000 areas.	High	• Beneficiaries will be subjected to a prior audit regime provided by Art. 40 of the General Law of Finance of Andalusia. • Beneficiaries will be subjects to the supervision and control established by the EU Reg. 2021/1060 of 24 June 2021. • Management requirements imposed in the Natura 2000 areas have to be met.	Very high (estimated)	• The allocated funds were largely disbursed (84% to 90%). • There are no evaluation nor expert assessments of the results achieved.	Acceptable ratio

Source: FAMENET, 2025.

3.4 Case study findings

The **need** to promote extensive fish farming in ponds and wetlands is expressly confirmed in all case studies. The goal of preserving and improving ecologically valuable, extensive and biologically managed ponds can only be achieved if the ponds are also managed. Otherwise, these ponds are at risk of silting up due to non-management or being used for other competing uses such as fishing ponds or agricultural use, which means that the high ecosystem services are lost in addition to the sustainable and biological production of high-quality fish[7]. The conservation of pond areas is therefore an ambitious goal for which public funding should also be available.

The **importance** of the EMFF&EMFAF in providing the necessary funding is emphasised by the consideration of the national instrument in Austria. It is true that national funding can be handled with less administrative effort. But there are not enough financial resources to cover all needs. As a rule, purely nationally financed instruments can only provide very limited budgets. Stable funding over the programme periods is important in order to offer farmers a secure financial perspective. An analysis of aquaculture support in the German state of Baden-Württemberg, which has not used EMFAF funds since 2021 and now only provides national funding, underscores the experience in Austria. Without EU funds, only reduced budgets are possible. However, if demand from the sector is not particularly high, even the reduced funds may be sufficient.

The support instruments analysed are very different in terms of their **objectives**. These differences become clear from the maximum permitted fish stocking. This ranges from a maximum of 400 kg/ha for very near-natural ponds to 1 500 kg/ha in mainstream support. All instruments provide for a longer commitment period of 5 to 6 years.

Corresponding to the different objectives, there are also very different complex **conditions** that must be met for the management of the ponds. The most complex provisions exist in Germany, in Saxony. There are six different measures with different nature conservation objectives. Each measure has its own management requirements. Seventeen general conditions must be met and, depending on the measures, up to seventeen additional specific conditions (a total of 34) must also be complied with. These general conditions are further detailed by additional specific maintenance requirements. It is likely that a total of approximately 50 conditions must be met (estimate). This multitude of conditions is demanded above all by nature conservation organisations. In other instruments, considerably fewer conditions have to be met, e.g. in Austria, NRW. In NRW, Module 2 also pursues a demanding nature conservation objective, but the beneficiaries have to fulfil far fewer conditions than in Saxony (approx. fourteen conditions, see table 6 in the Annex). In NRW and also in Austria, there is an endeavour to define a limited number of conditions that can be checked relatively easily. Also, in Poland and Hungary, there are only a limited set of conditions that the beneficiary has to fulfil.

These different requirements are compensated by differentiated **subsidy amounts**. For example, in Saxony the subsidies per hectare range from EUR 205 to EUR 770 for the highest standard, organic carp production. In NRW, a unit cost of EUR 1 200 per hectare is even paid to compensate for a high standard of nature conservation. Experience in Saxony has shown that there must be a high level of compensation for high requirements, otherwise the target group will not accept the funding programme. In Saxony, the area premium was initially EUR 433/ha and was increased to EUR 770/ha in

7 See study on Assessment of environmental benefits of farming bivalve molluscs and fish farming in ponds and wetlands.

November 2024 to cover cost increases for pond farmers and to increase the acceptance of the measures. In Hungary, a sophisticated scientific model was used to determine the amount of aid. The scientific support to determine the amount of aid is also known from NRW, Saxony and Austria. However, the premium amount depends not only on scientifically calculated aid rates, but also on the availability of funds.

The **administrative effort** estimated in the case studies ranges from low (Austria) to very high (Italy). The case study in Italy states, that administrative implementation is "extremely complex". Italy has also not yet succeeded in developing new measures for pond funding within the framework of the EMFAF. A significant factor for the administrative effort is the determination of the eligible pond area. In contrast to area-based agricultural subsidies, where the areas are only subject to minor changes, pond areas and the siltation zones - in contrast to arable land - can change dynamically. In Austria, the administrative burden has been reduced by using the taxation value to determine the eligible area and not data from agricultural statistics. In the future, the use of drones (and not satellites such as agriculture) will be considered to better map dynamic changes in the pond areas.

The estimated **effectiveness** ranges from medium (Italy) to very high (Austria, Saxony, Hungary, Andalusia). The effectiveness was assessed based on several criteria, ranging from acceptance by the target group to professional judgement by experts. There is no case study in which low effectiveness was found. Acceptance of the funding instruments by the target group is very important for the effective achievement of the objectives. This can be achieved either through high funding amounts or through a limited set of feasible conditions to be fulfilled by the beneficiary. Also, on-spot-controls by institutions familiar with pond management is important for the acceptance of the instruments to avoid an unreasonable burden on the beneficiaries.

