



Service Contract for Linking the planning tools emanating from EU environmental legislation and policies with funding mechanisms ENV.D.1/ETU/2018/0020

Final Report



Final Report
March 2020

ENVIRONMENT
AGENCY AUSTRIA **umweltbundesamt**^U



EUROPEAN COMMISSION

Directorate-General for Environment
Directorate D – Natural Capital
Unit D1 - Land Use & Management

*European Commission
B-1049 Brussels*

**Service Contract for Linking
the planning tools emanating
from EU environmental
legislation and policies with
funding mechanisms**

ENV.D.1/ETU/2018/0020

Final Report

LEGAL NOTICE

This document has been prepared for the European Commission however it reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein. The Commission does not guarantee the accuracy of the data included in this study.

More information on the European Union is available on the Internet (<http://www.europa.eu>).

Luxembourg: Publications Office of the European Union, 2020

PDF ISBN 978-92-76-20380-3 doi: 10.2779/26232 KH-02-20-508-EN-N

© European Union, 2020

The Commission's reuse policy is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39 – <https://eur-lex.europa.eu/eli/dec/2011/833/oj>).

Unless otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed, provided appropriate credit is given and any changes are indicated.

How to cite this report: Dworak T.^(a), Zamparutti T.^(b), Nagl, C.^(c), Muro M.^(b), Lukacova Z.^(b), Buxbaum I.^(c), Berglund M.^(a), Schmidt G.^(a) (2020): *Linking the planning tools emanating from EU environmental legislation and policies with funding mechanisms*.

^(a) Fresh Thoughts Consulting

^(b) Millieu LTD

^(c) Austrian Environmental Agency

TABLE OF CONTENTS

1.	INTRODUCTION	16
2.	DESCRIPTION OF WORK	18
2.1.	Study aims and objectives	18
2.2.	Scope of the work.....	18
2.3.	Methodology	21
2.3.1.	Task 1: Identification and analysis of measures.....	22
2.3.2.	Task 2: Assessment of potential of measures for transposition into CAP Strategic Plans	25
2.3.3.	Task 3: Policy recommendations.....	27
3.	MAIN RESULTS	30
3.1.	National Air Pollution Control Programmes	30
3.1.1.	Description of plans and measures.....	32
3.1.2.	Assessment of measures	40
3.1.3.	Barriers and opportunities for more effective transposition of measures into the CAP.....	47
3.2.	River Basin Management Plans.....	50
3.2.1.	Description of plans and measures.....	50
3.2.2.	Assessment of measures	50
3.3.	Priority Action Frameworks and Natura 2000 Management Plans	69
3.3.1.	Priority Action Frameworks (PAFs)	69
3.3.2.	Natura 2000 Management Plans	87
3.3.3.	Barriers and opportunities for more effective transposition of measures into the CAP.....	112
4.	CONCLUSIONS, LESSONS LEARNED AND RECOMMENDATIONS	115
4.1.	Measures relevant to be included in the Strategic Plans of the MS.....	115
4.1.1.	Measures related to air.....	115
4.1.2.	Measures related to water protection	118
4.1.3.	Measures related to Natura 2000.....	120
4.2.	Recommendations on how to design adequately environmental measures in environmental planning tools in order that they can be supported under the CAP strategic plans.....	125
5.	ANNEX 1: MS SUMMARY REPORTS	133
	Introduction	133
5.1.	Belgium.....	135
5.1.1.	Air Quality	135
5.1.2.	Water Management.....	136
5.1.3.	Nature protection.....	137
5.2.	Germany	141
5.2.1.	Air Quality	141
5.2.2.	Water Management.....	143
5.2.3.	Nature protection.....	147
5.3.	Ireland.....	156
5.3.1.	Air Quality	156
5.3.2.	Water Management.....	156
5.3.3.	Nature protection.....	158
5.4.	Spain	164
5.4.1.	Air Quality	164

- 5.4.2. Water Management..... 165
 - 5.4.3. Nature protection..... 169
 - 5.5. France..... 179
 - 5.5.1. Air Quality 179
 - 5.5.2. Water Management..... 180
 - 5.5.3. Nature protection..... 184
 - 5.6. Italy..... 192
 - 5.6.1. Air Quality 192
 - 5.6.2. Water Management..... 193
 - 5.6.3. Nature protection..... 197
 - 5.7. The Netherlands 203
 - 5.7.1. Air Quality 203
 - 5.7.2. Water Management..... 204
 - 5.7.3. Nature protection..... 205
 - 5.8. Austria 208
 - 5.8.1. Air Quality 208
 - 5.8.2. Water Management..... 209
 - 5.8.3. Nature protection..... 211
 - 5.9. Poland..... 220
 - 5.9.1. Air Quality 220
 - 5.9.2. Water Management..... 221
 - 5.9.3. Nature protection..... 223
 - 5.10. Romania 232
 - 5.10.1. Air Quality 232
 - 5.10.2. Water Management..... 232
 - 5.10.3. Nature protection..... 234
 - 5.11. Sweden 244
 - 5.11.1. Air Quality 244
 - 5.11.2. Water Management..... 245
 - 5.11.3. Nature protection..... 247
- 6. ANNEX 2: QUESTIONS TO MEMBER STATES 253

ABSTRACT

With the Common Agricultural Policy (CAP) proposal for post-2020, there will be greater subsidiarity. Member States (MS) will have flexibility in the choice of environmental interventions to adapt them to their local needs. The project aimed to assess the extent to which measures included in existing environmental planning tools in the field of water management, nature conservation, and clean air policy meet the requirements for funding by the different instruments of the future EU Common Agriculture Policy. In support of this aim, the following three objectives were formulated to guide the work:

- To analyse, in a representative sample of environmental planning tools, the level of detail of measures, interventions, actions, operations or commitments which are relevant for agriculture;
- To assess whether the analysed measures are transposable into future Member States' CAP Strategic Plans;
- To develop general recommendations of key-principles to make the analysed measures transposable into future CAP Strategic Plans.

For that purpose, as illustrative examples, six environmental measures, part of environmental planning tools, which have been successfully supported in rural development programmes in the period 2014-2020 were identified and included in this report. In addition, recommendations on how to design adequately environmental measures in environmental planning tools so that they can be supported under the CAP Strategic Plans.

ABSTRAIT

Avec la proposition de la politique agricole commune (PAC) pour l'après-2020, il y aura une plus grande subsidiarité. Les États membres auront la flexibilité dans le choix des interventions environnementales pour les adapter à leurs besoins locaux. Le projet visait à évaluer dans quelle mesure les mesures incluses dans les outils de planification environnementale existants dans le domaine de la gestion de l'eau, de la conservation de la nature et de la politique de l'air pur répondent aux exigences de financement par les différents instruments de la future politique agricole commune de l'UE. À l'appui de cet objectif, les trois objectifs suivants ont été formulés pour guider les travaux:

- Analyser, dans un échantillon représentatif d'outils de planification environnementale, le niveau de détail des mesures, interventions, actions, opérations ou engagements pertinents pour l'agriculture;
- évaluer si les mesures analysées sont transposables dans les futurs plans stratégiques de la PAC des États membres;
- Élaborer des recommandations générales de principes clés pour rendre les mesures analysées transposables dans les futurs plans stratégiques de la PAC.

À cette fin, à titre d'exemples illustratifs, six mesures environnementales, faisant partie des outils de planification environnementale, qui ont été appuyées avec succès dans les programmes de développement rural au cours de la période 2014-2020 ont été identifiées et incluses dans le présent rapport. En outre, des recommandations sur la manière de concevoir correctement les mesures environnementales dans les outils de planification environnementale afin qu'elles puissent être soutenues dans le cadre des plans stratégiques de la PAC.

EXECUTIVE SUMMARY

According to the legal proposals presented by the European Commission¹, the next Common Agricultural Policy (CAP) will continue to be financed through two funds, the European Agricultural Guarantee Fund and the European Agricultural Fund for Rural Development. The future CAP will focus on nine objectives reflecting its economic, environmental, and socio-territorial multifunctionality.

A new delivery model aims to bring together the operations under a single programming instrument, the Common Agricultural Policy Strategic Plan. This approach will be flexible in its design and management, being entrusted to the national authorities. Through these strategic plans, Member States have the possibility to set out how they intend to meet the nine EU-wide objectives using CAP instruments while responding to the specific needs of their farmers and rural communities.

In this context, the project aimed to assess the extent to which measures included in existing planning environmental planning tools emanating from the EU environmental legislation applying to agricultural, forests and Natura 2000 in rural areas present the features necessary to be supported under the different instruments of the Common Agriculture Policy. This study focused on environmental planning tools in the following 11 EU Member States: Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Poland, Romania, and Sweden. The planning tools analysed included:

- National Air Pollution Control Programmes (NAPCP) established under Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants.
- River Basin Management Plans (RBMP) and Programmes of measures (POMs) established under Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.
- Prioritised Action Frameworks (PAF) established for the relevant period under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, and
- Natura 2000 Management Plans established under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

In support of the above-mentioned aim, the following three objectives were formulated:

- To analyse, in a representative sample of environmental planning tools, the level of detail of measures, interventions, actions, operations or commitments which are relevant for agriculture;
- To assess whether the analysed measures are transposable into future Member States' CAP Strategic Plans;
- To develop general recommendations of key-principles to make the analysed measures transposable into future CAP Strategic Plans.

In total, the study analysed 10 NAPCPs, 18 RBMPs, 11 PAFs, and 51 Natura 2000 Management Plans (see Table 1).

¹ See <https://ec.europa.eu/commission/publications/natural-resources-and-environment>

Table 1: Overview of environmental planning tools analysed per Member State

Member State	NAPCP	RBMP	PAF	Natura 2000 Management Plans
Belgium	1	2	2**	5
Germany	1	2	1***	5
Ireland	1	1*	1	5
Spain	1	2	3**	5
France	1	2	1***	5
Italy	1	2		5
Netherlands	1	2		1
Austria	1	1*	1	5
Poland	1	1*	1	5
Romania	Replaced by Estonia	1*	1	5
Sweden	1	2		5
Total	11	18	11	51

Final
Draft
*National RBMP
**Regional PAF
***PAF 2014-2020

The assessment identified six environmental measures, part of environmental planning tools, which have been supported in rural development programmes in the period 2014-2020 and which have been identified and included in this report. These are:

- Low-emission manure spreading techniques;
- Low-emissions manure storage systems;
- Agri-environment-climate commitments - Buffer strips;
- Natura 2000 & Water Framework Directive payments;
- Maintenance of grasslands through extensive grazing;
- Planting and restoring hedgerows.

There is a set of preconditions that need to be considered when designing measures. These are²:

- There are many cases where environmental planning tools and CAP Strategic Plans (CAP SP) are applied to different geographical units. There is also a different timeframe of implementation.
- Environmental planning tools reviewed are not per se designed to match the requirements of the CAP (though this is a role of the PAFs). They are designed in the context of their legal basis and to achieve the objectives set in the related environmental legislation.
- Some assessments have shown that some voluntary measures do not result in the expected environmental improvements.
- Some farmers prefer measures that maximise production, require fewer changes to their management practices, and result in fewer long-term obligations.
- A good policy coordination process among environmental and agricultural authorities is vital. In cases where a single ministry is or was responsible for both policy areas, the link is much stronger than in other cases. However, whether or not there is a single ministry, having a strong coordination process has been identified as important. This process is more important than the published descriptions on the environmental planning tools. These descriptions very often do not provide the needed details (e.g. geographic scale) but these details are known within the relevant authorities.
- Consultations in the context of the new CAP helped to improve the design of the measures regarding environmental issues. The involvement of stakeholders – both on agriculture and environmental sides has been judged as important (e.g. Germany).
- Environmental planning instruments often do not provide quantitative indications of the extent to which measures are needed to achieve environmental policy goals, but some planning instruments do contain this information (e.g. PAFs and some Natura 2000 management plans). This limits any assessment of the adequacy of current and planned CAP measures in some environmental area. (Air pollution measures might provide the closest insight – this is seen in a couple of Member States.) while this assessment is established in the Nature legislation.

Having this in mind the following recommendations on how to design adequately environmental measures in environmental planning tools in order that they can be supported under the CAP Strategic Plans can be made:

- It is essential to quantify the environmental problem to be solved. If the “distance to target” (current environmental status compared to the one set in legislation) is not fully understood and quantified it is difficult to design an appropriate measure. In order to design measures accordingly and to include the adequate measures within CAP SP to achieve the objectives this information is essential and it is recommended that it is included in all environmental planning tools.
- It is recommended that agricultural and environmental authorities start to cooperate at an early stage in the process and discuss the design of the measures commonly.
- The information that specifies the measure provided in the environmental planning tools should be clear, precise and having a sufficient level of detail.
- It is further recommended that the SP have a clear description of the measures (including how it contributes to the specific environmental objective set out in legislation), a clear definition of the area on which it should be applied (maps), the duration of the measure and what the MS is undertaking to boost farmers uptake. It is also important that the design of the measures is based on the same data sets as used by the environmental authorities in order to ensure coherence.
- As financing of measures is limited due to restricted resources, the highest priority should be on measures that can improve multiple environmental issues, address several specific

² For PAFs, the conclusions have to be nuanced, because they have been done on draft documents or on old PAFs.

objectives as set out Article 6(1)d to f in the proposal for a regulation establishing rules on support for strategic plans³ and are most (cost-)effective.

- Another priority should be given to most vulnerable areas to ensure that they are not further degraded. Priority should also go to those areas where human pressures are increasing due to new developments.

The European Commission can support the designing process by the following actions:

- Promote good practice in dialogues and coordination at Member State and regional levels between agriculture and environmental authorities, when designing the CAP SP and foster the exchange among Member States.
- Consider the development of further guidance planning tools or the update of existing guidance as available e.g. for water and NATURA 2000 to provide support to the design process of the environmental planning tools and/or the CAP SP.

³ Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council, COM/2018/392 final-2018/0216 (COD) available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A392%3AFINCOM/2018/392>

RESUME

Selon les propositions juridiques présentées par la Commission européenne, la prochaine politique agricole commune (PAC) continuera d'être financée par deux fonds, le Fonds européen agricole de garantie et le Fonds européen agricole pour le développement rural. La future PAC se concentrera sur neuf objectifs reflétant sa multifonctionnalité économique, environnementale et socio-territoriale.

Un nouveau modèle de livraison vise à regrouper les opérations dans un seul instrument de programmation, le plan stratégique de la politique agricole commune. Cette approche sera flexible dans sa conception et sa gestion, étant confiée aux autorités nationales. Grâce à ces plans stratégiques, les États membres ont la possibilité de définir comment ils entendent atteindre les neuf objectifs à l'échelle de l'UE en utilisant les instruments de la PAC tout en répondant aux besoins spécifiques de leurs agriculteurs et de leurs communautés rurales.

Dans ce contexte, le projet visait à évaluer la mesure dans laquelle les mesures incluses dans les outils de planification environnementale existants émanant de la législation environnementale de l'UE applicable à l'agriculture, aux forêts et à Natura 2000 dans les zones rurales présentent les caractéristiques nécessaires pour être soutenues dans le cadre des différents instruments de la politique agricole commune de l'UE. Cette étude s'est concentrée sur les outils de planification environnementale dans les 11 États membres de l'UE suivants: Belgique, Allemagne, Irlande, Espagne, France, Italie, Pays-Bas, Autriche, Pologne, Roumanie et Suède. Les outils de planification analysés comprenaient:

- Programmes nationaux de lutte contre la pollution atmosphérique (NAPCP) établis en vertu de la directive (UE) 2016/2284 sur la réduction des émissions nationales de certains polluants atmosphériques.
- Plans de gestion de district hydrographique (RBMP) et programmes de mesures (POM) établis en vertu de la directive 2000/60/CE du Parlement européen et du Conseil du 23 octobre 2000 établissant un cadre pour une action communautaire dans le domaine de la politique de l'eau.
- Cadres d'action prioritaire (PAF) établis pour la période concernée en vertu de la directive 2009/147/CE du Parlement européen et du Conseil du 30 novembre 2009 sur la conservation des oiseaux sauvages et de la directive 92/43/CEE du Conseil du 21 mai 1992 sur la conservation des habitats naturels ainsi que de la faune et de la flore sauvages, et
- Plans de gestion Natura 2000 établis en vertu de la directive 92/43/CEE du Conseil du 21 mai 1992 concernant la conservation des habitats naturels ainsi que de la faune et de la flore sauvages.

À l'appui de l'objectif susmentionné, les trois objectifs suivants ont été formulés:

- Analyser, dans un échantillon représentatif d'outils de planification environnementale, le niveau de détail des mesures, interventions, actions, opérations ou engagements pertinents pour l'agriculture;
- évaluer si les mesures analysées sont transposables dans les futurs plans stratégiques de la PAC des États membres;
- Élaborer des recommandations générales de principes clés pour rendre les mesures analysées transposables dans les futurs plans stratégiques de la PAC.

Au total, l'étude a analysé 10 NAPCPs², 18 RBMP, 11 PAF et 51 plans de gestion Natura 2000 (voir tableau 1).

Tableau 1: aperçu des outils de planification environnementale analysés par État membre

État membre	NAPCP	RBMP	PAF	plans de gestion Natura 2000
Belgique	1	2	2**	5
Allemagne	1	2	1***	5
Irlande	1	1*	1	5
Espagne	1	2	3**	5
France	1	2	1***	5
Italie	1	2		5
Pays-Bas	1	2		1
Autriche	1	1*	1	5
Pologne	1	1*	1	5
Roumanie	Remplacé par l'Estonie	1*	1	5
Suède	1	2		5
Total	11	18	11	51

Final
projet
* RBMP nationaux
** PAF régionaux
***PAF 2014-2020

L'évaluation a identifié six mesures environnementales, faisant partie des outils de planification environnementale, qui ont été soutenues dans les programmes de développement rural au cours de la période 2014-2020 et qui ont été identifiées et incluses dans ce rapport. Ceux-ci sont:

- Techniques d'épandage de fumier à faibles émissions;
- Systèmes de stockage de fumier à faibles émissions;
- Engagements agroenvironnementaux et climatiques - Bandes tampons;
- Paiements Natura 2000 et directive-cadre sur l'eau;
- Entretien des prairies grâce à un pâturage extensif;
- Plantation et restauration de haies.

Il existe un ensemble de conditions préalables qui doivent être prises en compte lors de la conception des mesures. Ceux-ci sont⁴:

- Il existe de nombreux cas où les outils de planification environnementale et le CAP SP sont appliqués à différentes unités géographiques. Il existe également un calendrier de mise en œuvre différent.
- Les outils de planification environnementale examinés ne sont pas en soi conçus pour répondre aux exigences de la PAC. Ils sont conçus dans le contexte de leur base juridique et pour atteindre les objectifs fixés dans la législation environnementale correspondante.
- Les instruments de planification environnementale ne fournissent souvent pas d'indications quantitatives sur la mesure dans laquelle des mesures sont nécessaires pour atteindre les objectifs politiques.
- Certaines évaluations ont montré que certaines mesures volontaires n'entraînent pas les améliorations environnementales attendues.
- Certains agriculteurs préfèrent des mesures qui maximisent la production, nécessitent moins de changements dans leurs pratiques de gestion et entraînent moins d'obligations à long terme.
- Un bon processus de coordination des politiques entre les autorités environnementales et agricoles est vital. Dans les cas où un seul ministère est ou était responsable des deux domaines politiques, le lien est beaucoup plus fort que dans les autres cas. Cependant, qu'il y ait ou non un seul ministère, un processus de coordination solide a été identifié comme important. Ce processus est plus important que les descriptions publiées sur les outils de planification environnementale. Très souvent, ces descriptions ne fournissent pas les détails nécessaires (par exemple, l'échelle géographique), mais ces détails sont connus au sein des autorités compétentes.
- Les consultations dans le cadre de la nouvelle PAC ont permis d'améliorer la conception des mesures concernant les questions environnementales. L'implication des parties prenantes - tant du côté de l'agriculture que de l'environnement - a été jugée importante (par exemple Allemagne).
- Les instruments de planification environnementale ne fournissent souvent pas d'indications quantitatives sur la mesure dans laquelle des mesures sont nécessaires pour atteindre les objectifs de la politique environnementale, mais certains instruments de planification contiennent ces informations (par exemple, les PAF et certains plans de gestion Natura 2000). Cela limite toute évaluation de l'adéquation des mesures actuelles et prévues de la PAC dans certains domaines environnementaux. (Les mesures de lutte contre la pollution atmosphérique pourraient fournir l'aperçu le plus précis - on le voit dans quelques États membres), alors que cette évaluation est établie dans la législation sur la nature.

Gardant cela à l'esprit, les recommandations suivantes sur la manière de concevoir correctement les mesures environnementales dans les outils de planification environnementale afin qu'elles puissent être soutenues dans le cadre des plans stratégiques de la PAC peuvent être formulées:

- Il est essentiel de quantifier le problème environnemental à résoudre. Si la «distance à atteindre» (état environnemental actuel par rapport à celui fixé dans la législation) n'est pas entièrement comprise et quantifiée, il est difficile de concevoir une mesure appropriée. Afin de concevoir des mesures en conséquence et d'inclure les mesures adéquates dans le CAP SP pour atteindre les objectifs, ces informations sont essentielles et il est recommandé de les inclure dans tous les outils de planification environnementale.
- Il est recommandé que les autorités agricoles et environnementales commencent à coopérer à un stade précoce du processus et à discuter en commun de la conception des mesures.
- Les informations qui spécifient la mesure fournie dans les outils de planification environnementale doivent être claires, précises et suffisamment détaillées.