To summarise, the **success factors to reduce the administrative burden** are:

- the use of simple data to determine the eligible pond area.
- the simple and cost-effective IT (not overcomplicated e-cohesion systems).
- the competent control by the bodies familiar with pond management.
- the information provided to the small target group.
- the advisory role of the MA/technical body in the application process.
- the easily controllable management requirements.
- and the continuity of pond funding over the programming periods.

Regarding the ratio between administrative effort and the effectiveness of achievement of funding objectives, the following results can be seen (Table 3). Of the EMFF/EMFAF-funded instruments, Poland and Hungary perform best.

Table 3: Ratio between effort and effectiveness

Ratio	Case
Best possible ratio: low effort/very high effectiveness	Austria (national instrument with limited funds)
Very good ratio: low effort/high effectiveness	
Good ratio: medium effort/high effectiveness	Poland, Hungary
Acceptable ratio: high to very high effort/ high to very high effectiveness	Germany (NRW, Saxony) Spain (Andalusia)

Unfavourable ratio: high to very high effort/low to medium effectiveness	Italy

Source: FAMENET, 2025

4 Support instruments in the CAP Strategic Plans in the case study regions with a comparable intervention logic to EMFF/EMFAF instruments and comparison with the EMFF/EMFAF

4.1 Introduction

The Common Agricultural Policy (CAP) of the EU has undergone significant reforms, with the current programming period running from 2023 to 2027. This new CAP introduces a "new delivery model" where each Member State designs a national CAP Strategic Plan (CSP) to achieve common EU objectives, including those related to environmental and climate sustainability.

A significant new instrument in the CAP 2023-2027 is **Eco-schemes** (Pillar I). These are voluntary schemes that offer annual payments to farmers (but not to aquaculture) for implementing practices beneficial to the environment, climate, and animal welfare, going beyond the mandatory conditionality. Member States are required to allocate at least 25% of their direct payments budget to eco-schemes, which are 100% EU-funded from the European Agricultural Guarantee Fund (EAGF). Examples include carbon farming, nutrient management, creation of non-productive areas such as fallow land or landscape elements, and biodiversity-enhancing measures.

Agri-environment-climate measures (AECM, Pillar II - Rural Development), financed by the European Agricultural Fund for Rural Development (EAFRD), continue to play a crucial role. These measures support longer-term commitments for environmentally friendly farming practices, including organic farming conversion and maintenance, biodiversity conservation, water management, and soil protection. These measures often involve co-financing from national budgets.

This combination of elements aims to incentivize farmers to adopt more sustainable practices that deliver public goods and ecosystem services. However, Member States do not support extensive fish farming in ponds and wetlands for the provision of ecosystem services under the CAP 2023-2027 as the online catalogue of CAP-intervention demonstrates.

4.1 Identified instruments

All interventions listed below focus on **Rural Development interventions** (2nd pillar) supported by the CAP Strategic Plans 2023-2027 related to Environmental, climate-related and other management commitments (ENVCLIM) contributing to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes. Area based compensations are paid for additional costs and income foregone that are caused by specific land management commitments. This is the same intervention logic that is applied to promote extensive fish farming in ponds and wetlands, i.e. compensation for the provision of ecosystem services by area-based premiums.

In **Austria**, one of the interventions of the agri-environmental programme ÖPUL 2023, called nature conservation, national code 70-16, is analysed. A wide range of commitments are compensated with premiums ranging from EUR 32 to EUR 900 per hectare per year.

In **Germany**, the agri-environmental (climate) measure: Management commitments to improve biodiversity, national code EL-0105, is analysed. This intervention is extremely diverse and is structured differently in each federal state. The focus is on North Rhine-Westphalia and Saxony. The premium amounts vary from state to state.

In **Hungary** the CAP intervention RD22_G05_LCP_70 –Payment to Encourage Agro Ecological Land Use Change is analysed. It builds on non-productive investments like habitat creation, field margins, erosion control strips established under the complementary measure RD21_G04_LCI_73. Beneficiaries agree to maintain these newly established ecological features over multiple years while undertaking additional activities beyond standard conditionality. Premiums per hectare or linear meters and year are offered for around 10 different actions which range from 2 to 911 EUR.

In **Italy** the CAP intervention ACA10 — Active management of ecological infrastructure (SRA10/ACA10) is analysed. Payment rates are set regionally by action/feature, e.g., Emilia-Romagna indicates 800–1,000 EUR/ha/year and Friuli-Venezia Giulia 1,000 -1,736 EUR/ha/year.

In **Poland** the CAP intervention I 8.1 – Conservation of valuable habitats and endangered species in Natura 2000 areas is analysed. The intervention is implemented wit 11 land use options according to the habitat type for which specific premiums were defined. Hectar premiums range from 214 to 378 EUR per year.

In **Spain**, Andalusia's CAP intervention 6501.5 – Agri-environment commitments on agricultural areas: Protection of avifauna (IACS/SIGC) is analysed. The premium to implement agronomic practices that enhance bird habitat is 216.28 EUR per hectare and year.

Sweden is a special case. There is no support instrument for extensive fish farming offered in Sweden. There is very little commercial pond farming in Sweden (< 1 ton of crayfish from ponds). Most inland fish farming are open-net pens in rivers and hydropower water reservoirs, who can apply for support to lower their environmental impact (but no compensation schemes for ecosystem services). Under the CAP, farmers can get support for wetlands and ponds. VATMARK provides financial support for the upkeep of wetlands and ponds, aiming at biodiversity conservation, nutrient reduction and climate resilience, through 5-year management commitments under CAP Pillar II. Aquaculture activities are very limited since it is not allowed to release and feed fish, crayfish or other animals. The annual maintenance compensation for the upkeep of constructed or restored wetlands and ponds is ca. 363 EUR per hectare. In addition, when the wetland or pond is located on arable land, the farmer can receive compensation for lost land value of ca. 182 EUR per hectare, per year.

Table 4: Rural Development interventions by the CAP Strategic Plans 2023-2027 related to Environmental, climate-related and other management commitments (ENVCLIM) contributing to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes

Member State	Intervention (selected)	Description	Premium amount	Eligibility conditions
AT	Nature conservation ("Naturschutz"), National code 70-16	Compensation for additional costs and income foregone for complying with management requirements on ecologically valuable agricultural land (arable and grassland areas) specified by the nature conservation authority (e.g. mowing frequency, fertiliser requirements). Commitment for a period of 4 to 6 years	There are more than 100 possible requirements, which are compensated with premiums ranging from EUR 32 to EUR 900 per hectare and year. Nature conservation intervention can be combined with other interventions. The total premium amount can only be determined on a case-by-case basis and according to the specified requirements.	Eligibility conditions under Article 70 of the CSP Regulation (EU) 2021/2115 regarding agricultural activity, agricultural area, eligible hectare and other conditions
PL	Conservation of valuable habitats and endangered species in Natura 2000 areas ("Ochrona cennych siedlisk i zagrożonych gatunków na obszarach Natura 2000"), national code code I 8.1	Compensation for additional costs and income forgone for extensive agricultural use which deviates from standard/normal farming practice (e.g. extensive grazing of animals, adaption of mowing/grazing dates). Commitment for a period of 5 years	The intervention is implemented wit 11 land use options according to the habitat type for which specific premiums were defined. Hectar premiums per year range from 912 to 1612 PLN (214 to 378 EUR). Additionally, for non-agricultural natural areas (except “murawy”) a result-based top-up 280 PLN/ha applies if inundation is confirmed by satellite monitoring. Transaction costs can be reimbursed under this intervention.	The beneficiary owns agricultural areas or natural areas (i.e. non-agricultural areas with valuable habitats) with an area of not less than 1 hectare. Eligible areas are agricultural land, permanent grasslands or non-agricultural areas with valuable habitats. Ais shall be grated to parcels with an area of not less than 0.1 hectare.

ES / Andalusia	Agri-environment commitments on agricultural areas (6501.5 IACS). Protection of avifauna ("Compromisos agroambientales en superficies agrarias (6501.5 SIGC). Protección de la avifauna"). This intervention is programmed in Andalusia and other regions.	Compensation for additional costs and income forgone for maintaining and improving habitats for farmland birds - especially steppe birds and bird communities in rice systems - by promoting farming practices that favor feeding, nesting and shelter. Priority is given for plots in Natura 2000 areas. 3-year commitment period (shorter than most other agri-environment operations).	The premium to implement agronomic practices that enhance bird habitat is 216.28 EUR per hectare and year. The following conditions apply: No use of pesticides or synthetic fertilizers, preservation of fallows, hedgerows, stubble, or ground cover, late sowing of at least 20% of the committed area after December 15 each year, maintaining at least 80% of the committed area in subsequent years, retention of committed area: a minimum of 80% of the initially committed surface must be maintained under the scheme each year. The aid may, if necessary and justified, compensate transaction costs up to a maximum of 20% of the amount of the premium. The aid applicant may also apply for other CAP interventions where the commitments are mutually compatible.	Applicants are farm holders with eligible areas recorded in IACS/SIGC. Farmers or group of farmers who own agricultural holdings and other beneficiaries who undertake, on a voluntary basis, management commitments which are considered to be beneficial for achieving CAP specific objective 06 on biodiversity. The land must have active agricultural use, no abandoned land is eligible.
HU	Payment to encourage agro-ecological land use change ("Agro-ökológiai földhasználat-váltást ösztönző kifizetés") (National code RD22_G05_LCP_70)	Compensation for additional costs and income forgone for the maintenance of newly established habitats and landscape features of ecological value over a period of 7 years while undertaking additional activities beyond standard conditionality. It builds on non productive investments (like habitat creation, field margins, erosion control strips) established under the complementary intervention RD21_G04_LCI_73.	Fixed, generous premiums per hectare or linear meters and year are offered for around 10 different actions which range from 2 to 911 EUR. For instance for the maintenance of newly developed wetland 911 EUR / ha are offered. For each action eligibility criteria and commitments are defined. For instance in the case of newly developed wetlands, with was established in the year preceding the application, the presence of water must be maintained, the use of fertilizers is prohibited and bird-friendly mowing has to be applied. Moreover invasive plants must be prevented by mechanical control.	Eligible applicants are farmers who have implemented the relevant land use shift or habitat restoration under measure RD21_G04_LCI_73 in the previous year and who meet the specific conditions for maintenance of habitats and landscapes.