⁴ Pour les PAFs, les conclusions doivent être nuancées, car elles ont été faites sur des projets de documents ou sur d'anciens PAFs.

- Il est en outre recommandé que le PS ait une description claire des mesures (y compris comment elles contribuent à l'objectif environnemental spécifique défini dans la législation), une définition claire de la zone sur laquelle elles doivent être appliquées (cartes), la durée de la mesure et ce que les États membres entreprennent pour stimuler l'adoption par les agriculteurs. Il est également important que la conception des mesures repose sur les mêmes ensembles de données que ceux utilisés par les autorités environnementales afin de garantir la cohérence.
- Étant donné que le financement des mesures est limité en raison de ressources limitées, la priorité devrait être accordée aux mesures susceptibles d'améliorer de multiples problèmes environnementaux, répondre à plusieurs objectifs spécifiques, comme indiqué à l'article 6, paragraphe 1, points d à f, dans la proposition de règlement établissant des règles sur le soutien de plans stratégiques⁵ et sont les plus avantageuses.
- La priorité devrait être accordée aux zones les plus vulnérables pour éviter qu'elles ne se dégradent davantage. Une autre priorité devrait également aller aux domaines où les pressions humaines augmentent en raison de nouveaux développements.

La Commission européenne peut soutenir le processus de conception par les actions suivantes:

- Promouvoir les bonnes pratiques dans les dialogues et la coordination au niveau des États membres et des régions entre les autorités agricoles et environnementales lors de la conception du SP de la PAC et favoriser les échanges entre les États membres.
- Envisager le développement d'autres outils de planification des orientations ou la mise à jour des orientations existantes telles que disponibles, par exemple pour l'eau et NATURA 2000 pour accompagner le processus de conception des outils de planification environnementale et / ou du PAC SP.

⁵ Proposition de Règlement Du Parlement Européen Et Du Conseil établissant des règles régissant l'aide aux plans stratégiques devant être établis par les États membres dans le cadre de la politique agricole commune (les «plans stratégiques relevant de la PAC») et financés par le Fonds européen agricole de garantie (FEAGA) et par le Fonds européen agricole pour le développement rural (Feader), et abrogeant le règlement (UE) n° 1305/2013 du Parlement européen et du Conseil et le règlement (UE) n° 1307/2013 du Parlement européen et du Conseil, disponible à l'adresse <https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=CELEX:52018PC0392&from=EN>

1. INTRODUCTION

In its Communication “A Modern Budget for a Union that Protects, Empowers and Defends - The Multi-Annual Framework for 2021-2027”⁶, the Commission presented its proposal for a budget for 2021-2027 as a driver of sustainability notably through modernised agricultural and maritime policies, dedicated funding for climate action and environmental protection, the mainstreaming of climate across the budget and enhanced integration of environmental objectives.

In the political guidelines for the next European Commission 2019-2024 European Commission president, von der Leyen made a clear statement that the EU must set new standards for biodiversity cutting across trade, industry, agriculture and economic policy.⁷

According to the legal proposals⁸ for the next Common Agricultural Policy (CAP) published on 1st of June 2018 the CAP will continue to be financed through two funds, the European Agricultural Guarantee Fund and the European Agricultural Fund for Rural Development. The future CAP will focus on nine objectives reflecting its economic, environmental and socio-territorial multifunctionality. It will continue its two pillars to support national strategic plans according to a range of measures chosen by an integrated approach with the aim to better integrate environmental and climate measures set under EU legislation. The new delivery model aims to bring together the operations under a single programming instrument, the Common Agricultural Policy Strategic Plan. This approach will be more flexible in its design and management, being entrusted to the national authorities. Through these strategic plans, Member States have the possibility to set out how they intend to meet the nine EU-wide objectives using CAP instruments while responding to the specific needs of their farmers and rural communities.

Overall, the aim is to considerably improve the coherence between the CAP and the EU environmental legislation as there will be a requirement that the CAP needs explicitly “to contribute to the environmental- and climate-related objectives of the Union”.⁹

In order to achieve the above-mentioned objective Member States will effectively need to design their CAP strategic plans in coordination with environmental authorities to ensure coherence with the environmental needs set in the environmental legislation (see Article 92 of the Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy). This leads to the requirement that the designing of the CAP strategic plans needs to take into account existing environmental planning tools.

The new CAP “green architecture” is proposed to include:

- an enhanced conditionality, which will include reinforced cross-compliance obligations, including part of previous greening obligations
- eco-schemes in the 1st pillar (obligatory for MS, voluntary for farmers, possibly supported based on incentives)
- under the second pillar, voluntary measures such as agri-environment-climate measures, forest climate and environment measures and the conversion to or maintenance of organic farming. Such measures will continue to have the possibility to be supported on the basis of income forgone and additional costs.

⁶ COM(2018)321 final, of 2.5.2018

⁷ See https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

⁸ See <https://ec.europa.eu/commission/publications/natural-resources-and-environment>

⁹ See Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for Strategic Plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A392%3AFINCOM/2018/392> final - 2018/0216 (COD)

In this context, there was the need to analyse the opportunities under the draft Multi-annual Financial Framework for the period 2021-2027¹⁰ for funding to protect the environment and enhance natural capital in rural areas.

Guide to the Final Report

Section 2 briefly describes the project's work programme and details the objectives and steps carried out under each task. Section 3 presents the findings of the analysis of the environmental planning tools covered by this study. The report ends with a conclusion and recommendations (Section 4).

The following annexes and complementary outputs are submitted with this Final Report:

1. Reports showing the assessments made for Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Poland, Romania, Sweden,
2. A leaflet presenting the conclusions and recommendations of the study,
3. A Power Point Presentation of the results and recommendations for stakeholder and/or Member State.

¹⁰ See https://op.europa.eu/en/web/general-publications/eu_budget_for_the_future

2. DESCRIPTION OF WORK

This section will briefly describe the aims and objectives of the study, and the methodology adopted for this study.

2.1. Study aims and objectives

The aim of the project was to assess the extent to which measures included in existing planning environmental planning tools in the field of water management, nature conservation and air quality meet the requirements for funding by the different instruments of the future EU Common Agriculture Policy. In support of this aim, the following three objectives were formulated to guide the work:

- To analyse, in a representative sample of environmental planning tools, the level of detail of measures, interventions, actions, operations or commitments which are relevant for agriculture;
- To assess whether the analysed measures are transposable into future Member States' CAP Strategic Plans;
- To develop general recommendations of key-principles to make the analysed measures transposable into future CAP Strategic Plans.

For that purpose, as illustrative examples, six environmental measures, part of environmental planning tools, which have been successfully supported in rural development programmes in the period 2014-2020 have been identified and included in this report. Please note that an assessment of the effectiveness of the measures in practice has not been part of the study. Also, the issue of how acceptable these measures are to farmers has not been investigated.

The key findings and recommendations described in this report are also summarised in a leaflet to be a tool for agricultural and environmental authorities.

2.2. Scope of the work

This study focused on environmental planning tools in the following 11 EU Member States: Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Poland, Romania and Sweden. The planning tools analysed included:

- for air
 - National Air Pollution Control Programmes (NAPCP) established under Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants.
- for water
 - River Basin Management Plans (RBMP) and Programmes of measures (POMs) established under Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.
- for nature
 - Prioritised Action Frameworks (PAF) established for the relevant period under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, and
 - Natura 2000 Management Plans established under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

Tools are described in more detail in Section 3. Below, we detail the criteria applied for selecting specific planning tools for analysis as well as the process for identifying them.

Selection of planning tools

The administrative scales at which the different environmental planning tools are established, and thus the spatial scale they cover, varies across tools and Member States. Whilst NAPCPs are only established at national level, PAFs may be established at national or regional scale. RPMPs generally cover a River Basin and Natura 2000 Management Plans refer to a specific site. Where multiple planning tools exist, it was necessary to make a selection taking into account criteria detailed in Table 2.

Table 2: Criteria for selecting samples of environmental planning tools

Environmental planning tool	Selection criteria
RBMPs	<ul style="list-style-type: none"> • Plans should cover different agriculture production types, i.e. arable, livestock, fruits, vegetables, irrigated and non-irrigated • Plans should cover a mix of pressures: <ul style="list-style-type: none"> ○ Areas with nutrient pollution problems ○ Areas affected by pesticide pollution ○ Areas with a high share of irrigation ○ Areas with significant drainage problems associated with agriculture production
PAFs	<ul style="list-style-type: none"> • Regions with a high share of land covered by Natura 2000 sites • Regions where agriculture is found in or near Natura 2000 sites and contains species/birds dependent on farmland • Regions where key species protected under the Nature Directives are found outside Natura 2000 sites
Natura 2000 Management Plans	Same criteria as for PAFs to cover a range of habitats and agricultural pressures.

In Member States where multiple RBMPs exist, two were selected for analysis. Out of the 11 Member States, only Ireland, Poland, Austria and Romania have established one single RBMP at the national level. Hence, the analysis only covered this one instrument. PAFs are mostly drafted at the national level except for Belgium, Italy, and Spain. We reviewed the two draft PAFs of Belgium and three for Spain. Italy had not submitted any drafts yet at the time of the analysis.

A second consideration that influenced the selection of planning tools for analysis, was the availability of the plans. The RBMPs had already been published, and Natura 2000 Management Plans were readily available. In the case of the NAPCP, Member States were expected to submit their plans to the Commission by 1 April 2019, which was three months into the project implementation. Similarly, the PAFs covering the reporting period 2020-2027 were expected to be notified to the Commission (with some delay) by March 2020.

In cases where drafts had been submitted, we analysed these versions. This was the case for the draft NAPCP of Ireland and Italy. For Ireland, a final version of the NAPCP was available at a very late stage of finalising this report; however, a check showed that there are no relevant differences compared to the draft version. Where plans had not been reported at the time of the analysis, we opted for the plan from a different Member State or from a previous reporting period where this was possible. Therefore, the draft NAPCP of Italy and Ireland were reviewed and Romania's NAPCP was replaced by the one submitted by Estonia. Due to the late submission of the PAFs¹¹, three draft national PAFs for 2021-27 were reviewed, Ireland, Poland, and Romania, plus five draft regional PAFs: two for Belgium and three for Spain. For Germany and France, the existing PAFs covering the period 2014-2020 were reviewed.

The selection of the Natura 2000 Management Plans aimed to cover diversity in bio-geographical regions agro-ecosystems and to include sites protected under both the Birds and Habitats Directive. The plans needed to provide a good level of detail about the measures to ensure value-added and not assess plans with little detail. Plans were identified in close collaboration with the Commission, they provided input for Spain, France, Italy, Netherlands, Poland, and Sweden, and Birdlife

¹¹ At the time of the project interim report (June 2019), only 4 of the 11 Member States to be addressed had submitted draft PAFs: BE-Wallonia, Ireland, Romania and Spain (Spain had submitted drafts for each region). It was agreed with Commission services to wait until the end of July, at which time BE-Flanders and Poland had also submitted plans.

International who asked their respective country offices for suggestions.¹² The project team received recommendations from Birdlife International for Belgium, France, Germany, Italy, the Netherlands, Poland and Sweden; national contacts were subsequently contacted by the national experts.

We identified and analysed five Natura 2000 Management Plans for nine out of the 11 Member States covered by this study. In Belgium, plans in both Flanders and Wallonia had not been approved by July 2019 and it was therefore agreed with DG Environment not to review these plans. In the Netherlands, the pilot assessment of a site management plan did not identify measures for agriculture; a further search for alternative sites did not lead to the identification of five sites with measures for agriculture (neither NGOs nor DG Environment nor a request to national authorities identified appropriate sites).

In total, we analysed 11 NAPCPs, 18 RBMPs, 11 PAFs and 51 Natura 2000 Management Plans (see Table 3). The planning tools are presented in more detail in the respective results section (see Section 3).

¹² An initial search to identify management plans using the EEA Natura 2000 viewer highlighted the fact that the viewer is not up to date (e.g. many plans were listed as not available).

Table 3: Overview of environmental planning tools analysed per Member State

Member State	NAPCP	RBMP	PAF	Natura 2000 Management Plans
Belgium	1	2	2**	5
Germany	1	2	1***	5
Ireland	1	1*	1	5
Spain	1	2	3**	5
France	1	2	1***	5
Italy	1	2		5
Netherlands	1	2		1
Austria	1	1*	1	5
Poland	1	1*	1	5
Romania	Replaced by Estonia	1*	1	5
Sweden	1	2		5
Total	11	18	11	51

Legend:

Final
Draft
*National RBMP
**Regional PAF
***PAF 2014-2020

2.3. Methodology

The work was organised into three tasks which directly link to the project's objectives (see Figure 1). Project implementation began with an inception phase which focused on the selection of a sample of environmental planning tools for the subsequent analysis as well as the design and pre-testing of the main data collection instruments.

Under Task 1, we reviewed the selected environmental planning tools in Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Poland, Romania and Sweden in order to identify and analyse agricultural measures established by these tools. We then assessed whether the analysed measures were potentially transposable into Member States' CAP Strategic Plans in Task 2 and identified and possible obstacles for their inclusion. The two first tasks were closely interrelated as the main purpose of the data collection under Task 1 was to provide the basis for the assessment under Task 2 with the necessary information.

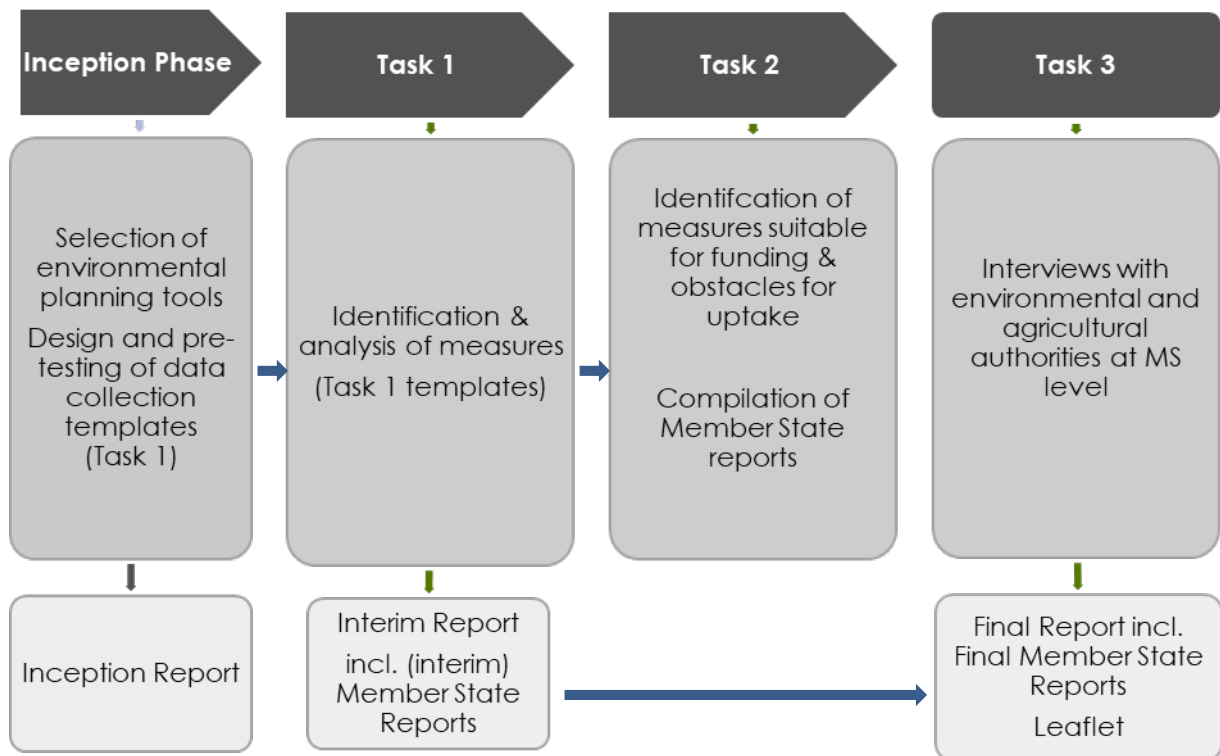
To carry over the information from one task to the next, we designed and pre-tested a data collection template which included a mix of closed and open questions to ensure a structured analysis of the planning tools and measures. The questions were designed to elicit information on the level of detail

provided for each measure and which would allow judging whether they could be funded under the future CAP as well identify shortcomings which would prevent their uptake by the Strategic Plans.

Under Task 3, national experts carried out interviews to explore factors promoting the successful funding of measures established by the environmental planning tool under the CAP. Examples demonstrating strong, as well as weak integration, were drawn from the outputs of Tasks 1 and 2 and the relevant agriculture and environmental authorities were contacted for interviews.

Findings from the desk study and the interviews were integrated to develop general recommendations of key-principles to make the analysed measures transposable into CAP Strategic Plans.

Figure 1: the approach taken



The remainder of this recaps the objectives of each task and describes the process and methods used in greater detail.

2.3.1. Task 1: Identification and analysis of measures

Task 1 aimed to analyse the level of detail of measures, interventions, actions, operations or commitments which are relevant for agriculture in the selected environmental planning tools. The work under this task commenced during the inception phase of the project and included the following steps:

Step 1: Development of data collection templates

Under this step, templates were developed to allow a structured description and analysis of relevant measures in the planning tools as a basis for assessing whether they could be transposed into the CAP Strategic Plans under Task 2; they were organised into three main sections to gather the necessary information:

1. **Overview:** Questions in this section asked for a description of the area covered by the planning tool, specifically the types of agriculture and forestry production in the area as well as their main impacts on air, water or nature.
2. **Assessment of measures:** A mix of closed and multiple-choice questions as well as text fields sought to characterise each measure in more detail and to describe the level of information provided for each measure (see below).
3. **Summary:** The final section required the drafting of a summary of all measures analysed in the respective planning tool.

Questions in the assessment section focused on the level of detail provided for the following elements:

- a. **Objectives and pressures:** Article 6 of the CAP proposal defines nine specific objectives that the measures financed under the Strategic Plans must be designed to address. This question asked if measure objectives were clearly stated in the plans.
- b. **Measure duration:** Depending on the intervention, the CAP proposal stipulates annual and multi-annual payments. Investments must be carried out under a certain deadline. The objective of this question was to gather information on whether a measure in the environmental planning tool provided information about the duration of the measure.
- c. **Beneficiaries:** Depending on the intervention, the CAP proposal stipulates who (i.e. the types of beneficiaries, e.g. farmers, other land managers) can implement the measure. The objective of this question was to gather information the type of beneficiary who may implement the measure.
- d. **Measure description and commitments:** The CAP proposal provides general information on the types of measures it can finance. The aim of this question was to collect information on the actions to be implemented under each measure.
- e. **Links to CAP cross-compliance (enhanced conditionality):** Measures can only be funded under the CAP if they go beyond mandatory requirements as defined under cross-compliance requirements (under the new CAP proposal, "enhanced conditionality"). Enhanced conditionality refers to minimum standards that farmers must adhere to if they receive direct payment from the CAP. They are comprised of statutory mandatory requirements (SMRs) (i.e. existing EU environmental legislation) and good agricultural and environmental conditions (GAECs). Information collected under this question aimed to establish whether the measures went beyond these minimum requirements.
- f. **Costs and financing:** The current CAP and the CAP post-2020 proposal specifically define the types of expenditure that can be financed under the different types of operations. The aim of the question was to identify whether the environmental planning tool provided information on the types of expenditure it intended to cover to determine whether this was in line with the requirements of the CAP.
- g. **Assessment of the measure using indicators:** The CAP Proposal requires that measures financed under the CAP must be evaluated using result and impact indicators. This question sought to link the measures to the pre-defined indicators of the CAP.

The templates were pre-tested on two environmental planning tools, the RBMP and PoM for the Weser (Germany) and the Natura 2000 Management Plan "Unteres Rhinluch/Dreetzer See, Havelländisches Luch und Belziger Landschaftswiesen" in Brandenburg, Germany, to ensure that they produced meaningful information for the assessment under Task 2.¹³

The results of the pilots demonstrated that the templates generated, in principle, the expected information. They also suggested that the environmental planning tools as such were unlikely to provide the level of precision needed to make them suitable for financing under the CAP.

¹³ All completed templates were submitted to the Commission as separate files.

Step 2: Identification and analysis of measures within the planning tools

Following the finalisation of the templates, National Experts of the project team, identified and analysed relevant measures in the planning tools selected (see Section 2.2 for the selection criteria and Section 3 for a list of the tools analysed): the first NAPCPs for the period 2019 to 2023 which the Member States had to notify to the Commission by 1 April 2019, RBMPs¹⁴ for the period 2016-2021 and PAFs for the period 2021-2027 (or 2014-2020 if updates were not available yet) as well as Natura 2000 Management Plans were reviewed for the following 11 Member States: Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Poland, Romania and Sweden.

The screening focused on technical measures that could potentially be funded under the post-2020 CAP. More specifically, the following measures were included for the different planning tools:

NAPCPs

The analysis checked whether the measures announced under the NAPCPs would be implemented by Member States via voluntary or mandatory instruments. These included projects related to manure management and application that could be funded under the Rural Development Program (RDP), provided they were not or should not be made mandatory under the Nitrates Directive (Council Directive 91/676/EEC). Measures to comply with the requirements of the Directive on Industrial Emissions (Directive 2010/75/EU) for intensive rearing of poultry or pigs were only included in the analysis if mentioned in the NAPCP.