IT	ACA10 — Active management of ecological infrastructure ("ACA10 - gestione attiva infrastrutture ecologiche")	Compensation for additional costs and income forgone for the actively management of “ecological infrastructures” on/along farmland. Regions choose which actions to activate and set detailed rules. The intervention is implemented in Emilia-Romagna and in Friuli-Venezia Giulia (besides other regions). Eligible features (activated region-by-region) include: buffer strips; hedgerows/rows and planted lines, isolated trees; herbaceous linear strips; small woods; wet meadows and wetlands; minor watercourses with riparian/aquatic vegetation; terraces and traditional dry-stone walls; and ponds/laghetti, fontanili. Active maintenance of the ecological feature for the full commitment period (normally 5 years, sometimes 10 years regionally).	Payment rates are set regionally by action/feature (e.g., Emilia-Romagna indicates 800–1,000 EUR/ha/year and Friuli-Venezia Giulia 1,000 -1,736 EUR/ha/year). Amounts compensate costs, income foregone and transaction costs, based on a CREA justification (Agricultural Research and Analysis Council CREA). 8 different actions are offered including management of wetlands. For each action eligibility criteria and commitments are defined. Management commitments include: Active maintenance of the ecological feature for the full commitment period (normally 5 years, sometimes 10 years regionally). Ban on chemical inputs (fertilisers, pesticides) on or near the infrastructure, especially close to watercourses. Mowing, pruning, or clearing according to specified regional schedules and biodiversity-friendly methods. Preservation of natural vegetation and ban on removal or conversion of the infrastructure. Upkeep of structural elements (e.g. walls, terraces) to avoid degradation.	Farmers (individual or associated) are the main beneficiaries. In some regions, other public or private land managers can also apply (e.g. municipalities managing public green areas, consortia). Applicants must be registered in the national farm registry (Anagrafe delle aziende agricole) and comply with conditionality (GAEC, SMR).
DE/NRW, Saxony	Management commitments to improve biodiversity ("Bewirtschaftungsverpflichtungen zur Verbesserung der Biodiversität"). National Code EL-0105	Compensation for additional costs and income forgone for enhancing farmland biodiversity by establishing and maintaining habitats for wild plants, pollinators, insects, birds, and other farmland species. The national CAP-framework allows each federal state (Bundesland) to	Each federal state determines the level of premiums for sub-interventions itself. Annual per-hectare payments covering income foregone, additional costs, and transaction costs. Eligibility requirements and premium-related funding obligations are defined for each sub-intervention. NRW offers eight sub-interventions. Man-	Eligible beneficiaries are farmers (agricultural holdings) with eligible land in the Bundesländer. Applicants must be registered in the farm register (InVeKoS) and comply with baseline conditionality (GAEC/SMR) rules. The areas applied for must be located in a field block of the Agricultural Land Information System (LPIS). Funding is only

		adopt and tailor certain sub-interventions of EL-0105. The actual scope of the intervention depends heavily on implementation and selection in the individual federal states, which leads to significant differences. Eligible actions include a wide spectrum of biodiversity actions. These form the national blueprint; each Bundesland (federal state) adapts and selects its own sub-measures from this list depending on regional priorities and capacities. Eco-schemes (1st pillar EAGF) and agri-environmental measures (2nd pillar EAFRD) can be combined in some cases. Agri-environmental measures can be based on eco-schemes, i.e. they can generate an additional premium if additional requirements are met. The measures that can be combined are specified in 'combination tables'. [8]	agement commitments include establishment and maintenance of designated biodiversity areas for at least 5 years. Payment rates vary by measure type (e.g. higher for multi-year biodiversity fallows, lower for rotational flowering strips) and amount 35 to 960 EUR /ha/year depending on the commitment. Saxony offers 14 sub-interventions. Management commitments include highly differentiated measures on arable land and grassland. Payment rates vary by measure type and amount 48 to 713 EUR /ha/year depending on the commitment. In another intervention under the same funding directive (FRL AUK/2023), EL-0102 (management commitments to improve water quality), premiums of up to EUR 3,336/ha (AL 13) are paid in Saxony. The commitment period is five years.	provided in specific funding or area contexts, insofar as this is provided for in the measure concerned.

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SE	Compensation for the management of wetlands and ponds ("Ersättning för skötsel av våtmarker och dammar, VATMARK)"	VATMARK provides financial support for the upkeep of wetlands and ponds, aiming at biodiversity conservation, nutrient reduction and climate resilience, through 5-year management commitments under CAP Pillar II. Aquaculture activities are very limited since it is not allowed to release and feed fish, crayfish or other animals.	The annual maintenance compensation for the upkeep of constructed or restored wetlands and ponds is 4,000 Swedish kronor per hectare and year (ca. 363 EUR). In addition, when the wetland or pond is located on arable land, the farmer can receive compensation for lost land value of SEK 2,000 per hectare, per year (ca. 182 EUR). VATMARK can be combined with other CAP interventions, e.g. grazing support (betesmarker) or compensation payments in less-favoured areas (ANC) or with eco-schemes (1st pillar) that reward biodiversity-friendly practices on the surrounding farmland.	There is a relatively simple set of commitments (see Annex Table 6). The county administrative board checks whether the wetland or pond meets the requirements and basic conditionalities. The application for a commitment and payment works via the SAM Internet e-service.