RBMPs and PoMs

The basic measures (basic and additional basic) of the PoM are compulsory measures. Basic measures are measures that are under existing legislation (e.g. Nitrates Directive, Urban Waste Water Treatment Directive) which are described in Article 11.3 (a) of the WFD. Additional basic measures are compulsory and include cost recovery, safeguarding drinking water, controls over abstraction, emission controls for point source and diffuse sources, controls over hydro-morphological alterations, prohibitions on direct discharges to groundwater, eliminating/controlling pollution by priority substances and reducing pollution by other substances and these are described in Article 11.3 (b-l). Additional basic measures can be supported by Article 67 payments of CAP Strategic Plan (Area-specific disadvantages resulting from certain mandatory requirements).

The current RDP and future CAP Strategic Plan cannot finance measures that are compulsory under the Nitrates Directive. However, the current Rural Development Regulation¹⁵ allows funding storage capacity investments (i) for the first year after the entry into force of a new obligation for farmers (Art 17(6) and, (ii) for young farmers, during the first two years after their setting up for the first time in an agricultural holding (Art 17(5)).

Supplementary measures are those designed and implemented in addition to basic measures and are described in article 11(4) of the WFD. Part B of Annex VI of the WFD contains a non-exclusive list of such measures, which includes legislative instruments, codes of good practice, abstraction controls amongst others. The supplementary measures (voluntary) can be supported by several pillar II types of interventions. These can include for instance investments in water-saving, buffer strips and cover crop requirements going beyond the baseline. Support via eco-schemes under the 1st pillar is also possible.

For water, the screening did not include any measures that implement existing legislation, as referred to under article 11.3 (a) of the WFD. The assessment reviewed potential measures that can implement the requirements of article 11.3 (b-l), as well as supplementary measures included in the RBMPs.

¹⁴ Programmes of Measures form part of the River Basin Management Plans and were therefore included in the analysis of the respective RBMP.

¹⁵ Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005

PAFs and Natura 2000 Management Plans

The assessment considered all measures potentially relevant for agriculture (as agreed with DG Environment, the scope did not include forestry measures but did include agro-forestry measures).

The assessment considered which measures that could potentially be funded under the CAP proposal. For nature voluntary measures, that go beyond GAEC and SMR, funding can be provided via eco-schemes and via different interventions of the 2nd CAP pillar; for mandatory measures mentioned in the management plans that go beyond GAEC and SMR, farmers could receive compensatory payments for areas-specific disadvantages have been considered.

The planning tools were analysed by National Experts; for each policy area, a Topic Lead supervised the team of experts, and reviewed the quality of their work.

Step 3: Compilation of interim Member State Reports

Once the templates were approved by the Topic Leads, they were collated into individual Member State Reports. Topic Leads then developed summaries for each Member State regarding the information found on the measures in the respective planning tools. The summary included information on the types of measures established by the planning tools (whether the measures focused on arable or livestock production or both, extensive or intensive agriculture and forestry; whether focus on technical measures, education (advice, etc.), the objectives and priorities of the measures, i.e. which pressures are addressed and which are not, as well as a gap analysis, i.e. information that is lacking in the measure descriptions in the planning tool, such as whether the planning tools provide information on the who, what, where, when and how.

Step 4: Review and finalisation of Member State Reports

In a final step, the Member State reports, comprising individual templates per planning tools and the topic specific summaries (one each for water, nature and air) were sent to the Commission for review. Following a commenting round by the Commission, the Topic Leads finalised the Member State Reports. It should be noted that these reports only presented the findings of the work carried out under Task 1 and were subsequently updated following the completion of Task 2.

2.3.2.Task 2: Assessment of potential of measures for transposition into CAP Strategic Plans

Based on the outputs of Task 1, Task 2 sought to assess whether the analysed measures could be transposed into future Member States' CAP Strategic Plans. The review of environmental planning tools in the field of water (i.e. river basin management plans), nature (priority action frameworks, Natura 2000 management plans) and air (national air pollution control programmes under the National Emission Ceilings Directive) identified several mandatory and voluntary measures targeting pressures related to agricultural production. The identified mandatory measures, e.g. measures to implement the Nitrates Directive, were not analysed further as they could not be funded. The voluntary measures were collated and information was extracted to determine their objectives, who should implement the measures, where and for how long, the requirements of the measure, as well as whether the measures are already funded under the CAP.

Activities under this task involved the following steps:

Step 1: Assessment of measures

Based on the information gathered in Task 1, in Task 2 the measures not linked to CAP funding were reviewed to determine whether they were eligible for inclusion in the next CAP Strategic Plans. The CAP proposal offers MS three types of interventions under which they can finance measures related to water management, nature conservation and air quality improvement, namely:

- eco-schemes,
- action under sectoral programmes, and
- rural development interventions.

Eco-schemes are a new intervention under Pillar 1, requiring Member States to offer to finance for agri-environment-climate type measures; these are in addition to the same type of measures

required under the rural development interventions (formally rural development programmes). Sectoral interventions are specific programmes linked to production types (e.g. fruit and vegetables, vineyards, hops, and others covering most production types including cereals like wheat and corn). Rural development interventions cover among others agri-environment-climate measures, area-specific disadvantages, investments (productive and non-productive), risk management, cooperation and knowledge exchange and information.

Under each relevant article, the CAP proposal defines the requirements for each type of operation (i.e. measure); the Topic Leads evaluated the measures found in each planning tool based on these inclusion and exclusion criteria (see Table 4).

Table 4: Assessment criteria

	Eco-schemes	Sectoral interventions	Rural Development interventions
Objectives	Measures must address objectives under Article 6 (1), d, e, f. ¹⁶	All Member States are required to set up operational programmes in the fruit and vegetable sectors and apiculture (beekeeping); specific MS for the wine sector and hops and other sectors are voluntary.	Measures can address all objectives set out under Article 6(1). ¹⁷
Beneficiaries	Only 'genuine' farmers can receive support.		Multiple beneficiary types (e.g. landowners, farmers) can receive support.
Measure requirements	Member States must establish the list of agricultural practices beneficial for the climate and the environment, which then can be financed under Article 28. Other practices would be excluded. Measures must go beyond enhanced conditionality – former cross-compliance (GAECs and SMRs) and some of the greening requirements.	Measures focused on water savings; reduction of risks and impacts of pesticides use; organic production; integrated production; actions to create and maintain habitats. Measures must be verifiable and controllable.	Environmental, climate and other management commitments; Area-specific disadvantages resulting from implementation on Directive 92/43/EEC, 2009/147/EC or 200/60/EC; Cooperation measures; Knowledge exchange and information. Article 68 lists ineligible investments, including e.g. investments in irrigation no

¹⁶ Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council

¹⁷ Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council

	Eco-schemes	Sectoral interventions	Rural Development interventions
			<p>consistent with achieving good status of water bodies in accordance with the WFD, among others</p> <p>Measures must go beyond enhanced conditionality – former cross-compliance (GAECs and SMRs) and some of the greening requirements.</p>
Duration	Annual payments	Minimum of 3 years commitment	Minimum of 5 years commitment
Monitoring	The CAP proposal stipulates that operations financed under the individual operations must be monitored and assessed using the Performance Monitoring and Evaluation Framework (PMEF). Only measures that can be linked to a result, indicators can be financed under the Strategic Plans.		

Step 2: Compilation of draft final Member State reports

For each of the Member States covered by this study, Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Poland, Romania and Sweden, we produced one draft final Member State Report. This document built on the Interim Report we prepared under Task 1 and provides a description of the measures identified under Task 1, conclusions on the extent to which measures could be funded under the future CAP as well as obstacles that need to be addressed to integrate these measures into the Member State Strategic Plans.

Step 3: Review and finalisation

In a final step, the Member State reports were sent to the Commission for review. Following a commenting round by the Commission, the Topic Leads finalised the Member State documents. Member State Reports are annexed to this report.

2.3.3.Task 3: Policy recommendations

The purpose of the final task of the project was to develop general recommendations of key principles to adequately design measures in environmental planning tools to meet the funding requirements under the CAP Strategic Plans. Task 3 comprised four main steps:

Under task 3 the lessons learned presented in this report have been developed, using the information from the previous steps, but also carrying out a series of interviews in several Member States¹⁸ involving officials from the environmental and agricultural ministries or subordinated authorities.

Step 1: Identification of interviewees

In order to better understand how coordination between environmental authorities and agricultural authorities towards an improved RDP better addressing environmental issues a set of telephone and

¹⁸ Belgium (Wallonia: Service Public de Wallonie (SPW) Agriculture, Ressources naturelles et Environment), Germany (Ministry of Agriculture and Environment of Mecklenburg Western Pomerania), Estonia (Ministry of Rural Affairs, Ministry of the Environment), Spain (Ministry of Sustainable Development of the Autonomous Community of Castilla-La Mancha, Austria (water and agricultural authority), Italy (agricultural authority), Romania (Ministry of the Environment and Ministry of Agriculture, Romanian Ornithological Society (Birdlife Romania).

email interviews were carried out. The following criteria were applied to select Member States for the interview campaign:

- Among the three topics, interviews should cover most Member States included in this study;
- A minimum of four Member States should be covered per topic. They did not have to be the same across the three topics;
- Selected Member States should include a mix between strong links and weaker links to RDPs as identified under Tasks 1 and 2;
- Selected Member States should include mix between high level of details on measures and less details as identified under Tasks 1 and 2;
- Overall number of different measures that can be potentially financed by the CAP
- Good contacts to the Member States.

Table 5: Member State selected for the interviews carried out under Task 3

Member State selected per policy area	Justification
Air	
Belgium	Federal, central European country, differences between two regions
Germany	Federal, central European country, many measures, various instruments
Estonia	Centralised, Northern European country
Spain	Centralised, Southern European country, a clear link to CAP explicitly mentioned
Sweden	Centralised, Northern European country, five well-described measures
Water	
Germany	Multiple measures, links to RDPs
France	Multiple measures, links to RDPs
Italy	Existing paper on links between RBMPs and RDPs; many different measures
Austria	Very strong link to RDPs - lots of details
Poland	Heavy focus on ND, few links to the RDPs
Nature	
Spain	Lack of detail in Natura 2000 plans; link to RDPs needs to be understood
France	Detailed measures in Natura 2000 plans; clear links to RDPs
Romania	Detailed measures in Natura 2000 plans, important role for RDPs; effectiveness of links need to be understood

Step 2: Design of the interview guide

The outcomes of Tasks 1 and 2 highlighted the need to better understand the process of selection of measures in the plans and the level of cooperation between environmental and agricultural authorities (or units within one authority). The assumption was that the better the cooperation the higher the likelihood of measures in the environmental planning tools being included in the RDPs.

The focus of the interviews was therefore on assessing the process of integrating environmentally-related measures into the CAP. The interview guide included open questions on the following topics:

- The nature of the involvement of environmental authorities in water/nature/air in the development of the 2014-2020 Plans (process of involvement and stages).
- Selection of environmental measures for integration in RDP.
- Use of existing environmental planning tool for water/nature/air to determine which measures could be included in the RDP.
- Reason for including/excluding measures.
- Input of environmental NGOs (process and impact).
- The main barriers (currently) to including environmental measures in the RDPs? (wrong beneficiaries, wrong duration, wrong design, not trackable?)
- Plans for the preparation of the CAP Strategic Plans.

Step 3: Implementation and analysis of interviews

The National Experts identified potential interviewees and organised interviews which were organised via skype or phone. Respondents were sent background information about the project and the interview guide prior to the interview date. In the following MS interviews took place:¹⁹

Table 6: Interviews performed

Member State	Water	Nature	Clean air policy
Belgium			X
Germany	X	X	X
Estonia			X
Spain		X	X
France	X (Rhône)	X	
Italy	X		
Austria	X		
Poland	X		
Romania		X	
Sweden			

Step 4: Drafting of conclusions and recommendations

In the last step the following took place:

- Categorising gaps and obstacles identified through the interviews and task 1/2
- Identifying good practice measures on the basis of the outcome of task 1 and 2.

¹⁹ The selection of the MS was based on a number of criteria, and the final selection was approved by DG ENV.

3. MAIN RESULTS

This section presents the results of the analysis and assessment of a sample of 91 environmental planning tools from the 11 Member States covered by this study. In total, the analysis included 11 NAPCPs, ¹⁸ RBMPs, 11 PAFs and 51 Natura 2000 Management Plans. Tools are listed in the respective sections. Findings are organised along with the three policy areas the study focused on: air (Section 3.1), water (Section 3.2), and nature (Section 3.3). Each section follows the same structure: we first detail the environmental planning tools analysed, describe the types and objectives of the measures identified to be relevant for agriculture, and present an assessment of each measure. Each section ends with a conclusion on the fundability of measures.

3.1. National Air Pollution Control Programmes

Directive (EU) 2016/2284 (NECD)²⁰ requires Member States to reduce national emissions of certain pollutants including NH₃ and PM_{2.5} by specific percentages until 2020 and 2030 compared to 2005 emissions. To achieve these reductions, Member States have to develop National Air Pollution Control Programmes (NAPCP); which were due on 1 April 2019. The Commission provided a common format for reporting of the NAPCP (Commission Implementing Decision (EU) 2018/1522).²¹ As agriculture is the main source of NH₃ air emission, the focus within most NAPCPs with regards to options towards achieving the NH₃ emission reduction commitments is on measures in the agricultural sector. Annex III, Part 2 A of the NECD requires Member States to implement certain measures (i.e. mandatory measures) and to “take into account” further specific measures for agricultural activities, which thus can be regarded as voluntary measures according to the NECD (but might be adopted as mandatory on the national level). These measures correspond to guidance from the UNECE Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions.²²

According to NECD Article 6(2), the following measures listed in Annex III Part 2 A of the NECD *must* be included (obligatory) in Member States’ national air pollution control programming with the aim to meet the national emission reduction commitments for NH₃:

- establish a **national advisory code** of good agricultural practice to control ammonia emissions, covering at least the following items:
 - (a) nitrogen management, taking into account the whole nitrogen cycle;
 - (b) livestock feeding strategies;
 - (c) low-emission manure spreading techniques;
 - (d) low-emission manure storage systems;
 - (e) low-emission animal housing systems;
 - (f) possibilities for limiting ammonia emissions from the use of mineral fertilisers.
- **prohibit the use of ammonium carbonate fertilisers**

²⁰ Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC, OJ L 344. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1581338581945&uri=CELEX:32016L2284>, last accessed on 10 February 2020.

²¹ Commission Implementing Decision (EU) 2018/1522 of 11 October 2018 laying down a common format for national air pollution control programmes under Directive (EU) 2016/2284 of the European Parliament and of the Council on the reduction of national emissions of certain atmospheric pollutants (notified under document C(2018) 6549). OJ L 256/87. Available at: https://eur-lex.europa.eu/eli/dec_impl/2018/1522/oj, last accessed on 10 February 2020.

²² UNECE – United Nations Economic Commission for Europe (2015): United Nations Economic Commission for Europe Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions. ECE/EB.AIR/129. Available at: <http://www.unece.org/environmental-policy/conventions/envlrapwelcome/guidance-documents-and-other-methodological-materials/gothenburg-protocol.html>, last accessed on 10 February 2020.

In addition, Annex III, Part 2 specifies that Member States shall take into account the UNECE ammonia guidance document (framework code) and that they shall make use of best available techniques²³ in accordance with the Industrial Emissions Directive 2010/75/EU (IED).²⁴

According to NECD Article 6(2), the following optional NH₃ reduction measures listed in Annex III Part 2 A of the NECD may also (optionally) be included in Member States' national air pollution control programming:

1. establish a national nitrogen budget
2. (a) replacing urea-based fertilisers by ammonium nitrate-based fertilisers
2. (b) methods from the UNECE framework code to reduce emissions from urea-based fertilisers
2. (c) promoting the replacement of inorganic fertilisers by organic fertilisers and spreading them in line with the foreseeable requirements of the receiving crop or grassland²⁵ with respect to nitrogen and phosphorus, taking into account the existing nutrient content in the soil and nutrients from other fertilisers.
3. (a) reduce emissions from slurry and solid manure by using methods that reduce emissions 30% better than the methods in the UNECE framework code and on the following conditions:²⁶
 - (i) only spreading manures and slurry in line with the foreseeable nutrient requirement of the receiving crop
 - (ii) not spreading manures and slurries when the receiving land is water-saturated, flooded, frozen or snow-covered
 - (iii) applying slurries spread to grassland using a trailing hose, trailing shoe or through shallow or deep injection
 - (iv) incorporating manures and slurries spread to arable land within the soil within four hours of spreading
3. (b) reducing emissions from manure storage
 - (i) using low emission storage systems or techniques that reduce emissions 40% (existing stores) or 60% (stores constructed after 2022) better than the methods in the UNECE framework code
 - (ii) covering stores for solid manure
 - (iii) ensuring farms have sufficient manure storage capacity to spread manure only during periods suitable for crop growth.
3. (c) reducing emissions from animal housing by methods shown to reduce emissions at least 20% more than the UNECE framework code methods

²³ 31or installations with intensive rearing of poultry or pigs above a certain animal capacity threshold according to Annex I of the IED best available techniques have to be applied to limit emissions into air (<https://eippcb.jrc.ec.europa.eu/reference/intensive-rearing-poultry-or-pigs>). In this case, these measures are obligatory. In this analysis, these measures are considered only in case they are mentioned in the NAPCPs.

²⁴ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1581338779120&uri=CELEX:32010L0075>, last accessed on 10 February 2020.

²⁵ Also, a requirement for nitrate action programmes according to the Nitrates Directive

²⁶ Conditions for measures, not measures per se. Also, a requirement for nitrate action programmes according to the Nitrates Directive

3. (d) reducing emissions from manure by using low protein feeding strategies that are shown to reduce emissions at least 10% more than the UNECE framework code strategies

3.1.1. Description of plans and measures

According to the contract we analysed NAPCPs from 11 Member States (Austria, Belgium, Estonia, France, Germany, Ireland, Italy, Netherlands, Poland, Spain and Sweden) under Task 1. The NAPCP of Estonia has been analysed instead of Romania who has not yet submitted a NAPCP to the European Commission. For Ireland and Italy, a draft version of the NAPCP was available at the time of analysing the NAPCP in detail (Task 1 and 2). The final version of the Irish NAPCP²⁷ was made available at the time of finalising this report. There are no relevant changes compared to the draft version. The NAPCP from the Netherlands does not present any additional measures as the emission projections for the Netherlands indicate that the commitments will be achieved with existing policies and measures.

Low-emission manure spreading and storage techniques are part of the NAPCP for most of the 11 Member States.

In addition, France included measures related to burning of plant residues to reduce PM emissions (NECD Annex III, Part 2 B), which is obviously not related to reducing NH₃ emissions.

However, Member States provide a coarse description of measures only, making a full analysis difficult. Besides, information about costs is hardly available.

Table 7 below provides an overview for the analysis of the results of all measures of the NAPCPs. Please note that Ireland and the Netherlands provided no additional measures. Therefore, these countries were omitted from this analysis. Austria provided options for measures, which will be considered for future negotiations.

Table 7: Overview analyses of measures of the NAPCPs (n.d.: not defined)

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
BE	Flanders: Reducing NH ₃ emissions from pig houses and poultry houses with an air scrubber	Yes	yes (o.)	n.d.	yes	no	yes	yes	no
	Flanders: Reducing NH ₃ emissions from the handling of animal manure and fertiliser	Yes	yes (o.)	n.d.	yes	no	yes	yes	yes
	Wallonia: Adapt livestock	Yes	yes (o.)	n.d.	yes	no	yes	yes	no

²⁷ Available at: http://cdr.eionet.europa.eu/ie/eu/nec_revised/programmes/envxkvwzg/, last accessed on 26 May 2020.

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	manure application techniques to limit nitrogen emissions and losses								
	Wallonia: Reduction of NH ₃ emissions from mineral fertilisation	Yes	yes (o.)	n.d.	yes	no	yes	yes	no
	Wallonia: Develop "low" emission buildings for large pig and poultry farms, new or subject to major renovations	Yes	yes (o.)	n.d.	yes	no	yes	yes	no
DE	No manure application with broadcast spreader on bare arable land before sowing	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Rapid incorporation of slurry on bare arable land before sowing	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Rapid incorporation of solid manure on bare arable land before sowing	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Covering of storages of slurry or digestates at least with foil	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	N-reduced nutritional management	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	(livestock feeding strategies) for pigs and poultry in houses according to IED and BImSchG		instruments are named)						
	70% emission reduction in housing systems for pigs and poultry according to IED (e.g. exhaust air cleaning with acid scrubbers)	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	system integrated measures in housing systems for pigs and poultry according to BImSchG (40 % emission reduction)	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Application of slurries and other liquid manures on cropped land with injector or band spreader or after acidification	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Shift 50 % of subfloor slurry storage to covered storage systems	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	outside the houses								
	Reduction of N-excretion by nutritional management (livestock feeding strategies) for cattle	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	System integrated measures in cattle housing systems (25 % emission reduction)	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Reduction of the total N-balance surplus by 20 kg N / ha	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
EE	Low-emission manure storage technologies	Yes	no	n.d.	no	no	no	yes	yes
	Low-emission manure spreading technologies	Yes	no	n.d.	no	no	no	yes	yes
	limiting of ammonia emissions from the use of mineral fertilisers	Yes	no	n.d.	no	no	no	yes	yes
IE					no measures yet adopted				
ES	Package A.1: Establishment of fertilisation and fertilisation plans	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	yes	yes	no

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	Package A.2: Reduction of the burning of pruning remains in the field	Yes	yes (o. and v. instruments)	n.d.	yes	no	yes	yes	yes
	Package A.3: Manure management in animal housing and storage in pigs, cattle and poultry	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	yes	yes	no
FR	AGRI1 Prohibition of burning crop residues in the field	Yes	yes (o.)	n.d.	no	no	yes	yes	no
	AGRI2 Replacement of urea with other fertilisers	Yes	no	n.d.	no	no	yes	yes	yes
	AGRI3 Increase in pasture time (+ 20d)	Yes	no	n.d.	no	no	yes	yes	yes
	AGRI12 Incorporation of liquid manure and/or dung immediately	Yes	no	n.d.	no	no	yes	yes	yes
IT	Incorporation of urea fertilizers	yes	Yes (v.)	n.d.	no	no	yes	yes	no
	Spreading of non-palpable material	yes	Yes (o.)	n.d.	no	no	yes	yes	no
	Slurry incorporation	yes	Yes (v.)	n.d.	no	no	yes	yes	no
	Incorporation of solid	yes	Yes (v.)	n.d.	no	no	yes	yes	no

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	distributed solid								
	Prohibition of new lagoons	yes	Yes (o.)	n.d.	no	no	yes	yes	no
	Floating cover	yes	Yes (v.)	n.d.	no	no	yes	yes	no
NL					no additional measures required				
AT²⁸	Livestock feeding strategy to reduce NH ₃ emissions from manure	Yes	yes (v)	n.d.	no	no	yes	yes	no
	Low-emission housing systems (improved livestock management and production facilities)	Yes	yes (v)	n.d.	no	no	yes	yes	no
	Low-emission manure storage (improved systems for animal waste management)	Yes	yes (v)	n.d.	no	no	yes	yes	no
	Low emission manure spreading (low-emission manure application on arable land and grassland)	Yes	yes (v)	n.d.	no	no	yes	yes	no
	Low-emission use of mineral N fertilisers	Yes	yes (v)	n.d.	no	no	yes	yes	no
	Stepping up of measures (additional	Yes	yes (v)	n.d.	no	no	yes	yes	no

²⁸ Optional measures, further negotiations needed

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	efforts concerning low-emission manure application on arable land and grassland)								
PL	Prohibition on the use of ammonium carbonate fertilisers	Yes	yes (o.)	n.d.	no	no	no	yes	no
	Promoting soil application of urea-based fertilisers among farmers	Yes	no	n.d.	no	no	no	yes	no
	To promote farmers' use of other methods of spreading liquid manure than spraying	Yes	yes (both o. and v. instruments are named)	n.d.	yes	no	no	yes	no
	Propagate manure plow among farmers within 12 hours of application to the soil	Yes	no	n.d.	yes	no	no	yes	no
	Covering tanks with slurry and liquid manure in accordance with the Regulation of the Council of Ministers of 5 June 2018 on the adoption of the "Action Program to reduce water pollution by nitrates from agricultural sources and to	Yes	yes (o.)	n.d.	yes	no	no	yes	no

MS	measures	specific agriculture / forest sector	obligatory / voluntary	geographical scope	date of implementation	beneficiaries	description	nature of measure	cost
	prevent further pollution (Journal of Laws item 1339)								
SE	Band spreader for slurry	Yes	yes (v.)	n.d.	yes	no	yes	yes	yes
	Incorporation of manure on the same day	Yes	yes (v.)	n.d.	yes	no	yes	yes	yes
	Incorporation of manure within 4 hours same day	Yes	yes (v.)	n.d.	no	no	yes	yes	yes
	Covering manure storages	Yes	yes (v.)	n.d.	yes	no	yes	yes	yes
	Reduced use of crude protein in animal feed	Yes	no	n.d.	no	no	yes	yes	no

As can be seen from Table 7 above, most of the NAPCPs are missing essential information about:

- Details on the actual implementation of the measure.
- A clear description and information whether the measure was obligatory or optional.
- An explicit link to CAP.
- The projected impact on air quality (secondary aerosol). If available, this is only provided in a very general way for some Member States.
- Indicators to monitor the implementation and impact of the measures.
- Details on monitoring and compliance checking.
- Details on costs in most NAPCP.

A cross-check of the measures listed in Annex III of the Nitrate Directive (91/676/EEC) and the Nitrates Action Plans (NAP) of the Member States with the measures found in the NAPCP showed no overlaps. Measures in the NAP include only limits on farm stocking rates, legal maxima for nitrogen and phosphorus application rates, prohibited spreading periods of fertilisers, minimum storage requirements for livestock manure²⁹ and set-back distances from waters. An impact on NH₃ emissions into the air might occur from nitrogen application rates and prohibited spreading periods. However, these measures have not been explicitly mentioned in any of the NAPCPs analysed in this study.

²⁹ Capacity and construction of storage vessels to prevent water pollution by run-off and seepage into groundwater and surface water, but no requirements for emissions into air.

In general, measures in the NAPCP do not address specific facilities covered by the Best Available Technology (BAT) conclusions and BAT-AELs (see Decision (EU) 2017/302) of the Industrial Emissions Directive (Directive 2010/75/EU), as the NAPCP provide only measures on a national level, but not on a facility level. Large facilities above the threshold values of IED Annex I are not explicitly mentioned in any of the NAPCPs analysed in this study. In addition, if measures are required by IED for large facilities, these cannot be funded under CAP in general, only if measures go beyond legal requirements.

3.1.2. Assessment of measures

Under Task 2 the optional measures of the selected NAPCP were further assessed to identify:

- number of optional measures;
- pressures addressed;
- key types of action;
- clear definition of objectives;
- clear definition of beneficiaries;
- clear definition requirements of the measures;
- clear definition measure duration;
- reference to CAP financing, and
- can the measure be linked to CAP indicators?

The following table summarises the analysis of the optional measures mentioned in the NAPCPs according to the above-mentioned topics.

Table 8: Summary of the analysis of the selected NAPCP under Task 2

MS	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
BE	0	NH ₃ emissions	low emission manure spreading techniques,	yes	no	yes	no	no	yes
			low emission animal housing and manure storage systems						
DE	12 (both economic and regulatory instruments are named for all measures)		low emission manure spreading techniques	yes	no	no	no	no	yes
			rapid incorporation of slurry and manure						

MS	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			low emission manure storage systems low-emission animal housing systems livestock feeding strategies						
EE	3		low emission manure spreading techniques low emission manure storage systems limiting of ammonia emissions from the use of mineral fertilisers	yes	no	no	no	no	yes
IE	NA		draft NAPCP of Ireland does not describe any measures for agriculture as none have been adopted yet at the time of analysing the NAPCP and drafting the report						
ES	3 packages, 18 measures	NH ₃ , PM emissions	Low emission fertilisation and fertilisation plans low emission manure spreading techniques low emission housing and manure storage systems reduction of burning pruning remains	Yes	No	No	Yes	Some measures (Package A.2: Reduction of the burning of pruning remains in the field, Package A.3: Manure management in animal housing and storage in pigs, cattle and poultry)	Yes

MS	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
FR	7 (for one measure both regulatory and optional are named as policy instruments)		low emission manure spreading techniques rapid incorporation of slurry and manure Limiting the burning of agricultural waste	No	No	No	Some measures (Réduire la volatilisation de l'ammoniac provenant des fertilisants minéraux [...])	Some measures (Mobiliser des financements européens [...])	Yes
IT	4	NH ₃ emissions	low emission fertiliser application low emission manure spreading techniques low emission manure storage systems	Yes	No	No	No	No	Yes
NL	NA		No additional measures are required in the Netherlands to comply with the emission reduction commitment for NH ₃ . Therefore, no information is provided in the NAPCP on measures.						
AT	5 options for measures		livestock feeding strategies low-emission manure spreading techniques low-emission manure storage systems low-emission animal housing systems limiting ammonia emissions from the use	Yes	No	No	No	No (the importance of the CAP proposal for future NH ₃ emission reductions is discussed in section 6.3.1 of the Austrian NAPCP)	Yes

MS	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			of mineral fertilisers						
PL	probable 3 (but not clearly described)		low emission manure spreading techniques	Yes	No	No	No	No	Yes
			low emission manure storage systems						
			low emission fertiliser application						
SE	4		band spreader for slurry	Yes	No	No	No	No	Yes
			Incorporation of manure on the same day						
			Incorporation of manure within 4 hours same day						
			covering manure storages						
			Reduced use of crude protein in animal feed						

In general, the types of measures³⁰ to reduce NH₃ emissions (and PM emissions in very few cases) are similar among the 11 analysed Member States, as they are based on the UNECE Code for Good Agricultural Practice for Reducing Ammonia Emissions (UNECE 2015) and the requirements of Annex III Part 2 of Directive (EU) 2016/2284. This also means that the description is rather general. The measures are low emission manure spreading systems, low emission manure storage systems for most Member States; livestock feeding strategies, low emission fertiliser application, animal housing systems, rapid incorporation for some Member States.

Clearly, under the NAPCP the agriculture measures address NH₃ or PM emissions into air or their formation. Therefore, the key types of measures for NH₃ address the key sources of NH₃ emissions, which are manure storage, manure application, animal housing, animal feeding strategies and types of fertilisers. PM emissions are reduced by further limiting the burning of agricultural waste; however, this will be done by mandatory measures in France (extension of already existing ban by reducing

³⁰ Austria provided only options for measures, therefore no information on the actual implementation, which still require further negotiations.

exemptions) and both by optional (funding) and regulatory measures in Spain. Other Member States have already implemented bans for agricultural waste burning, which means this measure is part of the existing legislation and therefore not mentioned under additional measures.

In most cases, the NAPCP does not provide for a detailed description of objectives, beneficiaries and requirements of the measures (see Table 7 and also section 3.1). In addition, the NAPCP does not provide for any detailed description of how the measures will be designed and implemented. However, in some NAPCPs mandatory policy instruments (technical regulations, legislation) are named in the NAPCP for specific measures (see Table 9 below).

No information was provided in the NAPCP from Estonia, France (except for one measure). Austria provided only options for measures; hence it is currently not clear which types of instruments will be used.

Table 9: Mandatory measures and policy instruments mentioned in the NAPCPs

MS	Mandatory measures	Comment
BE	Change in existing regulation to improve monitoring systems for air scrubbers	No further details provided
	Increase of efficiency of new scrubbers	
	Change in existing regulation for manure application techniques and incorporation time as well as for the use of urea.	
	Change in existing regulation for animal housings	
DE	Prohibition of manure application with broadcast spreader (both economic instruments and changes to legislation)	The NAPCP mentions both economic instruments and changes to legislation but provides no further details
	Rapid incorporation of slurry	
	Cover of storages of slurry	
	Manure application with injection or band spreader	
	Shift 50% of subfloor slurry storage to covered storage systems	
	Reduction of N-excretion by nutritional management	
	System integrated measures in cattle housing systems	
	Reduction of the total N-balance surplus by 20 kg N / ha	both economic instruments and changes to technical regulations w/o further details
	N-reduced nutritional management	
	70% emission reduction in housing systems	
	System integrated measures in housing systems	
ES	Package: Establishment of fertilisation and fertilisation plans	Future legislation will make certain good practices mandatory; no further details provided
	Package: Reduction of the burning of pruning remains in the field	The NAPCP mentions regulatory, voluntary, and economic (subsidies) and source-based policy

MS	Mandatory measures	Comment
		instruments but provides no further details
	Package: Manure management in animal housing and storage	The NAPCP mentions regulatory, voluntary, economic, education, research and source-based policy instruments but provides no further details
FR	Prohibition of burning crop residues in the field	No further details provided
IT	Spreading of non-palpable material	No further details provided
	Prohibition of new lagoons	
PL	Prohibition on the use of ammonium carbonate fertilisers	Requirement of NECD Annex III Part 2 A
	To promote farmers' use of other methods of spreading liquid manure than spraying	The NAPCP names both regulation and further instruments as planning instruments but no further details
	Covering tanks with slurry and liquid manure	No further details provided
SE	covering manure storages	Named as voluntary, however, Naturvårdsverket (2019c) states that there are regulations for covers (next to advice), but no detailed information about these regulations is given.

The analysis of the information regarding the implementation date and the duration of the measures provided in the NAPCPs gave the following results shown in Table 10. This information is important as the CAP proposal stipulates minimum and maximum time requirements for the implementation of measures. The information is partly available in the NAPCPs themselves, partly in the XML documents, which describe the Policies and Measures (PaM)³¹ in more detail.

Table 10: Implementation date and duration of measures according to the NAPCPs (PaM: policies and measures)

MS	Measure	Implementation date	Duration
BE	Reducing NH ₃ emissions from pig houses and poultry houses with an air scrubber	Dates provided (2019, 2020)	No information provided
	Reducing NH ₃ emissions from the handling of animal manure and fertiliser	Dates provided (2021 to 2023)	

³¹ Available at the CDR (<http://cdr.eionet.europa.eu/>) and for some MS at the PaM viewer of the EEA: <https://www.eea.europa.eu/themes/data-and-maps/dashboards/overview-of-compliant-air-pollution-policies>.

MS	Measure	Implementation date	Duration
	Adapt livestock manure application techniques	Dates provided (2019 to 2023)	
	Reduction of NH ₃ emissions from mineral fertilisation	Dates provided (2020 to 2023)	
	Develop "low" emission buildings	Dates provided (2020 to 2023)	
DE	All	Start in 2020	Will continue for foreseeable future, end date provided in PaM
EE	low-emission manure storage technologies	proportion will continuously be increased from 2015 to 2030	No information provided
	low-emission manure spreading technologies		
	limiting of ammonia emissions from the use of mineral fertilisers		
ES	All packages of measures	According to the PaM xml file, the implementation of the measures will start in 2022 and will be finished in 2023. The adoption of measures takes place in 2019. The NAPCP states implementation to begin in 2020 and to be finished in 2030 (with a planned review in 2022)	No information provided
FR	All measures	According to the PaM xml file, adoption is planned for 2017, 2019 and 2020, dependent on the measures; all measures will start 2021	No time restrictions
IT	All measures	No information provided	No information provided
PL	Prohibition on the use of ammonium carbonate fertilisers	No information provided	No information provided
	Promoting soil application of urea-based fertilisers among farmers		
	To promote farmers' use of other methods of spreading liquid manure than spraying	The NAPCP provides only a start date (2018 and 2020)	
	Propagate manure plow among farmers within 12 hours of application to the soil	According to the NAPCP the measure will start in 2020	

MS	Measure	Implementation date	Duration
	Covering tanks with slurry and liquid manure	According to the NAPCP the measure started in 2018	
SE	band spreader for slurry	Measure will be implemented in the years 2019 and 2020	No information provided
	Incorporation of manure on the same day		
	covering manure storages		
	Reduced use of crude protein in animal feed	No information provided measure is not mentioned in the NAPCP but in Bilaga 1	
	Incorporation of manure within 4 hours same day	No information provided	

As can be seen in Table 10, in some cases³² the NAPCP provide information on the start date of the implementation of the measure. However, there is no information available for how long it will be implemented, except for Germany and France, who explicitly stated that the measure will continue for the foreseeable future. Nevertheless, for technical measures that result in one-off investments in e.g. band spreader for slurry and covers for slurry/manure storages, these investments will continue to have effects during the life-cycle of that technology or installation.

In this context, there is an important aspect to consider. The future CAP programming period will be from 2021 to 2027. However, the NAPCP set emission reduction commitments for 2030 and thereafter. This discrepancy in timeframes has to be taken into account in both the future CAP programming and the implementation and effectiveness of the measures laid down in NAPCP.

No NAPCP includes detailed descriptions of the measures or references to CAP.

Annexe I to the CAP proposal (COM(2018) 392 final) includes an indicator related to NH₃ emissions: "*I.14 Improving air quality: Reduce ammonia emissions from agriculture*". This indicator in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by nomenclature for reporting (NFR) source categories as provided by the LRTAP Convention from 1990 to reporting year minus 2. It also requires Member States to submit an annual so-called "Informative Inventory Report" and biannual projected emissions for specific future years. Hence CAP proposal indicator I.14 has to be regularly reported by Member States.

Directive (EU) 2016/2284 does not require reporting of the related indicator "*R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission*". Therefore, the information related to this indicator R.19 is not reported and provided within the NAPCPs or the emission inventory reporting scheme of the NECD.

3.1.3. Barriers and opportunities for more effective transposition of measures into the CAP

From the assessment above it becomes obvious that the information provided in the NAPCPs is very limited to be used for the CAP SP. Under Task 3 we conducted interviews with authorities from environment ministries from Belgium, Germany, Estonia and Spain.³³

³² BE, DE, FR, PL (for some measures), SE (for some measures).

³³ Sweden was contacted, but no answers to the questions could be provided.

Table 11: Overview questions to environmental authorities from selected MS and summary of replies

No.	Question	Belgium	Germany	Estonia	Spain
1.a	Were environmental authorities consulted by agriculture authority in the development of the 2014-2020 plans?	yes, environmental authorities were consulted at each stage of process. Political decisions by the whole government	Only for a SWOT analysis. Actual strategy development not on federal level (responsibility of "Länder")	yes, a steering committee (included different ministries and key environmental NGO) and thematic working groups on different environmental issues were set up. No specific working group for air quality. Steering committee was transformed to a monitoring committee	Environmental authority responsible for air quality was not involved
1.b	Reasons, if environmental authorities have not been involved	N.A.	Responsibility at federal province level ("Länder"), not much interaction between ministries for agriculture and environment, missing knowledge about environmental impacts within agricultural authorities	N.A.	Priorities were on water, soil management, climate change, but implications for air quality were not identified during this time
1.c	Are environmental experts within agricultural authorities in place, if no involvement of env. authorities?	N.A.	see above; focus not on air quality. Water, groundwater more important	see above, all different experts involved.	no information available within env. authority
2	Did the agriculture authority assess the existing environmental planning tool for air emissions to determine which measures could be included in the RDP	no answer	not known to environment ministry	Air quality and air emissions were not specifically addressed for the previous RDP	no information available within env. authority, but high probability that no assessment
3	How was the input of environmental NGOs taken into account in the development of the plan	Stakeholders have been consulted; design of some measures improved due to input	not known to environment ministry	NGOs was involved in the steering committee, but left at the end of the process. Joined the monitoring committee again later. NGOs were also active in	no information available within env. authority

No.	Question	Belgium	Germany	Estonia	Spain
				working groups and provided input.	
4	Were certain air emission related measures initially selected where agriculture interest groups voiced strong opposition during the stakeholder consultation of the RDP development?	No	not known to environment ministry	see above; air quality /emissions not a primary environmental topic at that time. Most measures were investment-related, hence farmers welcomed measures. Consensus could be achieved among farmer associations which measures to implement	no information available within env. authority
5	What are currently the main barriers to inclusion of environmental measures in the RDPs?	Budget constraints, esp. if high percentage for funding is necessary, possibilities for new, innovative measures are limited. Long time until effects are visible.	not known to environment ministry	How to monitor the implementation of the measures (which often require a high administrative burden) Duration of typically 5 years too long for some farmers Budget constraints	Wrong design of process, therefore env. criteria could not be considered in subsidised measures. Process not transparent.
6	Have environmental authorities already been approached by agricultural authorities in regards to the preparation of the CAP Strategic Plan?	Same approach will apply as for previous period. Most challenging: 1 st pillar now also concerned	not known to environment ministry	Same process as for previous period. SWOT analysis already finalised, workshops took place. Third phase (working groups) will be finalised until the beginning of the summer. Main measures from NAPCP already incorporated.	Not yet, but env. authority will contact agricultural authorities.

The interviews undertaken in Task 3 showed large differences between MS. Whereas in Belgium and Estonia environmental authorities and further stakeholders were involved in the planning, this was not the case in Germany. In Spain, air quality was not considered but other environmental issues. In Belgium, this interaction led to an improved design of the measures.

For Germany and Spain, it is expected that interaction will improve in the forthcoming programming period CAP 2021-2027.

Another barrier mentioned are budget constraints and therefore also possibilities for new and innovative measures. In addition, the effect of certain measures will become apparent only after timescales beyond the 7-year programming cycles, e.g. for groundwater improvements. Therefore, there will be no quantified improvement within this period of time. This might hinder the inclusion of such measures as the positive effect on the environment will not be visible within a few years. The duration of a measure for 5 years (or longer), as well as the administrative burden to monitor the implementation of the measure, were seen as a constraint as well.

Furthermore, for some measures improvements can only be achieved by a high percentage of uptake, which can be very costly as high subsidies might be needed to ensure a high uptake.

3.2. River Basin Management Plans

The key objective of the Water Framework Directive³⁴ (WFD) is to achieve good status in all waters (good ecological and chemical status for surface waters and good quantitative and chemical status for groundwater). This includes lakes, streams and rivers, groundwater, coastal waters out to one nautical mile and aquatic ecosystems such as wetlands and estuaries. The main instrument for the implementation of the WFD are the River Basin Management Plans (RBMPs) and the accompanying Programme of Measures (PoMs). The RBMP sets out how the objectives set for the river basin (ecological status, quantitative status, chemical status and protected area objectives) are to be reached within the timescale required. Within each River basin management plan the WFD requires under Article 11 the development of Programmes of Measures (PoMs) as responses to anthropogenic catchment pressures to improve ecosystem state. The measures specify the management activities and strategies towards the achievement of the set objectives. According to Annex 7 of the WFD a summary of the programme or programmes of measures adopted under Article 11, including how the objectives established under Article 4 are thereby to be achieved need to be reported for each river basin.