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IT: https://www.reterurale.it/flex/cm/pages/ServeAttachment.php/L/IT/D/6%252F0%252Fd%252FD.0cb6fc03f91354aec7a5/P/BLOB%3AID%3D24594/E/pdf

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4.2 Comparison of support instruments for ecosystem services: EMFF/EMFAF vs. CAP

A comparison of the support instruments in the case study regions reveals the following picture:

The CAP, and within it the agri-environmental-climate measures (AECM), has an enormous funding volume at EU, national and regional level (billions annually) and covers a very broad spectrum of highly specific measures. There are many possibilities within agri-environmental- climate measures to combine different sub-interventions and thus achieve higher area support amounts. The total premium amount can only be determined on a case-by-case basis and according to the specified requirements.

In addition, eco-schemes (1st pillar EAGF) and agri-environmental-climate measures / AECM (2nd pillar EAFRD) can be **combined** in some cases. Agri-environmental-climate measures can be based on eco-schemes, i.e. they can generate an additional premium if additional requirements are met. The measures that can be combined are specified in "combination tables". The following combinations of measures/commitments are possible in principle:

- Combination of AECM on the same land unit.
- Combination of AECM at the level of the entire farm.
- Combination of AECM (2nd pillar EAFRD) with eco-schemes (1st pillar EAGF).

Examples of combination tables are shown in the Annex for Austria and Saxony/Germany (Figure 1 and Figure 2).

Also, in most interventions studied in the case study regions, the **maximum premium amount** is higher for CAP interventions (in 5 out of 7 cases) than for EMFF/EMFAF or national actions.

Compared to the CAP, the EMFF/EMFAF is more narrowly defined, focusing on specific actions to promote extensive fish farming in ponds and wetlands, which cannot be combined with other actions in such a diverse manner.

- In Austria, for example, simultaneous funding of extensive fish farming through another measures is generally excluded.
- In North Rhine-Westphalia, Germany, funding from the national nature conservation authority (but not from the CAP) can be used on a supplementary basis, provided that the ponds continue to be operated in accordance with the EMFAF obligations.
- In Saxony, support from the EMFAF may be combined, with restrictions, at farm level (but not on the same area), with measures for nature conservation ponds financed from national GAK funds.

Overall, it is a significantly smaller funding framework, but one that focuses specifically on extensive fish farming in ponds and wetlands.

In summary, the many possible combinations of area-based measures in the CAP allow for higher per-hectare subsidies compared to the EMFF/EMFAF. However, there is a lack of model calculations at farm level to back up this thesis with figures.

5 Conclusions on the research questions

DG MARE is interested in exploring:

- with what means EU Member States provide incentives to producers to engage in aquaculture activities which provide environmental and climate mitigation services.
- Through which financial instruments (national, EAFRD, EMFF/EMFAF) are such activities supported.
- and how does the support differ between EU funds (e.g. the EAFRD, the EMFF/EMFAF)?

To answer the research questions, we selected seven case study MS/regions and, through desk research and interviews with implementing bodies, gathered as much relevant information as possible, which allowed us to draw the following findings and conclusions.

In each of the seven case-study MS/regions, there are targeted support instruments to promote extensive fish farming in ponds and wetlands.

Funding is mainly provided by the EMFF and EMFAF and, in one case (AT), also by national sources. Extensive fish farming in ponds and wetlands is not supported by the CAP Strategic Plans in the case study MS/regions. This is also confirmed by an analysis of the EU-wide database on CAP interventions.

The funding efficiency of the funding instruments supported by the EMFF/EMFAF and nationally varies. Funding efficiency describes the ratio between administrative effort to implement the support instrument and the effectiveness of achievement of funding objectives.

- The national support instrument in Austria has the best funding efficiency (low administrative effort/very high effectiveness), but it has a very small budget and, as a purely national instrument, is chronically underfunded.
- The support instruments in Poland and Hungary have a good ratio (medium administrative effort/high effectiveness).
- The support instruments in Germany (NRW, Saxony) and Spain (Andalusia) have an acceptable ratio (high to very high administrative effort/high to very high effectiveness).
- The instruments in Italy have an unfavourable ratio (high to very high administrative effort/low to medium effectiveness).

This means that there is still room for improvement of the instruments in all case study regions in order to improve funding efficiency. Various options for improving funding efficiency were outlined in section 3.4.

Compared to funding from the EMFF/EMFAF or national sources, CAP interventions in the area of agri-environment-climate measures offer more combination options, opening up the possibility of obtaining higher funding amounts at the land or farm level.

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7 Annex

Table 5: Example: Management commitments for North Rhine-Westphalia (EMFAF)

- Management Practices for Pond Farming
- Stocking Density and Feeding:
  - **Stocking Density**: The recommended stocking density for Module 1 is less than 400 kg of fish per hectare annually. This low density is crucial to minimize ecological impacts and support the natural food chain within the pond ecosystem.
  - **Feeding Practices**: The use of artificial feeds is discouraged, promoting natural foraging as the primary means of sustenance for fish. This practice helps in maintaining water quality and reducing the nutrient load.