3.2.1. Description of plans and measures

River Basin Management Plans (RBMPs) and their accompanying Programme of Measures (PoMs) had been published by the 11 Member States. Eight Member States and 11 river basin districts (RBDs) have been assessed.³⁵ Four Member States have produced national level PoMs, namely Austria, Poland, Romania and Ireland.

The assessments have not included any measures that implement existing legislation, as referred to under article 11.3 (a) of the WFD. The assessment reviewed potential measures that can implement the requirements of article 11.3 (b-l), as well as supplementary measures included in the RBMPs.

Overall, PoMs from five of the Member States rely heavily on mandatory measures (those under article 11.3 (a) WFD) to address agriculture pressures, specifically the implementation of the Nitrates Directive and can therefore not be funded under the CAP. In addition to the basic measures, many PoMs in the Member States³⁶ include studies or other administrative actions that also cannot be financed under the CAP. For example, in Sweden, one of the administrative actions is a mapping exercise to identify whether measures like buffer strips, wetlands and phosphorus ponds will have the greatest effect. The PoM for the Rhone RBD in France includes a measure on “diagnostics and masterplans”, which includes global studies focusing on the definition of water catchment feeding areas (“aires d’alimentation de captage (AAC)”). In the Po RBD, Italy, administrative measures to address water abstractions include 1) mapping of the efficiency of irrigation use and identification of savings targets 2) implementation of plans for the reduction of withdrawals to guarantee the water-saving targets defined by the Water Use Plan at district level; and 3) increasing knowledge on the possibility of identifying alternative water sources to guarantee, over the medium-long term, the availability of water for agricultural uses in areas at risk of water shortages.

3.2.2. Assessment of measures

Under Task 2 the optional measures of the selected RBMPs were further assessed to identify:

- number of optional measures;
- pressures addressed;

³⁴ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060>, last accessed on 26 May 2020.

³⁵ Austria (National RBMP), Belgium (Scheldt RBMP Flanders, Meuse RBMP Wallonia), France (Rhone RBMP, Adour-Garonne RBMP, Germany (Weser RBMP, Elbe RBMP) Ireland (National RBMP), Italy - Po RBMP, Sardinia RBMP), Netherlands (Rhine RBMP, Maas RBMP), Poland (Vistula RBMP, Oder RBMP), Romania (Danube RBMP (national), Spain (Guadalquivir RBMP, Ebro RBMP) Sweden (South Baltic RBMP, - Skagerrak and Kattegat RBMP)

³⁶ Belgium (Maas, Scheldt, Flanders; Meuse, Wallonia), France (Adour-Garonne, Rhone), Ireland (whole territory), Italy (Po and Sardinia), Sweden (Skagerrak and Kattegat, Baltic River)

- key types of action;
- clear definition of objectives;
- clear definition of beneficiaries;
- clear definition requirements of the measures;
- clear definition measure duration;
- reference to CAP financing; and
- can the measure be linked to CAP indicators?

The following table summarises the analysis of the optional measures mentioned in the RBMPs for 2015 to 2021 according to the above-mentioned topics.

Table 12: Analysis of the optional measures mentioned in the RBMPs

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
<p>Belgium: Maas and Scheldt River Basin Management Plan (Flanders)</p> <p>Meuse River Basin Management Plan (Wallonia)</p>	4	<p>Soil erosion</p> <p>Fertiliser use</p> <p>Pesticide pollution</p>	<p>- Erosion control</p> <p>- Reduction of nutrients by agricultural and horticultural sector in surface water</p>	Yes, for all measures	No, but from the descriptions it is clear that farmers are targeted	3 from the 4 measures are clearly defined	No	In Flanders, there is a general statement on financing AECMs under the CAP but does not link funding at individual measure level. Both measures in Meuse link to the CAP.	<p>- Impact indicators: improving water quality, reducing soil erosion</p> <p>- Result indicators: protect water quality</p> <p>- Output indicators: Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements</p>
Germany: Weser	4	<p>Diffuse pollution of nutrients and pesticides</p> <p>Soil erosion</p>	- Measure to reduce nutrient pollution from agriculture such as measures to reduce pollution from surface runoff (e.g. cover crops, catch crops, organic production); soil erosion measures (e.g. no-tillage, conservation practices, crop	Yes, according to pressure	No, farmer is assumed	No	No	Yes for all measures	No

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			rotation, greening slopes, erosion-reducing division of parcels); buffer strips; measures to reduce phosphorus pollution from drainage systems, e.g. controlled drainage; measures to reduce nutrient pollution in flood risk areas; measures to reduce direct nutrient pollution; measures to reduce nutrient pollution in drinking water zones - Measures to reduce pesticide pollution from agriculture						

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			<ul style="list-style-type: none"> - Measures to reduce soil erosion and sedimentation -Farm advice 						
Germany: Elbe	6	Diffuse pollution of nutrients and pesticides	<ul style="list-style-type: none"> - Measures to reduce nutrient and fine particulate pollution through erosion, e.g. no tillage, conservation tillage, erosion-reducing parcel division, greening terraces, catch crop cultivation - Measures to reduce diffuse nutrient pollution, e.g. by catch crop cultivation and undersown seed cultivation (reduction and/or Change in the use of 	Yes, according to pressure	No, farmer is assumed	No	No	Yes for all measures	No

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			fertilisers, conversion to organic farming), - Measures to reduce point source nutrient pollution - Measures to reduce pesticide pollution - Buffer strips - Farm advice						
Ireland: National River Basin Management Plan	2	Diffuse pollution of nutrients and pesticides	- Farm advice - Agri-environmental measures like fencing of water courses, low-input farming, growing catch crops - modernisation investments like manure storage	Yes	Yes, farmers	No	No	Yes for some measures such as modernisation investments	No

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			and low emission slurry spreading						
Spain: Guadalquivir River Basin Management Plan	7	Diffuse pollution of nutrients and pesticides Water abstraction Morphological alterations	<ul style="list-style-type: none"> - Irrigation modernisation - Manure treatment. Optimisation of the use of agrochemicals. Adoption of Management Plans for livestock subproducts in agricultural exploitations - Enlargement of the obligation to apply action programmes in nitrate vulnerable areas or outside of these - Advisory services for 	Yes	Yes, farmers	Yes, limited information	No, only limited information is provided	Some agri-environmental measures (irrigation, advisory services and organic farming)	<ul style="list-style-type: none"> - Impact indicators: reducing pressure on water resources; reducing nutrient leakage - Result indicators: sustainable water use – irrigation investments committed to improving water balance; share of farmers with support to investments related to care for the environment and climate; share of farmers receiving support for advice/training related to environmental-climate performance; sustainable pesticide use - Output indicators: Number of supported on-farm productive investments; Number of farmers trained/given advice; Number of ha with support for organic farming

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			agricultural holdings - Organic farming - Hydrological forestry restoration, including afforestation, soil protection and erosion control (and in other measures also targeting fauna and climate change adaptation) - River restoration						
Spain: Ebro River Basin Management Plan	3	Diffuse pollution (no specific information provided)	- Agri-environmental measures of the Rural Development Plans - Irrigation investments	No	Some measures, irrigator communities, farmers (not explicit)	No, measures descriptions are very limited and list potential options without detailing commitments	PoM only mentions that water-reuse projects and irrigation	Yes for all measures	- Impact indicators: improving water quality, reducing nutrient leakage; reducing pressure on water resources - Result indicators: protect water quality, sustainable

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
		Water abstraction	- Water re-use				investments are one-off investments		nutrient management; sustainable water use - Output indicators: number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; number of investment projects
France: Adour-Garonne River Basin Management Plan	2	Nutrient pollution Pesticide pollution	- Sustainable practices like organic production	Yes	No, farmers have been assumed	No	No	yes for all measures	- Impact indicators: improving water quality; reducing nutrient leakage; sustainable use of pesticides - Result indicators: protect water quality, sustainable nutrient management, sustainable pesticide use - Output indicators: Number of ha (agricultural) covered by environment/climate commitments; Number of ha with support for organic farming
France: Rhone River Basin Management Plan	7	Nutrient pollution	- Implement a water-saving system in the	Yes	Some measures, for all farmers have been assumed	Yes	No	yes for all measures	- Impact indicators: improving water quality; reducing nutrient leakage; sustainable use of pesticides; reducing soil erosion;

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
		Pesticide pollution Water abstraction Soil erosion	field of agriculture - Limit transfer for substances and erosion beyond the requirements of the Nitrates Directive - Limit inputs of fertilisers and/or use adapted fertilisation practices going beyond requirements of the Nitrates Directive - Limit inputs of pesticides in agriculture and/or use alternative practices to the use of plant protection products - Implement perennial		based on the measure requirements				reducing pressure on water resources - Result indicators: protect water quality; sustainable nutrient management; sustainable water use; sustainable pesticide use; Share of farmers with support in investments related to care for the environment and climate; Share of farmers receiving support for advice/training related to environmental-climate performance - Output indicators: number of ha (agricultural) covered by environment/climate commitments; number of supported on-farm productive investments

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			<p>practices (organic farming, grazing land, crop rotation, land management)</p> <ul style="list-style-type: none"> - Reduce point source pollution from fertilisers going beyond the requirements of the Nitrates Directive - Reduce point source pollution resulting from pesticides used in agriculture 						
Italy: Po River Basin Management Plan	3	<p>Nutrient pollution</p> <p>Pesticide pollution</p>	<ul style="list-style-type: none"> - Realisation of buffer strips/filter ecosystems along the natural and artificial plain network - Actions for the mitigation of agricultural impact to be 	Yes	Yes, farmers	No	No	yes for all measures	<p>-Impact indicators: Improving water quality; Gross nutrient balance on agricultural land; Reducing nutrient leakage</p> <p>- Result indicators: Protect water quality; sustainable nutrient management</p> <p>- Output indicators: Number of ha (agricultural) covered</p>

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
		Water abstraction	<p>correlated to the measure envisaged by the RDPs for "water directive compensation" and "habitat directive indemnity" (specify individual interventions)</p> <p>- Application of measures under the Rural Development Programmes (RDP 2014-2020)</p>						by environment/climate commitments going beyond mandatory requirements; Number of supported non-productive investments; Number of ha receiving support under Natura 2000 or the Water Framework Directive
Italy: Sardinia River Basin Management Plan	2	<p>Nutrient pollution</p> <p>Water abstraction</p>	<p>- Measures to reduce nutrient pollution of agricultural origin like buffer strips (1)</p> <p>- Measures to ensure an efficient and</p>	Yes	Yes, farmers and water boards	Yes	No	yes for all measures	<p>- Impact indicators: Improving water quality; Reducing nutrient leakage – Nitrate in ground water; Reducing pressure on water resource: Water Exploitation Index Plus (WEI+)</p> <p>- Result indicators: Protect water quality; Sustainable nutrient management; Sustainable water use –</p>

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			sustainable use of water						irrigation investments committed to improving water balance; Share of farmers with support in investments related to care for the environment and climate - Output indicators: Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of supported on-farm productive investments
Netherlands: Rhine and Maas River Basin Management Plans	1	Diffuse pollution of nutrients and pesticides Water abstraction	- Delta Plan Agricultural Water Management	Yes	Yes, farmers	No	No	No	No
Austria: National Programme of Measures	212	Diffuse pollution of nutrients	- Maintain existing permanent grassland and/or conversion of arable land into permanent grassland	Yes, for all measures	Yes, farmers are the beneficiaries for all agriculturally used land	Yes, extensive information on what the measure entails, its potential benefits for reducing nitrogen and	5 years, as defined in the AT Rural Development	yes for all measures	- Impact indicators: improving water quality; reducing nutrient leakage - Result indicators: protect water quality; sustainable nutrient management; share of farmers with support in investment related to care

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			<ul style="list-style-type: none"> - Green Fallow and Buffer Strip - Landscape elements - Greening arable land - Terraces - Reduced Tillage - Crop Rotation - Measures to reduce fertilisation and/or prohibition of fertilisation - Application of fertiliser based on nutrient content of the soil - Direct injection of fertilisation 			<p>phosphorus inputs into water, potential barriers to implementation by farmers, and average compensation rates</p>	<p>Programme</p>		<p>for the environment and climate; share of farmers receiving support for advice/training related to environmental-climate performance</p> <p>- Output indicators: number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements</p>

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			<ul style="list-style-type: none"> - Nutrient balances - Farm advice and further training 						
Poland: Odra and Vistula Programme of Measures	2	Nutrient pollution	<ul style="list-style-type: none"> - Education of agricultural workers who carry out activities in NVZs regarding good farming practice and providing them with specialist advisory services 	No	No	Yes, limited information, details on exact commitments are not provided	No	Yes, both measures are explicitly linked to CAP funding	<ul style="list-style-type: none"> - Impact indicators: reducing nutrient leakage - Result indicators: share of farmers with support investments related to care for the environment and climate; protect water quality; share of farmers receiving supporting for advice/training related to environmental-climate performance - Output indicators: number of supported on-farm productive investments; number of farmers trained/given advice
Romania: Danube River Basin Management Plan	1	Water abstraction	<ul style="list-style-type: none"> - National Rural Development Program 2014-2020 (NRDP) Measure 4.1: Investments in 	Yes	Yes, the National Agency for Real Estate Improvement, responsible	Yes, information commitments only includes the following: The two	Yes, one-off investment	yes for all measures	<ul style="list-style-type: none"> - Impact indicator: reducing pressure on water resources - Result indicator: sustainable water use

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			agricultural holdings and Measure 4.3: Investments for the development, modernisation or adaptation of agricultural and forestry infrastructure		for the management of the irrigation system	measures if, following the ex-ante evaluation, water savings of between 5% and 25% are achieved in accordance with the technical parameters of the installation or existing infrastructure, as well as a net increase in the irrigated area.			- Output indicator: number of supported off-farm productive investments.
Sweden: Skagerrak and Kattegat and the Baltic River Basin Districts	2	Diffuse pollution of nutrients and pesticides Water abstraction	- Farm advice - Wetlands - Cultivation without pesticides, including organic farming - Cultivated grassland in the plains	Yes	Yes, farmers	Some measures: the measures on buffer strips mentions types of strips but does not define width or restriction like whether fertilisation is allowed. The measure on tillage does not	No	Yes, for all measures	- Impact indicators: improving water quality; reducing nutrient leakage; sustainable use of pesticides; Reduce risks and impacts of pesticides - Result indicators: protect water quality; Sustainable pesticide use; Share of farmers receiving support for advice/training related to

MS/RBMP/PO M	# optional measures	pressures	type of action	Objectives	beneficiaries	requirements	duration	CAP financing	CAP indicator
			<ul style="list-style-type: none"> - Catch crops/Cover crops - Efficient use of fertilisers and pesticides - Buffer strips - Minimum tillage 			detail what type of reduced tilling is financed			environmental-climate performance - Output indicators: Number of farmers trained/given advice; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of supported non-productive investments; Number of ha with support for organic farming

The review of River Basin Management Plans has identified a range of measures and actions related to agriculture that could be funded under the CAP. The table below provides an overview of the types of individual measures and actions found.

Table 13: Measures that are part of the current RDP and could also be funded under future CAP SP

Measure/action	Member States
Investments related to water abstraction (modernisation)	ES, FR, NL, RO
Education of agricultural workers who carry out activities in NVZs regarding good farming practice and providing them with specialist advisory services	DE, IE, ES, AT, PL, SE
Realisation of buffer strips/filter ecosystems along the natural and artificial plain network	DE, IT, SE
Actions for the mitigation of agricultural impact to be correlated to the measure envisaged by the RDPs for "water directive compensation" and "habitat directive indemnity" (specify individual interventions)	IT, FR
Measures to ensure efficient and sustainable use of water	IT
Agri-environmental measures like fencing of water courses, low-input farming, growing catch crop	all
Modernisation investments like manure storage and low emission slurry spreading	IE
Organic farming	all
Measures to reduce point source pollution	FR
Adoption of Management Plans for livestock subproducts in agricultural exploitations	ES
Enlargement of the obligation to apply action programmes in nitrate vulnerable areas or outside of these	ES
Hydrological forestry restoration, including afforestation, soil protection and erosion control (and in other measures also targeting fauna and climate change adaptation)	ES
Wetlands	SE

The assessment of measures that could be funded under the CAP shows the following picture:

- All measures assessed except the ones from the Ebro (Spain), Odra (Poland) and Vistula (Poland) RBMPs are clear on their objectives.
- In all cases, there is a clear understanding of the pressures addressed, which is in most cases diffuse pollution.
- Out of the 50 agricultural measures assessed, 15 of them do not provide information on land type targeted.
- Only 18 measures provide information on the measure duration, notably in Austria, Belgium (Wallonia), Romania and Spain. However, it is important to note that the duration of all RBMPs is 2015 and 2021³⁷ and measures have to become operational in

³⁷ One exemption is the Irish plan which has a duration from 2018 to 2021.

accordance with Article 11 three years after the programs of measures are into force. Lessons learned from the first implementation cycle of the WFD showed that there is a wide variation in the degree of implementation of the agricultural measures between Member States.³⁸

- Information on beneficiaries is only available for 28 of the 50 measures. However, it should be noted that while the PoMs don't explicitly mention beneficiaries in all cases, it could be inferred that the farmers will be implementing the measures.
- About half the measures have very brief descriptions that are very limited in details to fully understand what the measure entails, making the assessment difficult to carry out. For example, the Weser RBMP only provides the title of the measures but has no technical description. At least a map is provided which shows the location in the RBD. The same is valid for the Elbe RBMP. The Irish RBMP also contains no detailed descriptions of measures and refers often to the Rural Development program. Thirty-four of the measures are specifically linked to the CAP (see Table 12). This is likely due to the PoMs being published after the RDPs. This may have resulted in water authorities relying on the contents of the RDPs to bolster the supplementary measures in the PoMs. Details on the links to the RDPs is lacking however. The PoMs largely do not refer to specific measures in the RDPs – using specific codes or measure numbers – but mainly mention a link.
- A link to the CAP indicators can be established for all measures in all RBMPs except Germany (Weser, Elbe), Ireland and the Netherlands. In all other plans some measures can be linked to the CAP indicators.
- In most of the Member States assessed, there is a big difference between the number of agriculture measures found in the RBMPs compared to the number of measures that could be funded under CAP. For example, out of the 16 agriculture measures in the Po RBMP, only 4 measures can be funded under the CAP.

However, there is an important aspect to consider in the context of the assessment. Annex VII (7) of the WFD clearly stated that Member States only need to include “a summary of the programme or programmes of measures adopted under Article 11, including the ways in which the objectives established under Article 4 are thereby to be achieved” in the RBMP. The details required in such a summary are not further specified and subject to the individual Member State opinion. That means in several Plans only a cross-reference to the RDP is made which entered into force (2014) before the second RBMP was fully developed in the end of 2015.³⁹

Barriers and opportunities for more effective transposition of measures into the CAP

From the assessment above it becomes obvious that the information provided in the RBMPs is very limited to be used for the CAP SP. However, from interviews in Task 3, it became clear that water authorities have been consulted when setting up the Rural development programs for 2014 to 2020 and more information and details are available on MS level. This information is not necessarily published. The MS undertook varying degrees of effort to coordinate between environment and agriculture authorities. While in Austria the water and agriculture authorities are in one ministry and a specific unit for the coordination between the two exists, in Italy only a few consultation meetings have taken place.

For the next CAP all interviewed persons stated that the new legally required approach under the CAP 2021-2027 will likely increase the efforts in coordination and bring together the different authorities responsible for RDP and the WFD implementation. However, it needs to be stated that this process is currently ongoing and the progress made needs to be evaluated when the first CAP SP are published. Another barrier mentioned in the interviews was that there is a different view in what is needed in terms of measures to achieve the good status (defined by the water authorities) and what is seen as acceptable for farmers by the agricultural authorities. Measures under the Water Framework Directive are rather extensive, and it is not easy to elaborate measures which will be acceptable for farmers, environmentally friendly and easy to implement. Farmers tend to be less interested in implementing measures that would reduce crop yield or create fallow land, e.g. reducing fertiliser use or creating buffer strips, and respond better to measures like switching crop variety to one that uses less fertilisers. However, the measures that farmers tend to favour are not always the ones that have the potential to address water management issues the greatest. An important

³⁸See https://ec.europa.eu/environment/water/water-framework/pdf/4th_report/CSWD%20Report%20on%20WFD%20PoMs.pdf

³⁹ Please note that in 2015 not all MS had their RBMPs ready and were delayed by several months. See https://eur-lex.europa.eu/resource.html?uri=cellar:bee2c9d9-39d2-11e9-8d04-01aa75ed71a1.0005.02/DOC_1&format=PDF

approach to overcome this barrier would be a continuous and intensive dialogue between both authorities, with the aim to create understanding on both sides to create acceptable solutions for all. Here, increased investment in farm advice is key. Farmers are more likely to implement measures they are less familiar with if advisors are able to do one-on-one farm visits over time to gain trust in their technical expertise. To this end, increased financial support to farm advice – especially targeted in risk areas identified under the WFD – is an important element in increasing farm support for measure implementation.

Another potential solution is to have administrations focus more of their efforts on ensuring land consolidation processes also enable the switching of land parcels to achieve good status. Administrations should consider requiring that at least one land consolidation process per year is dedicated to water management considerations and develop criteria for identifying land parcels along water bodies to swap with farmers to enable measures like buffer strips and river restoration.

Another barrier is the lack of dedicated financing for water management measures as the RDP has to serve a wider set of priorities and objectives.

3.3. Priority Action Frameworks and Natura 2000 Management Plans

The following sections present the results of the analysis and assessment of measures established by the environmental planning tools for nature conservation, namely the PAFs and Natura 2000 Management Plans. Findings are presented separately for each planning tool.

3.3.1. Priority Action Frameworks (PAFs)

In May 2018, the new PAF format was approved with a view to maximizing the incorporation of the Natura 2000 financing needs with the relevant EU funding instruments under the next Multiannual Financial Framework (MFF) 2021-2027. The CAP Strategic Plans need to take account of the analysis, objectives and targets of the Habitats and Birds Directive. This includes the actions and measures identified in the PAFs.

The updated PAF format for the 2021-2027 programming period explains that ‘PAFs are strategic multiannual planning tools, prepared at both national and regional levels, aimed at providing a comprehensive overview of the measures that are needed to implement the EU-wide Natura 2000 network and its associated green infrastructure’. They specify the financing needs for these measures and link them to the corresponding EU funding programmes. PAFs should identify measures *“to maintain and restore, at a favourable conservation status, natural habitats and species of EU importance...”*. They are developed under Article 8 of the Habitats Directive, which explicitly links the delivery of necessary conservation measures for Natura 2000 to EU co-financing.

The revised PAF format is structured by eight ecosystem types developed under the MAES process.⁴⁰ In their PAFs, Member States should present cost information for the measures, distinguishing between one-off expenditures and running costs. As noted in the following section, due to timing issues the assessment was carried out either on the first draft version of the PAFs submitted by Member States to the Commission – or, where these were not available for the focus Member States, on the final PAFs for the 2014-2020 period.

Description of plans and measures

Due to the late submission of the PAFs⁴¹, the final sample included three draft national PAFs for the period 2021-27, five draft regional PAFs for the same period and two existing PAFs from the current funding period ending in 2020 (see Table 9 on the final selection of the PAFs assessed for this study). It should be noted that the PAFs for 2014-2020 used a simpler format which asked for less information than the revised format for 2021-2027.

Table 14: Final selection of PAFs analysed in this study

⁴⁰ Mapping and Assessment of Ecosystems and their Services. See <https://biodiversity.europa.eu/maes>.

⁴¹ At the time of the project interim report (June 2019), only 4 of the 11 Member States to be assessed had submitted their draft PAFs: BE-Wallonia, Ireland, Romania and Spain (Spain had submitted drafts for each region). It was agreed with Commission services to wait with the assessment until the end of July, at which time BE-Flanders and Poland had also submitted plans.

MS	Scale	Status	Funding period
BE	Regional (Flanders)	Draft	2021-2027
	Regional (Wallonia)	Draft	2021-2027
DE	National	Final	2014-2020
IE	National	Draft	2021-2027
ES	Regional (Andalusia)	Draft	2021-2027
	Regional (Balearic Island)	Draft	2021-2027
	Regional (Castilla La Mancha)	Draft	2021-2027
FR	National	Final	2014-2020
IT	<i>Draft PAFs 2021-27 not available; none reviewed</i>		
NL	<i>No PAF available for review</i>		
AT	National	Draft	2021-2027
PL	National	Draft	2021-2027
RO	National	Draft	2021-2027
SE	<i>Draft PAF 2021-27 not available; no PAF reviewed</i>		

The review of PAFs has identified a broad range of measures and actions related to agriculture. The table below provides an overview of the types of individual measures and actions found in the PAFs in the assessed Member States and regions.⁴² In several Member States – namely Austria, Belgium, Ireland, Poland, Romania and Spain – the measures in the PAFs were grouped into several measure categories and analysed as such: this was due to the fact that the PAFs contained very little information on the individual measures often only indicating their titles.

Table 15: Overview of measures or groups of measures and actions identified in the PAFs assessed

Measure/action	Member States
Grasslands	
Restoration and maintenance and preservation of existing landscapes (improving habitats)	AT, BE (Flanders), ES (Balears), RO, IE, FR, DE
Restoration and maintenance of Annex I habitats ⁴³	BE (Wallonia)
Implementation of management plans and agreements with owners and farmers to comply with certain regulations	DE ⁴⁴
Implementation of Natura 2000 contracts on grasslands	FR
Extensive grazing, no fertiliser input	IE
Scrub removal	IE
Agri-environmental scheme for Whinchat in meadows and Corncrake in meadows	IE
Removal of trees and shrubs including removal of cut biomass ⁴⁵	PL

⁴² Please note that some plans include a range of activities or requirements within a single ‘measure’, others establish a separate ‘measure’ for each single separate intervention.

⁴³ PAF indicated that this measure can also be implemented in permanent croplands.

⁴⁴ All DE measures in the grassland category apply to a variety of habitats - The measure is implemented on all general habitat categories, including coastal and marine areas, freshwater habitats, bogs and wetlands, heath, grassland and woodlands and forests.

⁴⁵ Can also be implemented in other habitat, including wetlands.

Measure/action	Member States
Mowing of the habitat area with removal of biomass and/or use for grazing	PL
Controlled burning in the habitat area	PL
Cropland	
Management measures: maintenance and improvement of the conservation status of species in croplands	FR
Agri-environmental scheme for farmed land on islands and lakeshores at key sites for waterbirds ⁴⁶	IE
Measures related to other agro-ecosystems (incl. croplands)	RO
Hedgerows and other landscape features	
Measures related to heathlands and shrubs	RO, BE (Flanders)
Maintenance and protection of structural landscape elements	AT
Water management	
Renaturation of watercourses and adjacent habitats	AT
Measures related to bogs, mires, fens and other wetlands	RO
Agri-environmental scheme for prioritised hard water lake catchments and turloughs	IE
Non-productive investments for the restoration of prioritised hard water lake catchments and turloughs: exclusion areas	IE
Creation of ponds and small water reservoirs	PL
Measures related to freshwater habitats/ Manual cutting of grass around water bodies	RO, PL
Measures related to species protection	
Species-specific measures	BE (Wallonia)
Agri-environmental measures for bird species	IE
Non-productive investments for the restoration of habitat for birds	IE
Non-productive investment for the improvement of land on islands and lakeshores at key sites for waterbirds	IE
Other	
Measures to preserve agroecosystems	ES (Andalusia)

⁴⁶ Agri-environmental scheme for farmed land on islands and lakeshores at key sites selected for waterbird assemblages including 4 SPAs selected for *Melanitta nigra*; extensive grazing (average annual cost per hectare: €400). This measure addresses overgrazing near freshwater habitats within Natura 2000 sites and is found in section E.2.8. Freshwater habitats (rivers and lakes), and in this section – unlike the others – possible EU co-funding sources are not identified for any measures.

Measure/action	Member States
Measures to preserve steppe agroecosystems	ES (La Mancha)
Compensation measures (for creation of Annex I habitats/ compensation of damages caused by protected species)	FR, BE (Wallonia), RO
Exclusion areas to prevent encroachment of livestock	IE
Fighting expansive or alien species, including invasive species	PL, DE
Purchase of areas that are important for the protection of the natural habitat	PL
Grazing of farm animals – construction of sheds and veterinary care	PL

Almost all PAFs reviewed⁴⁷ contained actions to maintain and restore grasslands: these include rules and commitments for extensive grazing without fertilizers input, mowing of the habitat area with removal of biomass and/or use for grazing including controlled burning in the habitat area as well as activities to restore abandoned land. Four PAFs⁴⁸ identified measures related to Natura 2000 water management such as agri-environmental schemes for prioritised hard water lake catchments and turloughs and creation of ponds and small water reservoirs. In Belgium (Wallonia) and Ireland, specific measures related to species protection were analysed. Ireland, Poland and Germany also identified measures related to fighting invasive species.

Assessment of measures

This subsection describes the level of detail the PAFs provide for each measure before presenting our conclusions on their eligibility for inclusion in the next CAP Strategic Plans.

Measure description and actions

All PAFs reviewed only provide very limited information about the measures. Measure descriptions mostly consist of a title only, in some cases including a list of non-exhaustive actions which might be taken to implement the measure. Measures are sometimes linked to broad habitat types where they should be implemented. For instance, the German PAF (2014-2020) distinguishes between (1) general priority measures, (2) priority measures for Natura 2000 habitats and species characterised by agriculture and forestry, (3) priority measures for marine and coastal Natura 2000 habitats and species, (4) priority measures for Natura 2000 wetland habitats and species (including moorland) and (5) other priority measures.

Objectives and pressures

The objectives of the assessed measures are clearly stated in four PAFs (Poland, the three regional Spanish PAFs, Belgium (Wallonia), and Romania). Other PAFs provide objectives at programme level only, meaning that strategic objectives are detailed but not linked to individual measures. Most PAFs (Belgium, Wallonia, Germany, France, Austria and Romania) link the pressures reported to groups of measures, with some measures addressing multiple pressures. The PAF for the Balearic Islands is the only one to list pressures by measure; however, the measures do not necessarily align clearly with the listed pressures.⁴⁹

Assessment of the measures using CAP indicators

Except for the Romanian, Walloon (Belgium) and two Spanish (Castilla-La-Mancha and Baleares) PAFs, none of the Member State frameworks reviewed establish indicators or targets, neither at

⁴⁷ AT, BE (Flanders), ES (Balears), RO, IE, FR, DE, PL

⁴⁸ AT, RO, IE, PL

⁴⁹ The specific chapter of the PAF E.2.4 refers to grasslands, and as all other chapters it mentions (page 39) explicitly the different pressures on the habitat, including those from agriculture. In addition, the PAF also lists expected future pressures and specific pressures for some habitat types. However, the measure descriptions overall are not very detailed in regards of technical practical implementation; each include a brief 2-3 lines description without being linked to a specific pressure.

strategic nor at measure level, to monitor implementation and measure outcomes. The Romanian PAF specifies indicators for each measure analysed in this study. All groups of measures, apart from those for freshwater habitats, contain indicators that could contribute to monitoring several CAP indicators. Targets detailed for measures on grassland habitats include inter alia “Natura 2000 sites with 18 grassland habitats, 77 species and 46 birds” for several measures, such as “Stopping habitats succession processes through active conservation measures” and “Maintain/create live hedges, bushes, isolated trees (planting, maintenance, stoning, etc.)” respectively. These targets could contribute to monitoring progress with the following impact and result indicators: “Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends” (impact); “Share of agriculture land under commitments for managing landscape features, including hedgerows” and “Share of agricultural land under management commitments supporting biodiversity conservation or restoration” (result). The Wallonian PAF and the one for Castilla-La-Mancha provide similar targets by detailing the area on which certain measures should be established. The PAF for Andalusia defines the number of sites on which the respective measures should be implemented.

Drawing on the measure descriptions, objectives and pressures established for the measures, our expert judgment concludes that many of the CAP indicators could be used to monitor the measures presented in the other countries’ PAFs, where targets and indicators are missing. For example, the measures in the Belgian PAF for Flanders aim to create and maintain habitats favourable for biodiversity or to maintain the landscape, including the conservation of its historical features. They could potentially contribute to meeting the following impact and result indicators presented in the CAP proposal: “Enhanced biodiversity protection” (impact), “Supporting Natura 2000”, “Preserving landscape features”, and “Preserving habitats and species” (result) indicators in the CAP proposal.

Our assessment establishes links between all measures and various indicators listed in the CAP proposal, regardless of whether PAFs included specific targets or not. Given that many PAFs offer limited details about the measures, this assessment was often made on the basis of the measure titles which made it difficult to identify specific indicators and therefore led to experts selecting several indicators which could potentially be relevant.

Costs and funding

All PAFs state that both one-off and recurring costs are eligible for financing. The overall annual costs for implementing each measure across the Natura 2000 network are presented in all PAFs except for Germany and Andalusia (Spain). For instance, the Austrian details for each measure the frequency with which it should be implemented (one-off or recurring), the approximate costs and the potential funding source. For example, “Initial measures, such as clearing, mulching, milling, removing young trees, combating invasive species, planting and sowing of grasslands” are listed as a one-off as well as a recurring measure. The one-time implementation is costed at 1,752€/year and 173,000 €/year for a recurring implementation. The Andalusian PAF details the global financing needs for establishing and managing different types of Natura 2000 sites without referring to individual measures. Germany reported an overall estimate of the costs needed for implementing the Natura 2000 Network (627 million €/year) and highlighted that these included both one-off and recurring costs of managing and monitoring Natura 2000 sites.

The EAFRD is identified as a potential source of funding of all measures assessed by the PAFs of Germany, France, and Austria. The Irish PAF indicates funding sources for nearly all measures; the EAFRD is referenced for seven 7 of the 11 groups of measures⁵⁰ assessed in this study. In Spain, two of the assessed regional PAFs - Castilla La Mancha and Andalusia have specifically indicated EAFRD as a financing tool for some measures. The PAF for the Balears does not refer to the EAFRD as a source of funding. Both Belgian PAFs explicitly mention the EAFRD and state that many of the maintenance measures are implemented through AES. The Romanian PAF refers to the ‘Future Strategical Agricultural Plan’ (it is assumed that this is the CAP Strategic Plan) and mentions CAP Pillar I funding for one sub-measure.⁵¹ In some cases, the PAF refers to ‘European Funds’ without further description. The Polish PAF does not link measures to specific funding sources but lists the EAFRD as one possible funding option.

⁵⁰ For example, no EU co-funding source is indicated for the following measure: Agri-environmental scheme for farmed land on islands and lakeshores at key sites selected for waterbird assemblages including 4 SPAs selected for *Melanitta nigra*; extensive grazing (average annual cost per hectare: €400). This measure is found in section E.2.8. Freshwater habitats (rivers and lakes), and in this section – unlike the others – possible EU co-funding sources are not identified for any measures.

⁵¹ This measure is entitled ‘maintaining landscape elements’ and is found in section E.2.2 on healthlands and scrubs. It’s a recurring measure for habitats in favourable conservation status; its estimated cost is €200,000. The measure also refers to the ‘Future Strategical Agricultural Plan’ as a funding source.

The following table summarises the analysis of the identified measures from the Priority Action Frameworks (PAFs).

Table 16: Summary of the analysis of the PAFs assessed

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
Belgium/ Flanders	2 groups of measures ⁵³	Actions to create and maintain habitats favourable for biodiversity or to maintain the landscape, including the conservation of its historical features	No	No, objectives are not defined at measure level but at programme level	No	One-off and recurring costs; provided as total annual costs per implementation of measure in all relevant Natura 2000 sites	No	Yes: Impact indicators: - Enhanced biodiversity protection Result indicators - Supporting Natura 2000 Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive
Belgium/ Wallonia	3 groups of measures, covering 110 individual measures	Actions to create and maintain habitats favourable for biodiversity or to maintain the landscape,	Yes, pressures are mentioned for each habitat to which the	Yes	No	One-off ⁵⁴ and recurring ⁵⁵ ; costs are provided as total annual costs per implement-	No ⁵⁶	Yes: Impact indicators - Enhanced biodiversity protection

⁵² We assessed the draft PAFs for the period 2021-2027 of the following Member States: Belgium (Wallonia and Flanders), Ireland, and Spain (Andalusia, Balearic Islands, and Castilla La Mancha), Austria, In the absence of a draft plan, we assessed the German and the French PAFs for the period 2014-2020. No PAFs were assessed for Italy, the Netherlands, and Sweden.

⁵³ The number of individual measures could not be determined, given that only general descriptions are provided for the types of commitments involved (recurring, one-off) without any measure titles or references.

⁵⁴ Land acquisition is a one-time expenditure.

⁵⁵ Creation or restoration measures are financed on a one-off basis, and recurring costs are covered for maintenance measures, Measures concerning the creation of habitats or landscape features are mentioned as a one-off cost, whereas management measures are cited as recurring costs.

⁵⁶ The column "Possible EU co-funding source" is not filled in the measures. CAP financing can be inferred for measures referring to AES (agri-environmental schemes) in their title, however. The plan mentions EARFRD (assumed to be EAFRD) but does not link individual measures to this.

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
		including the conservation of its historical features	measures apply.			tation of measure in all relevant Natura 2000 sites; average costs per ha are also listed		Result indicators - Supporting Natura 2000, Preserving landscape features, Preserving habitats and species.
Germany	4	Conservation measures to achieve favourable status for habitats (Measure category 12), and species (Measure category 13), Nature measures to combat invasive measures (Measure category 14), Implementation of plan by landowners and farmers that include agri-environment type measures (Measure category 15)	Yes, pressures are listed per specific habitat type and then linked to groups of relevant measures.	No, objectives are not defined at measure level but at programme level	No, the PAF provides general descriptions of the types of activities that can be funded. For measure categories 12, 12, and 14 these include renaturation measures, establishment of corridors, management of specific habitats/species, preparation of management plans. For measure category 15, examples of agri-environmental, forest-environmental measures, and conservation	One-off and recurring; no information provided about costs of implementing individual measures	Yes, the EAFRD is listed as a potential source of funding for all four types of measures	Yes: Result indicators - Share of farmers with support in investments related to care for the environment or climate; Area in Natura 2000 sites under commitments for protection, maintenance and restoration; Share of agricultural land under management commitments supporting biodiversity conservation or restoration); Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive, Number of ha (agricultural) covered by environment/climate commitments going

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
					measures are listed.			beyond mandatory requirements. Number of supported non-productive investments). In addition, measure category 15 can be linked to the following result indicators: Share of forest land under management commitments to support forest protection and management., Share of forest land under management commitments for supporting landscape, biodiversity and ecosystem services.
Ireland	11 groups of measures	There are several types of actions: Environmental, climate and other management commitments; Actions to create	No, pressures are not specifically linked to measures	No, objectives are not defined at measure level but at programme level	No	One-off ⁵⁷ and recurring ⁵⁸ ; costs are provided as total annual costs per implementation of measure in all	Yes, the PAF indicates financing sources; many individual measures	Yes: Impact indicators - Farmland Bird Index , Percentage of species and habitats of Community interest related to agriculture

⁵⁷ Land acquisition is a one-time expenditure.

⁵⁸ Creation or restoration measures are financed on a one-off basis, and recurring costs are covered for maintenance measures, Measures concerning the creation of habitats or landscape features are mentioned as a one-off cost, whereas management measures are cited as recurring costs.

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
		<p>and maintain habitats</p> <p>Investments in non-tangible assets</p>				<p>relevant Natura 2000 sites; average costs per ha are also listed</p>	<p>refer to the EAFRD</p>	<p>with stable or increasing trends</p> <p>Result indicators - Share of farmers with support in investments related to care for the environment or climate; Area in Natura 2000 sites under commitments for protection, maintenance and restoration; Share of agricultural land under management commitments supporting biodiversity conservation or restoration; Output indicators: Number of ha receiving support under Natura 2000 or the Water Framework Directive, Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements, Number of supported non-productive investments</p>

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
Spain / Andalucía	One central measure (with sub-measures and specific sub-sub-measures) for agriculture, targeting stone-and cork-oak woodlands. Other measures also include specific sub-sub-measures for agriculture	Organic production, integrated production, training and environmental commitments	No, pressures are not specified as such	Yes, identified as “expected result”	No, only in 2-3 lines without necessary technical details for implementation	One-off and recurring ⁵⁹ ; costs are provided as total annual costs per implementation of measure in all relevant Natura 2000 sites	Yes, the EFARD ⁶⁰ is mentioned for one specific sub-measure	<p>Yes</p> <p>Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services; Environment-/climate-related performance through investment;</p> <p>Result indicators - Supporting Natura 2000; Preserving habitats and species;</p> <p>Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of ha with support for organic farming; Number of</p>

⁵⁹ Each sub-sub measure includes information on whether the financing is recurring or one-time expenditure.

⁶⁰ Table 3.4 of the PAF refers to EARDF as specific funding instrument for the implementation of the measure 15.1.1 and its sub-sub measure – “Compatibilization of uses, including land management contracts”. It is however not mentioned for the other measures, e.g. support to organic and integrated farming practices.

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
								supported non-productive investments
Spain/ Balearic Islands	1 measure for grasslands including two sub-measures	Erosion control, habitat conservation	Yes, however the measures do not necessarily align clearly with the listed pressures ⁶¹	Yes, identified as "expected result"	No ⁶²	One-off and recurring ⁶³ ; costs are provided as total annual costs per implementation of measure in all relevant Natura 2000 sites	Yes	Yes, Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result indicators - Supporting Natura 2000; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of ha (agricultural) covered by environment/climate commitments going

⁶¹ The specific chapter of the PAF E.2.4 refers to grasslands, and as all other chapters it mentions (page 39) explicitly the different pressures on the habitat, including those from agriculture. In addition, the PAF also lists expected future pressures and specific pressures for some habitat types. However, the measure descriptions overall are not very detailed in regards of technical practical implementation; each include a brief 2-3 lines description without being linked to a specific pressure.

⁶² The measure descriptions overall are not very detailed in regards of technical practical implementation; however, they each include a brief 2-3 line description and mention specifically if they are recurrent or one-off financing.