- Pond Maintenance and Habitat Management:
  - **Maintenance Techniques**: Use of non-intrusive maintenance techniques such as hand dredging and gentle bank reshaping with hand tools is encouraged to preserve the natural structure and function of the pond ecosystem.
  - **Timing of Maintenance Activities**: Maintenance should be scheduled during the dormant season for aquatic life, typically from late October to February, to minimize disturbance to fish and other wildlife during breeding or growth periods.

- Biodiversity Conservation Efforts:
  - **Wildlife Rescue and Relocation:** During draining operations, efforts must be made to rescue and safely relocate amphibians, fish, and invertebrates. Detailed plans for rescue operations should be prepared in advance, including equipment like fine mesh nets and temporary holding tanks.
  - **Habitat Creation:** Enhancement of biodiversity through the creation of varied microhabitats, such as submerged logs, stone piles, and areas of varied depth and vegetation, to encourage diverse species establishment.

- Use of Natural Materials and Techniques:
  - **Material Use**: For any construction or repair work, natural and locally sourced materials such as clay, stone, and native timber should be used. The use of plastics or other synthetic materials is strictly prohibited.
  - **Equipment Restrictions**: Only non-mechanical, low-impact tools like scythes, rakes, and manual dredges are permitted. The use of heavy machinery that can compact soil or disturb sediment layers is not allowed.

- Legal and Environmental Compliance:
  - **Regulatory Adherence**: Compliance with all local, national, and European Union environmental regulations is mandatory. This includes maintaining water quality standards and adhering to wildlife protection laws.
  - **Environmental Audits**: Regular environmental audits are conducted to ensure compliance, with a focus on water quality, sediment management, and habitat quality.

- Documentation and Reporting:

- **Record-Keeping**: Detailed records of all management activities, including dates, methods used, and areas affected, must be kept. This includes logs of fish stocking, feed types and quantities (if used), and results of any biodiversity surveys.
- **Annual Reporting**: An annual report detailing all aspects of pond management and compliance with EMFAF requirements must be submitted to the overseeing authorities.

- Training and Advisory Services:
  - **Training Programs**: Regular training on sustainable pond management and biodiversity conservation practices is required. This may include sessions on natural feed management, habitat enhancement, and legal compliance.
  - **Advisory Services**: Access to ongoing advisory services from environmental experts or local agricultural extension services is provided to assist in the implementation of best practices and to keep operators updated on the latest research and techniques in sustainable aquaculture.

Source: FAMENET, 2025.

Table 6: Checklist for environmental compensation for wetland and pond management in Sweden under the CAP (VATMARK)

No	Question	Yes	No	**Comment**
1	Have you read the information about environmental compensation on the Swedish Board of Agriculture's website?			You should read the information on the Swedish Board of Agriculture's website. Even if you have a commitment, it is important that you read the information to see if there is any news that may affect you.
2	Have you read and taken note of the information provided in connection with the SAM application?			You should read the information you receive in connection with the SAM application. It is important

No	Question	Yes	No	**Comment**
				that you read the information to see if there is any news that may affect you.
3	Do you comply with the basic conditions?			There are basic conditions that you must comply with. Basic conditions are a number of rules in various areas, such as animal welfare and the management of agricultural land. You can read more about basic conditions here.
4	Have you maintained dam embankments, wells and other facilities during the period of your commitment?			You will only receive compensation for wetlands and ponds that have been constructed or restored, and you must therefore maintain embankments, wells and other facilities to ensure that

No	Question	Yes	No	**Comment**
				the wetland or pond remains intact.
5	Do you ensure that your wetland or pond is open and does not become overgrown?			You must not allow your wetland or pond to become overgrown. Your commitment decision includes information on how to clear your wetland or pond to maintain its function.
6	Do you refrain from fertilising your land?			You must not spread fertiliser in or near your wetland or pond.
7	Do you refrain from using plant protection products?			You must not use plant protection products in or near your wetland or pond.

No	Question	Yes	No	**Comment**
8	Do you refrain from feeding fish, crayfish or other animals in your wetland or pond, or do you follow the county administrative board's decision on exemptions?			You may not feed fish, crayfish or other animals in the wetland or pond unless the county administrative board decides otherwise.
9	Do you refrain from introducing fish, crayfish or other animals into your wetland or pond, or do you follow the county administrative board's decision on exemptions?			You may not release fish, crayfish or other animals into your wetland or pond unless the county administrative board decides otherwise.
10	Will you refrain from destroying or removing the wetland or pond that is part of the commitment?			You may not destroy or remove the wetland or pond.

No	Question	Yes	No	**Comment**
11	Will you refrain from liming your wetland or pond, or will you comply with the county administrative board's decision on exemptions?			You may not lime your wetland or pond unless the county administrative board decides otherwise.
12	Do you comply with the conditions set out in the county administrative board's decision?			You will receive a decision from the county administrative board when you apply for a commitment to manage your wetland or pond. The decision may contain specific conditions that you must comply with.
13	This only applies to those who have received support to construct or restore their wetland or pond. Are you complying with the conditions			If you have created or restored your wetland or pond as an environmental investment, you must also comply with the conditions you received

No	Question	Yes	No	**Comment**
	set out in the decision on support that you have previously received?			when you applied for support to create or restore your wetland or pond.