⁶³ Each sub-sub measure includes information on whether the financing is recurring or one-time expenditure

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
								beyond mandatory requirements.
Spain/ Castilla La Mancha	4 measures (with sub-measures) for agriculture, one measure for forestry (with sub-measures)	Maintaining habitats, organic and integration production, and environmental commitments	No ⁶⁴	Yes as “expected result”	No	One-off and recurring ⁶⁵ ; costs are provided as total annual costs per implementation of measure in all relevant Natura 2000 sites; average costs per ha are also listed	Yes, to 2014-2020 EARDF	Yes: Impact indicators - Increasing farmland bird populations; Enhanced biodiversity protection; Enhanced provision of ecosystem services; Environment-/climate-related performance through investment; Result indicators - Natura 2000; Preserving landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework

⁶⁴ The measure descriptions overall are not very detailed in regards of technical practical implementation; however, they each include a brief 2-3 line description and mention specifically if they are recurrent or one-off financing.

⁶⁵ Each sub-sub measure includes information on whether the financing is recurring or one-time expenditure.

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
								Directive; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of ha with support for organic farming; Number of supported non-productive investments
France	4	The measures all concern actions to create and maintain habitats favourable for biodiversity	No, frequency of pressures related to certain activities is specified for habitats and species, but not their specific nature.	No, objectives are not defined at measure level but at programme level	No, measure descriptions are very short and do not provide any detail on their content	No, costs presented only refer to financing needs for establishing and managing different types of Natura 2000 sites.	Yes, the EAFRD is mentioned as a potential funding source.	Yes, measures can be linked to all indicators as they are formulated very broadly.
Italy	<i>Not assessed</i>							
Netherlands	<i>Not assessed</i>							

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
Austria	15	Restoration and maintenance of existing landscapes and/or natural water management (measure category 1); Extensive management and contractual nature protection measures (measure category 2); Protected species-related projects (measure category 3); Conservation and maintenance of structural landscape elements (measure category 4); Restoration of water bodies and freshwater habitats (measure category 5)	No, pressures are not defined at measure level but broadly described for broad land use types and associated habitats and species.	No, objectives are not defined at measure level but at programme level	No, the measure descriptions provide general descriptions of the type of actions needed to meet the conservation objectives for different habitat types and species without setting out detailed requirements.	The PAF indicates that both the one-time as well as recurring implementation of measures grouped into categories 1-4 can be financed; measures under category 5 can only be financed once.	Yes, the EAFRD is identified as a potential source of funding for all measures.	Yes: Result indicators - Share of farmers with support in investments related to care for the environment or climate, Area in Natura 2000 sites under commitments for protection, maintenance and restoration, Share of agriculture land under commitments for managing landscape features, including hedgerows, Share of agricultural land under management commitments supporting biodiversity conservation or restoration, Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive, Number of ha (agricultural) covered by environment/climate commitments going

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
								beyond mandatory requirements, Number of supported non-productive investments
Poland	10 ⁶⁶	Actions related to conservation and protection of specific habitats, actions to target alien species, actions related to grazing management	No, the PAF does not provide detail on pressures addressed by each measure.	Yes	No	One-off and recurring; costs are provided as total annual costs per implementation of measure in all relevant Natura 2000 sites; average costs per ha are also listed	No, the EAFRD is listed among potential sources of financing but is not linked to individual measures to CAP funding	Yes, measures can be linked to all indicators as they are formulated very broadly.
Romania	6 groups of measures	Actions to create and maintain habitats favourable for biodiversity or to maintain the landscape, including the conservation of	Yes, pressures are provided at the level of the groups of measures, i.e. for the broad habitat categories addressed	Yes, objectives provided at the level of the groups of measures, i.e. for the broad habitat categories addressed	No	One-off and recurring; costs are provided as total annual costs per implementation of measure in all	Yes ⁶⁷	Yes: Impact indicators - Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture

⁶⁶ The assessment of the measures provided is an aggregated summary of the measures that are listed in the PAF document separately for each type of habitat. The assessed measures have been selected using an expert judgement as measures having relevance for agriculture.

⁶⁷ Sub-measures under both Measures 1 and 3 refer to the Future Strategic Agricultural Plan. Additionally, one sub-measure under Measure 1 refers to Pillar I of the CAP.

Member State ⁵²	No. of measures	Types of actions	Pressures defined	Objectives defined	Requirements defined	Type of costs covered	Reference to CAP for financing	Link to CAP indicators
		its historical features; Actions to mitigate climate change, to adapt to climate change and to increase renewable energy use; Investments in non-tangible assets; research and experimental production	such as grasslands.	such as grasslands.		relevant Natura 2000 sites		with stable or increasing trends; Result indicators - Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration, Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows, Preserving habitats and species: Share of agricultural land under management commitments supporting biodiversity conservation or restoration; Output indicators - Number of farmers trained/given advice
Sweden	<i>Not assessed</i>							

Based on the assessment of the PAFs, we can draw the following conclusions regarding their eligibility for funding under the future CAP Strategic Plans:

- All PAFs reviewed⁶⁸ already identify the EAFRD as a source of funding, if not for all then at least for some measures. In total, 35 measures were identified (out of a total of 61 measures⁶⁹ assessed in this study) where the EAFRD was explicitly listed as a potential source of funding. This includes the measure groups of the Irish PAF (seven out of 11) and two Spanish PAFs (Balears and Castilla-La-Mancha, all measure groups, i.e. one and four, respectively) where the EAFRD was listed as a financing option at group level. The Andalusian PAF refers to the EAFRD for one sub-measure only and the Romanian framework for individual sub-measures under two out of the six groups. The two Belgian and the Polish PAFs generally refer to the EAFRD as a funding source but do not link it to individual measures.
- Where measures are already linked to CAP funding, it can be reasonably assumed that they would equally be eligible for funding under the post-2020 CAP. Measures that are not explicitly linked to the EAFRD as a source of funding appear to meet some of the inclusion criteria (see Section 2.3); the review of the PAFs shows that pressures and objectives largely align with the objectives of the CAP proposal (although they are not always explicitly linked to individual measures). However, the broad measure descriptions presented in the PAFs lack detailed information about the specific measure requirements or beneficiaries which might support an assessment of whether and under which type of intervention measures could be funded.
- Finally, it should be noted that apart from the German and French documents (where final PAFs for 2014-2020 were reviewed), all PAFs assessed were in draft form.

Table 17 summarises the conclusions on fundability of PAF measures per individual Member State.

Table 17: Fundability of PAF measures by Member State

MS	Summary
BE	Both draft Belgian PAFs (2021-2027) provide very little information on the individual measures, only presenting general descriptions of the types of actions involved and the kind of costs covered (recurring or one-off). None of the individual measures in the PAFs are explicitly linked to CAP financing, although many of the maintenance measures specify that they are implemented through AES, which would imply CAP financing. The Walloon PAF lists targets which could contribute to the monitoring of CAP indicators; no indicators are provided in the Flemish PAF, but expert judgment concludes that the measures can be linked to several impacts, result and output indicators. While the brief descriptions indicate the types of one-off actions and recurring actions that may be eligible for CAP financing, there is insufficient information in the PAFs in order to make a clear determination as to whether and which measures can be financed by the CAP.
DE	The PAF (2014-2020) identifies the EAFRD as a potential source of funding of all measures. Measure objectives and pressures addressed are reported, albeit not by measure. Measure requirements, beneficiaries and duration are not detailed. Targets or indicators are not established but expert judgment concludes that all measures related to agriculture can be linked to CAP indicators. It can, therefore, be assumed that, should the PAF for the funding period 2021-2027 include similar measures, they might qualify for funding under the rural development interventions in the new CAP Strategic Plans, for example under Measure category 15 which refers to agri-environmental measures and might be eligible for funding under the eco-schemes.
IE	The draft PAF (2021-2027) does not describe measures beyond the title of each measure. However, these titles are quite specific. For nearly all measures in the PAF, a financing source is indicated. Expert judgment concludes that measures could be linked to several impact, result and output indicators of the CAP proposal. The EAFRD is listed as a source of funding for seven of the 11 groups of measures assessed in this study. The remaining measures identified as relevant for agriculture appear to be eligible for CAP financing.

⁶⁸ Please note that we reviewed the draft PAFs for the funding period 2021-2027 for BE, IE, ES, AT, PL and RO and the PAFs for the funding period 2014-2020 for DE and FR.

⁶⁹ For the following PAFs, the total number of measures uses the number of the measure groups rather than the individual measures (see Table 15 for details on the grouping of measures and the number of sub-measures): Wallonia and Flanders (Belgium) Ireland, Andalusia, Balears and Castilla-La-Mancha (Spain), and Romania.

MS	Summary
ES	The draft regional PAFs (2021-2027) reviewed do not provide detailed measure descriptions. For Andalusia, sub-sub-measures are listed in one line and refer to specific habitats/species and identify if they are recurrent or one-off financing. For the Balears, details include the cost per unit and the units targeted (number of SCIs, SPAs; however, no further details are provided). For Castilla La Mancha, the measures refer to a group of habitats/species addressed and mention specifically if they are recurrent or one-off financing, including the cost per unit. All three PAFs provide expected results both in terms of benefits for habitats and species and other socio-economic aspects. For all three PAFs, the measures can be linked to CAP indicators, with only the PAF for the Castilla-La-Mancha region listing specific targets. The Castilla La Mancha and Andalusia PAFs indicate EAFRD as a financing source for some measures. The draft PAF for the Balears does not refer to the EAFRD as a source of funding although based on the information provided it appears that measures could be financed by the CAP.
FR	The PAF (2021-2027) lacks details on what the measures entail precisely, only providing a very general description amounting essentially to a title. The pressures and threats addressed by the measure are not specifically identified either. Although the PAF does not establish measure-specific targets, it is possible to link each measure to the impact, result and output indicators of the current CAP proposal. The measure descriptions identify EAFRD as a funding source; while it is presumed that the measures could be financed under the new CAP proposal, there is not enough information in the PAF to make a definitive determination.
IT	<i>Not assessed</i>
NL	<i>Not assessed</i>
AT	The PAF only provides a very high-level description of the types of measures to be implemented to meet Austria's strategic conservation targets for the Natura 2000 network. The draft PAF provides few details on the measures, providing a short description of the measure, the frequency with which it should be implemented (one-off or recurring), the approximate costs and the potential funding source. The EAFRD is identified as a potential source of funding for all measures. Information is not provided on who will carry out the measures, their duration, or which costs are covered. It appears that measures could potentially be funded under the eco schemes or rural development interventions to be established through the new CAP.
PL	The draft PAF (2021-2027) does not provide detail on pressures addressed by each measure. The broad descriptions suggest that measures could potentially be linked to all CAP indicators. The description of the measures provided in the Polish PAF does not include information on sources of financing per measure. However, information on possible financing sources for the PAF overall, with cost estimates per source, is provided. The EAFRD is listed among these sources of financing, in division into specific categories of activities. However, the PAF does not link individual measures to CAP funding, and the information available does not allow a judgement which measures specifically could be financed by the CAP.
RO	In the draft Romanian PAF (2021-2027), the measures are not detailed beyond the title of each measure. Objectives and pressures are provided at the level of the groups of measures, i.e. for the broad habitat categories addressed such as grasslands. Indicators are provided for all individual measures, and which can be linked to CAP indicators. For most measures in the PAF, a financing source is indicated. In two instances, the PAF refers to the 'Future Strategical Agricultural and in one case to Pillar I of the Common Agricultural Policy (presumably for 2020-2027 as this is the period of the PAF). In some cases, the PAF refers to 'European Funds' without further description. Due to the lack of further information provided in the PAF, it is not possible at this stage to assess whether other measures can be financed by the CAP.
SE	<i>Not assessed</i>

3.3.2. Natura 2000 Management Plans

Natura 2000 management plans are policy tools envisaged to be developed by the Members States on the basis of Article 6 of the Habitats Directive. For the Special Areas of Conservation (SACs) Member States should adopt conservation measures involving if need be, these appropriate management plans. Unlike the PAFs, the management plans are not the financing tools but rather policy plans of how a specific Natura 2000 site is planned to be managed according to its established

conservation objectives (thus also much smaller in scale than national/regional PAFs). In addition, they are not formally required to be periodically reviewed and they do not have a formal submission structure/format either. As detailed in the sections below, this meant that management plans vary in their adoption and (if applicable) review dates as well as their availability for a specific Natura 2000 site.

Description of plans and measures

For this study, five Natura 2000 site plans were screened in 10 Member States. The five plans covered sites with agricultural activities within their area or potentially with important agricultural activities bordering the site. The site plans were identified from several sources: NGO inputs (in particular, BirdLife Europe and its national affiliates); sites identified by DG Environment; and expert research into sites.

Criteria for the selection of the sites used by the sources identified above were the following:

The sites will cover:

- Key types of habitats affected by agricultural pressures and/or
- Habitats in different biogeographical regions, if more than the Member State or region contains more than one and/or
- Sites in which agriculture is an activity or where adjacent agricultural activities are a significant pressure

Table 18 below shows the final selection of Natura 2000 management plans in each assessed Member State and their source of identification.

Table 18: Final selection of Natura 2000 site plans

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
BE	<i>Natura 2000 plans not available for assessment</i>		<i>Contacts with national authorities uncovered that Site plans are not yet approved</i>
DE	<ol style="list-style-type: none"> 1. Unteres Rhinluch/Dreetzer See, Havelländisches Luch und Belziger Landschaftswiesen (2014) 2. Mittlerer Schwarzwald bei Hornberg und Schramberg (2012) 3. Eberfinger Drumlinfeld mit Magnetsrieder Hardt und Bernrieder Filz (2019) 4. Mildenitztal mit Zuflüssen und verbundenen Seen (2014) 5. Elbtalhänge zwischen Loschwitz und Bonnewitz (2008) 	<ol style="list-style-type: none"> 1. not available 2. https://www.lubw.badenwuerttemberg.de/documents/10184/293007/MA_P+Hornberg_Endfassung+10-9-2012-Internet.pdf 3. https://www.regierung.oberbayern.bayern.de/aufgaben/umwelt/natur/natura/14318/index.php 4. http://www.stalu-mv.de/wm/Themen/Naturschutz-und-Landschaftspflege/NATURA-2000/Managementplanung/DE-2338-304-Mildenitztal-mit-Zufluessen-und-verbundenen-Seen 5. https://www.umwelt.sachsen.de/umwelt/natur/21184.htm 	Identified by national expert
IE	<ol style="list-style-type: none"> 1. Galtree Mountains (2005) 2. Bolingbrook Hill (2005) 3. Lough Coy (2005) 4. Coolvoy Bog (2005) 5. Kilcarren-Firville Bog (2005) 	<ol style="list-style-type: none"> 1. https://www.npws.ie/protected-sites/sac/000646 2. https://www.npws.ie/protected-sites/sac/002124 3. https://www.npws.ie/protected-sites/sac/002117 4. https://www.npws.ie/protected-sites/sac/001107 5. https://www.npws.ie/protected-sites/sac/000647 	Identified by national expert
ES	<ol style="list-style-type: none"> 1. Albufera de Valencia, (2004) 2. Es Trenc – Salobrar de Campos, (2015) 	<ol style="list-style-type: none"> 1. http://www.dogv.gva.es/datos/2004/11/24/pdf/2004_11941.pdf 	Identified by national expert

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
	<p>3. Doñana National Park (2016)</p> <p>4. steppe sites in Castille La Manche, (2017)</p> <p>5. Bardenas Reales, (2017)</p>	<p>2. http://xarxanatura.es/es/pg-aprovats/</p> <p>3. https://www.juntadeandalucia.es/boja/2016/185/1</p> <p>4. https://www.castillalamancha.es/sites/default/files/documentos/paginas/arc_hivos/doc_2_zepa_amb_esteparios_firmado.pdf</p> <p>5. http://www.navarra.es/home_es/Actualidad/BON/Boletines/2018/20/Anuncio-0/</p>	
FR	<p>1. Bassigny partie Lorraine, (2009)</p> <p>2. Forêt humide de la Reine et Catena de Rangeval, (2012)</p> <p>3. Complexe de l'étang de Lindre, forêt de Romersberg et zones voisines, (2017)</p> <p>4. Crau Sèche et Crau Centrale, Crau, (2015)</p> <p>5. ZPS des Plaines du Mirebalais et du Neuvilleois, (2011)</p>	<p>1. http://webissimo.developpement-durable.gouv.fr/IMG/pdf/FR4112011_DOCOB_Bassigny_light_cle61bec6.pdf</p> <p>2. http://pnrlorraine.n2000.fr/sites/pnrlorraine.n2000.fr/files/documents/page/Docob20Reine20dec2012.pdf</p> <p>3. http://pnrlorraine.n2000.fr/sites/pnrlorraine.n2000.fr/files/documents/page/docob_lindre_7.pdf</p> <p>4. http://www.side.developpement-durable.gouv.fr/EXPLOITATION/DRPACA/doc/IFD/IFD_REFDOC_0534024/document-d-objectifs-docob-sites-natura-2000-fr9301595-crau-centrale-crau-seche-zps-fr9310064-crau-s</p> <p>5. http://natura2000.mnhn.fr/uploads/doc/PRODBIOTOP/1531_Docob%20PS%20MiNe%20FR5412018.pdf</p>	Identified by DG Environment

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
IT	1. Garzaia di Cascina Villarasca (2011) 2. Paludi di San Genuario e San Silvestro, Piemonte (2014) 3. Boschi Sereni Torricella, Umbria, (2011) 4. Foresta di Campigna, Foresta la Lama, Monte Falco), Emilia Romagna (2018) 5. Le Bine, Lombardia (year not provided)	1. https://va.minambiente.it/it-IT/Oggetti/MetadatoDocumento/62773 2. http://www.regione.piemonte.it/parchi/cms/dati-territoriali-new/aree-protette-e-rn2000/pianificazione-e-norme.html 3. http://www.regione.umbria.it/ambiente/siti-di-importanza-comunitaria-sic/-/document_library_display/IgzakFbmr4yA/view/1612314?_110_INSTANCE_IgzakFbmr4yA_redirect=http%3A%2F%2Fwww.regione.umbria.it%2Fambiente%2Fsiti-di-importanza-comunitaria-sic%3Fp_p_id%3D110_INSTANCE_IgzakFbmr4yA%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D1 4. http://ambiente.regione.emilia-romagna.it/it/parchi-natura2000/rete-natura-2000/siti/it4080001 5. http://www.natura2000.servizirl.it/EdmaPubblicazionePianiGestione/FiltriPianiDiGestione	Regions identified by DG Environment; sites identified in a report from the national rural development network ⁷⁰
NL	1. Beheerplan Natura 2000, Polder Zeevang (2013) De Wieden en Weerribben (2017)	1. https://www.bij12.nl/assets/Beheerplan_polder_Zeevang_N2000.pdf	The first two plans identified by DG Environment, the last three by national expert. Agricultural measures

⁷⁰ Rete Rurale 2014-2020, La politica di sviluppo rurale per la biodiversità, Natura 2000 e le aree protette, May 2018. Available at: <https://www.reterurale.it/RapportoNatura2000>, last accessed on 26 May 2020.