Source: https://jordbruksverket.se/stod/jordbruk-tradgard-och-rennaring/vatmarker-vattenvard-kalkfilterdiken-och-bevattningsdammar/skotsel-av-vatmarker-och-dammar.

Figure 1: Example of a combination table from the Austrian AECM/ÖPUL programme 2023

Folgende Maßnahmen sind prämienmäßig

x.... auf der Einzelfläche kombinierbar
a ... auf der Einzelfläche kombinierbar mit Prämienabschlag

		1A	1B	2	3	4	6	7	8	9	10	11	12	13	14	16	17	18	19	23	24
		Umweltgerechte und biodiversitätsfördernde Bewirtschaftung	Biologische Wirtschaftsweise	Einschränkung ertragssteigernder Betriebsmittel	Heuwirtschaft	Bewirtschaftung von Bergmähdern	Begrünung von Ackerflächen – Zwischenfruchtanbau	Begrünung von Ackerflächen – System Immergrün	Erosionsschutz Acker	Bodennahe Ausbringung flüssiger Wirtschaftsdünger und Gülleseparation	Erosionsschutz Wein, Obst und Hopfen	Herbizidverzicht Wein, Obst und Hopfen	Insektizidverzicht Wein, Obst und Hopfen	Einsatz von Nützlingen im geschützten Anbau [2]	Almbewirtschaftung	Vorbeugender Grundwasserschutz – Acker [4]	Humuserhalt und Bodenschutz auf umbruchsfähigem Grünland	Naturschutz	Ergebnisorientierte Bewirtschaftung	Natura 2000 und andere Schutzgebiete – Landwirtschaft	Wasserrahmenrichtlinie – Landwirtschaft
1A	Umweltgerechte und biodiversitätsfördernde Bewirtschaftung			x	x	x [1]	x	x	x	x	x [1]	x [1]	x [1]			x	x	x [1]	x [1]	x	x
1B	Biologische Wirtschaftsweise				x	x [1]	x	x	x	x	x [1]					a	x	x [1]	x [1]	x	x
2	Einschränkung ertragssteigernder Betriebsmittel	x			x		x	x	x	x	x	x	x			a	x			x	x
3	Heuwirtschaft	x	x	x			x	x		x						x	x				x
4	Bewirtschaftung von Bergmähdern	x [1]	x [1]																		
6	Begrünung von Ackerflächen – Zwischenfruchtanbau	x	x	x	x				x	x						x					x
7	Begrünung von Ackerflächen – System Immergrün	x	x	x	x				x	x						x					x
8	Erosionsschutz Acker	x	x	x			x	x		x						x					x
9	Bodennahe Ausbringung flüssiger Wirtschaftsdünger und Gülleseparation	x	x	x	x		x	x	x							x	x				x
10	Erosionsschutz Wein, Obst und Hopfen	x [1]	x [3]	x								x	x [3]								
11	Herbizidverzicht Wein, Obst und Hopfen	x [1]		x							x		x								
12	Insektizidverzicht Wein, Obst und Hopfen	x [1]		x							x [3]	x									
13	Einsatz von Nützlingen im geschützten Anbau [2]																				
14	Almbewirtschaftung																				
16	Vorbeugender Grundwasserschutz – Acker [4]	x	a	a	x		x	x	x	x											x
17	Humuserhalt und Bodenschutz auf umbruchsfähigem Grünland	x	x	x	x					x											
18	Naturschutz	x [1]	x [1]																	x	
19	Ergebnisorientierte Bewirtschaftung	x [1]	x [1]																	x	
23	Natura 2000 und andere Schutzgebiete – Landwirtschaft	x	x	x														x	x		
24	Wasserrahmenrichtlinie – Landwirtschaft	x	x	x	x		x	x	x	x						x					

Source: Annex/Anhang L der Sonderrichtlinie ÖPUL 2023, https://ooe.lko.at/anh%C3%A4nge-%C3%B6pul-2023+2400+3575956

Example: The intervention 'nature conservation' (*Naturschutz*) can be combined with three other interventions on the same area.

Figure 2: Combinations of measures under the Agri-environment and Climate Measures Funding in Saxony / Germany on arable land (AL), on grassland (GL) and eco-schemes under Pillar 1

The case study Intervention "EL-0105" includes AL 5 to AL 10 and GL 1, GL 3 to GL 8

Combinations of measures under the Agri-environment and Climate Measures Funding Guideline – FRL AUK/2023

1 Combination of measures under this funding guideline

Combinations of measures under Part A, Part B and Part C of FRL AUK/2023 are possible in some cases. The following three variants within a gross area with different effects in terms of the granting of a subsidy may occur: #

a) Combination of two measures on an overlapping area on the gross plot or on a sub-area (strip), both grants can be awarded for the overlapping area. (Symbol ■)

b) Combination on an overlapping area on the gross plot or a sub-area (strip), the subsidy under Part A of the funding guidelines is reduced by the full amount of the subsidy for measure EA PSM from Part C (382 EUR/ha). (Symbol O)

c) Combination of two measures on different sub-areas in a gross field, the subsidies are granted for the respective sub-areas of the measure applied for. (Symbol ❖)

Permissible combinations of measures on arable land within a gross area:

Abbreviation	AL 1	AL 2	AL 3	AL 4	AL 5a	AL 5b	AL 5c	AL 6a	AL 6b	AL 7	AL 8	AL 9	AL 10*	AL 11	AL 12	AL 13	AL 14	AL 15	EA PSM
AL 1											■					❖			
AL 2										❖	■	■		■	❖	❖		■	
AL 3											■					❖		■	
AL 4											■			■		❖			
AL 5a											■					❖			
AL 5b											■		■			❖			
AL 5c											■		■			❖			
AL 6a										❖	■			■		❖		■	O
AL 6b										❖	■			■		❖		■	O
AL 7		❖						❖	❖		❖			❖		❖		❖	O
AL 8	■	■	■	■	■	■	■	■	■	❖		■		■	❖	❖		■	
AL 9		■									■			■	❖	❖		■	
AL 10						■	■												
AL 11		■		■				■	■	❖	■	■			❖	❖		■	
AL 12		❖									❖	❖		❖					
AL 13[1]	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖		❖				❖	
AL 14																			
AL 15		■	■	■				■	■	❖	■	■		■		❖			
EA_PSM								O	O	O									

* The measure is only permitted in combination with measures AL 5b or AL 5c.

[1] The combination of AL 13 with AL 5 a/b/c is only possible from the third year of commitment to AL 13

Permitted combinations of measures on grassland within a gross plot are:

Abbreviation	GL 1a	GL 1b	GL 2a	GL 2b	GL 3a	GL 3b	GL 4a	GL 4b	GL 5a	GL 5b	GL 5c	GL 5d	GL 5e	GL 6	GL 7	GL 8	GL 9	GL 10	GLB 1a	GLB 1b	GLB 1c	GLB 1d	GLB 2a	GLB 2b	GLB 2c
GL 1a															■	■	❖								
GL 1b															■	■	❖								
GL 2a															■	■	❖								
GL 2b															■	■	❖								
GL 3a																									
GL 3b																									
GL 4a																	❖								
GL 4b																	❖								
GL 5a															■	■	❖								
GL 5b															■	■	❖								
GL 5c															■	■	❖								
GL 5d															■	■	❖								
GL 5e															■	■	❖								
GL 6															■	■	❖								
GL 7	■	■	■	■					■	■	■	■	■	■		■	❖		■	■	■	■	■	■	■
GL 8	■	■	■	■					■	■	■	■	■	■	■		❖								
GL 9	❖	❖	❖	❖			❖	❖	❖	❖	❖	❖	❖	❖	❖	❖									
GL 10																									
GLB 1a															■										
GLB 1b															■										
GLB 1c															■										
GLB 1d															■										
GLB 2a															■										
GLB 2b															■										
GLB 2c															■										

2 Combination with eco-schemes under Pillar 1

Combinations of measures under Part A and Part B of these funding guidelines with eco-schemes (ÖR) in accordance with the CAP Direct Payments Regulation (GAPDZV) are possible in some cases. The following eco-schemes may be considered:

ESR Abbreviation	Eco-scheme according to GAPDZV
ESR1a	non-productive areas on arable land in excess of the mandatory share resulting from or on the basis of Section 11 of the CAP Cross-Compliance Act
ÖR1b	Creation of flower strips or areas on arable land provided by the farmer in accordance with point (a)
ÖR1d	Old grass strips or areas in permanent grassland
ÖR2	Cultivation of diverse crops with at least five main crop types in arable farming, including the cultivation of legumes with a minimum proportion of 10 per cent
ÖR3	Maintaining agroforestry management practices on arable land and permanent grassland
ÖR4	Extensification of all permanent grassland on the farm
ÖR5	Results-oriented extensive management of permanent grassland areas with evidence of at least four regional indicator species
ÖR6	Cultivation of arable land or permanent crops on the farm without the use of synthetic chemical pesticides
ÖR7	Application of land management methods determined by conservation objectives on agricultural land in Natura 2000 areas

The following variants within a gross plot with different effects in terms of the granting of a subsidy may occur:

a) Combination of measures under this funding guideline with ÖR on an overlapping area on the gross plot or on a sub-area (strip); both grants can be awarded for the overlapping area. (Symbol ■)
b) Combination of measures under this funding guideline with ÖR on an overlapping area on the gross plot or on a sub-area (strip), the subsidy for the measure under this funding guideline is adjusted (reduced) due to identical funding obligations. (Symbol O)
c) Combination of measures under this funding guideline with ÖR on different sub-areas in a gross plot without overlapping; the subsidies are granted for the respective sub-areas of the measure applied for. (Symbol ❖)
d) Combination of two measures on an overlapping area. The grant is only granted for the AUK measure. (Symbol #)

Source: https://www.smul-foerderung.sachsen.de/download/2025_Uebersicht_Kombinationen_FRL_AUK-2023.pdf