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
	Oeffelter Meent (2016) Grote Peel (Noord Brabant) (2016) Sallandse heuvelrug (2016)		not found in four out of five plans identified.
AT	<ol style="list-style-type: none"> 1. Ortolan-Vorkommen Silz–Haiming–Stams (2007) 2. Lower Traun Natura 2000 Site (2011) 3. Western Weinviertel Natura 2000 Site (2009) 4. Lafnitztal und Neudauer Teiche Natura 2000 Site (2014) 5. Mattersburger Hügelland (2015) 	<ol style="list-style-type: none"> 1. https://www.tirol.gv.at/fileadmin/t_hemen/umwelt/naturschutz/downloads/natura_2000/Managementplan-Ortolan-Text.pdf 2. https://www.land-oberoesterreich.gv.at/files/naturschutz_db/Managementplan_UT_Endversion_23_1_2011_600dpi.pdf 3. http://www.noe.gv.at/noe/Naturschutz/Hauptregion_Weinviertel_-_Natura_2000.html 4. https://www.verwaltung.steiermark.at/cms/dokumente/11680803_74835791/5b3b846b/MP_Lafnitztal_Stmk_Endbericht_2014_06_24.pdf 5. http://www.suske.at/files/managementplan_mattersburg_end.pdf 	Identified by national expert.
PL	<ol style="list-style-type: none"> 1. Dolina Dolnej Wisły (Lower Vistula Valley), 2015 2. Dolina Noteci (Noteć Valley), 2014 3. Dolina Sołokiji (Sołokija Valley), 2014 4. Dolina Tyśmienicy (Tyśmienica Valley), 2004 5. Bagno Pulwy (Pulwy Marshes), 2016 	<ol style="list-style-type: none"> 1. http://gdansk.rdos.gov.pl/files/artykuly/35721/Zarządzenie_RDOS_Gdansk_Bydgoszcz_Dz_Urz_Woj_Pom_2015_1162_Dolina_Dolnej_Wisly.pdf 2. http://bip.bydgoszcz.rdos.gov.pl/files/obwieszczenia/25876/Zarządzenie_RDOS_Bydgoszcz_Poznan_Dz_Urz_Woj_Kujaw_2014_1477_pdf.pdf 3. http://bip.lublin.rdos.gov.pl/files/obwieszczenia/23497/Zarządzenie_RDOS_Lublin_Dz_Urz_Woj_Lub_2014_2335.pdf 4. http://bip.lublin.rdos.gov.pl/files/obwieszczenia/37828/Zarządzenie_RDOS_Lublin_Dolina_Tysmienicy.pdf 	Identified by BirdLife member organisation in Poland

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
		<p>5. http://bip.warszawa.rdos.gov.pl/za-rzadzenie-regionalnego-dyrektora-ochrony-srodowiska-w-warszawie-z-dnia-17-pazdziernika-2016-r-publikowane-w-dzienniku-urzedowym-województwa-mazowieckiego-poz-8994</p>	
RO	<p>1. Cermeiului Plain and related protected natural areas (2016) 2. Cheile Dobrogei, Jurassic reefs (2016) 3. Hills of East Cluj and of the Natural Reserves (2016) 4. Hârtibaciului Plateau, Natural Reserve "Secular oak trees from Breite Sigh municipality (2016) 5. Râul Tur, (2016)</p>	<p>1. https://lege5.ro/App/Document/ge2tknrsggza/planul-de-management-al-sitului-natura-2000-rospa0014-campia-cermeiului-si-al-ariilor-naturale-protejate-conexe-din-27062016 2. https://lege5.ro/App/Document/qi4dgnzygaya/planul-de-management-al-ariilor-naturale-protejate-rospa0019-cheile-dobrogei-rosci0215-recifii-jurasici-cheia-2362-rezervatia-naturala-recifii-jurasici-cheia-2356-rezervatia-naturala-pestera-la-adam-2 3. https://lege5.ro/App/Document/qi4dcqjxgm2a/planul-de-management-al-sitului-de-importanta-comunitara-rosci0295-dealurile-clujului-est-si-al-rezervatiilor-naturale-vii6-fanatele-clujului-la-coparsaie-si-vii7-fanatele-clujului-la-craiu-din-290620 4. https://lege5.ro/App/Document/ge2tgnjugaya/planul-de-management-al-ariilor-naturale-protejate-rospa0099-podisul-hartibaciului-rosci0227-sighisoara-tarnava-mare-rosci0144-</p>	Identified by DG Environment

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
		<p>padurea-de-gorun-si-stejar-de-pe-dealul-purcaretului-rosci0143-padurea-de</p> <p>5. https://lege5.ro/App/Document/ge2tg_mztha3q/planul-de-management-al-sitului-de-importanta-comunitara-rosci0214-raul-tur-ariei-de-protectie-speciala-avifaunistica-rospa0068-lunca-inferioara-a-turului-ariei-naturale-protejate-de-interes-national</p>	
SE	<p>1. Tåkern, Management plan (2019), Conservation plan (2017)</p> <p>2. Hornborgasjön Conservation plan 2018, Management plan (1997)</p> <p>3. Skötselplan för naturreservatet Pulken-Yngsjön i Kristianstads kommun”, Management plan (2019), Conservation plan (2018)</p> <p>4. Kvismaren Draft management plan (2019), Conservation plan (2017)</p> <p>5. Svartåmyningen, Management plan (2006), Conservation plan (2018)</p>	<p>1. https://www.lansstyrelsen.se/ostergotland/besok-och-upptack/naturreservat/takern-naturreservat.html</p> <p>2. Conservation plan: https://www.lansstyrelsen.se/download/18.2e0f9f621636c84402733364/1528902557575/hornborgasjon-se0540084.pdf</p> <p>Management plan: https://www.falkoping.se/download/18.7865cfaf121d36819ec800097079/1410376581683/Hornborgasj%C3%B6n_Sk%C3%B6tselplan1997.pdf</p> <p>3. Management plan: http://skyddadnatur.naturvardsverket.se/skna/?nvrid=2014612</p> <p>Conservation plan: https://www.lansstyrelsen.se/download/18.2c30d6f167c5e8e7c034f/1545225413188/Pulken%20bevarandeplan.pdf</p> <p>4. Conservation plan: https://www.lansstyrelsen.se/download/18.2e0f9f621636c84402733364/1528902557575/hornborgasjon-se0540084.pdf</p>	<p>Identified by BirdLife member organisation in Sweden</p>

MS	Natura 2000 sites (and dates of their management plans)	Weblink (if available)	Notes
		<p>ad/18.4771ab7716298ed82bae2a9e/1526068437142/Kvismarens%20naturreservat%20SE0240058.pdf</p> <p>5. https://www.lansstyrelsen.se/ostergotland/besok-och-upptack/naturreservat/svartamynningen-naturreservat.html (for both plans)</p>	

In Belgium, site plans in both Flanders and Wallonia had not been approved by July 2019: it was agreed with DG Environment not to review these plans. In the Netherlands, a search did not identify five sites with measures for agriculture (neither NGOs nor DG Environment nor a request to national authorities identified appropriate plans).⁷¹ For this reason, only one management plan was assessed for the Netherlands (Beheerplan Natura 2000, Polder Zeevang (2013)).

Table 19: Overview of measures or groups of measures and actions identified in the Natura 2000 Management Plans assessed

Grasslands	MS
Extensive grazing (reduction of intensive grazing)	AT, DE, ES, FR, IE, IT, PL, RO, SE
Re-establishing grazing on abandoned grassland	FR, IE, IT, RO
Extensive mowing (and traditional mowing) of meadows; restrictions on frequency and timing of mowing	AT, DE, FR, PL, RO, SE
Restrictions on fertiliser use in grassland areas	AT, DE, ES, IE, RO
Grassland 'refuge strips' of unmowed land	FR
Brush clearing to restore and maintain grassland, including abandoned grassland	AT, BE, FR, PL
Restore grassland that has been converted to crops	FR, RO
Restrictions on conversion of grassland to crops	RO
Limits on sheep dogs	RO
Cropland	
Rules on crop rotation and fallow periods	ES, IT, RO, SE
Ensuring a diversity of crops and use of small plots (mosaics of plots)	RO
Organic and integrated farming, other provisions for reduced chemical use	AT, ES, IT, RO, SE
Restrictions on burning vegetation	PL, RO
Buffer strips to protect water bodies	AT, IT
Wooded strips between crops and natural habitats	IT
Abandoning cropland linked to severe erosion	ES
Restriction on mechanical movements during sensitive periods for bird nesting/reproduction/feeding	ES, IT
'Refuge strips' of unmowed land	AT, IT
Permanent cropland	
Maintenance of orchards and fruit trees as cultural landscape elements	AT

⁷¹ The national expert explained that the approach in Netherlands is fragmented, with a total of 160 relatively small Natura 2000 sites designated for specific natural habitats/species.

Grasslands	MS
Rules for orchard management	FR
Fertiliser management for orchards, vineyards, fruit and/or olive trees	ES, FR
Hedgerows and other landscape features	
Restoration and maintenance of hedgerows, lines of trees	AT, FR, IT, RO
Protection of forests along riverbanks, water bodies	AT, PL, RO
Water management	
Limiting access of livestock to water sources	RO
Irrigation efficiency; irrigation restrictions	ES, PL
Maintenance of ponds (including temporary ponds)	FR, IT, PL, RO
Other	
Maintaining birdsong locations	AT
Restrictions on agricultural activities in bird nesting areas	AT, RO
Restrictions on grazing in bogs and heaths	IE
Maintaining grazing in bogs and heaths	BE, DE
Removal of alien species	PL
Compensation for damage by large carnivores	RO
Information activities for farmers; promoting good practices and environmental certification	IT, RO
Land purchases	IT, PL

In all of the Member States assessed, their Natura 2000 site specific plans contain actions to maintain and restore extensive grassland: these include rules and commitments for extensive grazing and mowing as well as activities to restore abandoned land and cropland and to ensure grazing on abandoned land. Measures for cropland were identified in the plans in six reviewed Member States concerned.⁷² These measures included a range of actions: to ensure greater crop rotation and longer fallow periods; reduce chemical use, including via the promotion of organic and integrated farming; and establish buffer strips along fields. In their detail, measures in some plans, including Italy, call for maintaining 'traditional' farming; in Romania, measures call for maintaining and re-establishing a mosaic of small farming plots with a diversity of crops.

Measures for permanent cropland (orchards, vineyards and olive groves) were seen in three of the Member States reviewed.⁷³ Measures for landscape features such as hedges and treelines were also found in the plans in five Member States reviewed.⁷⁴ Other measures addressed water management and included a range of additional actions: for example, compensation for damage from large carnivores in Romania.

As noted, the study assessed a small set of site-specific plans in each of the Member States: consequently. This overview does not present a comprehensive inventory of the types of measures

⁷² ES, IT, RO, SE, AT, PL

⁷³ AT, FR, ES

⁷⁴ AT, FR, IT, RO, PL

related to agriculture found in Natura 2000 site plans. Nonetheless, the review shows that measures to maintain grassland, in particular those for extensive grazing, are found across all of the Member States assessed.

Assessment of measures

This subsection describes the level of detail the *Natura 2000* plans provide *under each assessed criterion* before presenting our conclusions and assessment on their eligibility for inclusion in the next CAP Strategic Plans.

Types of actions and pressures

All analysed plans provide details on the **types of actions** for the measures analysed. Type of actions included in the plans relate to either rules applicable on various agricultural practices (e.g. rules on extensive grass mowing and grazing) and/or restrictions of certain activities (e.g. restrictions on mowing, grazing, fertilizer, pesticide and machinery use). Pressures are also identified in all assessed plans. For example, in Austria, the descriptions of the measures explicitly link them to pressures or impacts related to agriculture. The most common pressures addressed include intensive grazing, increased nutrient inputs from pesticides and fertilisers, as well as loss of landscape features and elements. Stemming from this, many measures therefore set out restrictions on mowing, grazing, fertilizer, pesticide and machinery use as well as cultivation times and crop times to implement the measures and achieve the intended conservation goals. On the other hand, in Romania for example, the descriptions of the measures themselves do not explicitly link them to pressures, objectives or impacts. Likewise, objectives are not directly linked to measures.

Objectives

The **objectives** could be identified based on the type of action and measure description for all assessed plans, although the degree of detail provided varied. Some plans explicitly linked the objectives to the measures and the pressure (e.g. those reviewed from Italy, Austria, Poland) while some did not provide this link (e.g. the plans reviewed from Romania).

Duration of measures

Duration of measures was only provided in five Member States; of these five, information was found in Italy only for some measures and in Poland only in one plan. Where they were provided, they were generally of a duration above 5 years.

Beneficiaries and measure requirements

In all Member States whose plans were reviewed, the descriptions of the measures provided details on the **beneficiaries** although in three Member States (Austria, Germany and Spain) they were only identified in some plans. Plans in eight Member States describe measure requirements although in Austria and France only for some measures. However, the level of details varied in terms of specifying the requirements of each measure. Spain was the only Member State where no specific measure requirements could be identified apart from Castilla La Mancha site where some requirements were possible to identify for some sub measures.

Information on cost

In Germany, Ireland, Spain, Italy (except for one plan), Poland and the Netherlands no information on cost was provided.

In the assessed French plans, the cost information mainly related to compensatory payments to farmers for costs incurred. For example, in the Crau Plan, the remunerated commitments covered expenses incurred, to be based on receipts (mentioned for reimbursements under Natura 2000 contracts), as well as compensation for income foregone through extensive management practices (mentioned for reimbursements via agro-environmental and climate measures). In the Bassigny Plan, costs of the measure implementation concerning 'Maintenance and restoration of existing ponds' were reimbursed which were capped at 135 €/pond/year⁷⁵. The management plan for the La

⁷⁵ Another measure from Bassigny Plan - Create, restore and maintain grassland ponds – compensated costs to farmers for abstaining from mowing, and from using chemical treatments in certain areas. Under Natura 2000 contracts, costs related to the implementation of the measure were reimbursed. The MAETs were reimbursed at an indicative rate of 76 €/pond/year.

Reine Natura 2000 site in France also referred to the compensation measures for the costs incurred. For example, the measure on 'Extensive management of grasslands by mowing or grazing' covered costs incurred and income foregone.⁷⁶

In Italy, no information on costs was provided except in the management plan for the Paludi de San Genuario site (a site in northeastern Italy with ongoing rice cultivation alongside former rice ponds, wetlands and forests). Examples from this plan include the following:

- For the measure concerning 'Preparation of guidelines for the implementation of the plan' the plan specified the following costs for each sub-measure: €10,000 of one-off investments were estimated, coming from regional funds.
- For the 'Implementation of environmental improvement measures', estimates for the costs for each sub-measure are provided.⁷⁷
- For the measure on the 'Promotion of management agreements' estimated costs of €5,000 are mentioned and according to the Plan, the measure is partly financed by the RDP, possibly for additional amounts.
- The cost of measure on 'Promotional activities for sustainable development' was estimated at €65,000.
- Lastly, the measure on 'Purchase of land aimed at ensuring the conservation of habitats and species' estimated the total value of land of conservation interest at around € 400,000.

In Romania, Cermeiului Plain Plan only offered estimated minimal costs for each measure and indicated, in general terms, that financing will be sought from projects with national and EU funding. The Dealurile Clujului and Podișul Hârtibaciului Plans both contained a table on resources and budget. These tables listed funds allocated for human resources and other expenditure. However, the Plans were not sufficiently detailed as to provide information from which it could be concluded what kinds of costs are covered or how much cost per individual measures. Raul Tur Plan contained a specific table in the Annex no. 18 which listed the estimated salaries and operational costs for each action. However, as there were no further details provided on how the costs were classified, it was not possible to ascertain whether all the specific categories (transaction costs, income foregone, costs incurred and/or one-time investments) were taken into account in all cases.

In the Plan for the Swedish Hornborga site, it was mentioned which type of costs should be paid by whom; however, no further information was provided. The Plan stated that costs connected to ongoing agriculture/forestry activities should be covered by the landowner. The state or municipality should cover all costs for one-time/maintenance measures described in the Plan, as well as monitoring of compliance. In the Plan for the Pulken site in Sweden, there was no information concerning the costs covered. However, section 9 of the Management Plan stipulated that costs borne by the land user should be covered by applying for CAP agri-environmental funding. Measures that go beyond the requirements of this funding should be financed by the public authorities (local and regional).

Link to CAP funding and CAP indicators

With regards to **link to specific CAP funding**, in nine Member States management plan measures were linked to a potential funding source, although in Germany, Poland, Austria, Italy, Romania only some measures were so linked. Where they link to the CAP were made, RDP funding was referred

⁷⁶ In non-agricultural environments, costs for implementing commitments under Natura 2000 contracts were fully reimbursed. In agricultural environments, the following rates were applied to compensate for income losses resulting from implementation of MAETs:

- fertilisation limited to 30N, mowing after 15 June: 319 €/ha/year;
- total absence of fertilisation, mowing after 30 June: 369 €/ha/year;
- Bonus for mowing and grazing ban on 10% of the plot: 41 €/ha/year.

⁷⁷ The following amounts are given for actions in the plan:

- Environmental improvement and renaturalisation of canals (Action 11 of the plan): the cost of work that can be carried out over four years for an amount of €20,000.
- Morphological renaturalisation (of rice fields) (Action 12 of the plan): In 5 years, interventions can be implemented for an amount of about €10,000 per hectare over five hectares.
- Expansion of hedgerows (Action 13): The cost of the planned intervention is approximately €8,000 for preparation of guidelines, management of existing hedgerows and creation of about 1000m of additional hedgerows.
- Formation of new hydrophilic wood stands (Action 14): Costs: €15,000 per ha
- Formation of new wetland areas (Action 15): Costs: €15,000 per ha.

to, or more specifically the use of voluntary commitment schemes under the RDPs. Links to RDP funding were made either directly or indirectly (assessed by the expert judgment) in plans assessed.

Assessment of the measures using CAP indicators

With regards to the link to CAP indicators, all assessed plans could have their measures linked to some of the impact, results and output indicator as stipulated in the CAP proposal. However, this link was always made by the expert judgment stemming from the information provided in the plan as detailed in the measures' requirements and objectives.

Table 20 below provides a summary of the measures analysed from the Natura 2000 management plans reviewed in 10 Member States.

Table 20: Summary of the analysis of the Natura 2000 Management Plans assessed

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
BE ⁷⁸	<i>Not assessed</i>									
DE	35 ⁷⁹	Land abandonment, degradation of grassland through grazing and nutrient inputs.	For 11 of the measures analysed, the plans set out restrictions on mowing, grazing, and fertiliser use to achieve the intended conservation goals. For the remaining 24 measures, the actions to be taken	Yes	Some. Only one plan explicitly identifies landowners and environmental authorities as beneficiaries ⁸⁰ ; measure descriptions in other plans suggest farmers may be beneficiaries	Some. Details provided in three out of five plans reviewed. ⁸¹	Not defined	Some. CAP funding only mentioned for 3 measures ⁸²	Yes. All measures can be linked to several impact, result and output indicators	No information on costs is provided in the plans assessed

⁷⁸ Site management plans in Belgium were not approved at the time of the assessment.

⁷⁹ Only four out of the 35 measures are clearly identified as being voluntary; these measures were all established under the Management Plan for the Natura 2000 site “Mildentzital mit Zuflüssen und verbundenen Seen”. The other four plans do not report whether measures are mandatory or voluntary.

⁸⁰ Management Plan „Mildentzital mit Zuflüssen und verbundenen Seen“

⁸¹ These include the Management Plans for the Natura 2000 sites „Mittlerer Schwarzwald bei Hornberg und Schramberg“, „Elbtalhänge zwischen Loschwitz und Bonnewitz“, and „Eberfinger Drumlinfeld mit Magnetsrieder Hardt und Bernrieder Filz“.

⁸² Measure LRT 6510 “Conservation measures for grassland” in Management plan “Elbtalhänge zwischen Loschwitz und Bonnewitz”, “Preservation of grassland, no ploughing of grassland” in Management Plan “Mildentzital mit Zuflüssen und verbundenen Seen” and “Preservation or promotion of extensive grassland use” in Management Plan „Nahetal“

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
			to implement the measures are not described.							
IE	10	Intensive grazing and intensive fertilisers use.	Rules on grazing management; improvement of grassland damaged areas; rules on management of blanket bog and wet heath.	Yes.	Some. All but one plan (Lough Coy) link the implementation of their measures to farmers and landowners. (farmers and landowners)	Yes.	Not defined.	Yes. Measures are linked to RDPs.	Yes. All measures can be linked to several impact, result and output indicators.	No information on costs is provided in the plans assessed.
ES	5 ⁸³	Intensive pesticide and fertiliser use, intensification of	Recommendations for organic and integrated farming, as well as soil	Some. Objectives clearly described for one	Some. One plan lists owners and rights holders ⁸⁶ , a second	Not defined (only for some sub-measures in Castilla de la	Not defined.	Some. CAP funding only mentioned	Some. All measures but one be linked to several impact,	No information on cost is provided in

⁸³ For three of the five Natura 2000 site management plans that were assessed (Albufera de Valencia, Es Trenc – Salobrar de Campos, Doñana National Park) one measure was identified; for two, a group of measures was identified, each containing a set of sub-measures (3 in case of Bardenas Reales, 19 in case of steppe sites in Castilla La Manche).

⁸⁶ Management Plan “Es Trenc – Salobrar de Campos”

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
		agriculture, land abandonment. Biodiversity loss, invasive species, overuse or non-authorized use of water, soil erosion and sediment movement.	conservation practices; rules for crop rotation and fallow.	plan ⁸⁴ ; one plan provides objectives and targets. For some measures. ⁸⁵	mentions farmers and environmental agencies. ⁸⁷ No information reported in other plans.	Mancha site).		by one Plan. ⁸⁸	result and output indicators. ⁸⁹	the Plans assessed.

⁸⁴ Management Plan “Bardenas Reales”

⁸⁵ Management Plan “Steppe sites in Castille La Manche”

⁸⁷ Management Plan “Doñana National Park”

⁸⁸ The EAFRD was identified as a source of funding by the Management Plan “Es Trenc – Salobrar de Campos”.

⁸⁹ The “Doñana National Park” measure analysed is for the preparation of recommendations and cannot be linked to a specific indicator.

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
FR	32 ⁹⁰	Crop specialisation, intensive pesticide or fertiliser use, intensive or inefficient irrigation, change or loss of landscape features, invasive species, land abandonment; intensive grazing and mowing.	Yes. Actions to create or maintain habitats (& landscape) and commitments; The measures include rules for stocking levels for grazing, for pesticide and/or fertiliser use and for habitat restoration.	Yes.	Yes. Farmers, landowners, and holders of land rights are mentioned for all plans. In addition, different plans list producer organisations, public and private land managers, municipalities, government agencies and research organisations as well as hunting organisations. ⁹¹	Yes.	Yes, a min. of 5 years for all measures.	Yes. Indirect: reference to commitment schemes financed under CAP.	Yes. All measures can be linked to several impact, result and output indicators.	Costs covered include expenses incurred as well as compensation for income foregone.

⁹⁰ All the 32 measures identified in the five Natura 2000 site management plans involve voluntary commitments to be taken by farmers.

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
IT	26 ⁹²	Intensive pesticide use, intensive fertiliser use, inefficient irrigation, crop specialisation, waste residues, intensive grazing and water drainage.	Rules on preservation and creation of landscape features (hedges, drinking pools) Rules on irrigation management/infrastructure maintenance.	Yes.	Yes. Farmers and landowners. In addition, one plan identifies environmental agencies, research organisations, producer organisations ⁹³ and agronomy technicians ⁹⁴ as beneficiaries	Yes.	Some. Only one plan reports the duration of the measures as min. 5 years. ⁹⁵	Some. All measures in one plan are linked to CAP funding ⁹⁶ and 1 measure in a second plan. ⁹⁷	Yes. All measures can be linked to several impact, result and output indicators.	No information provided in any of the plans except for Paludi de San Genuario.

⁹¹ Producer organisations are mentioned by the plans for “Bassigny partie Lorraine“ as well as “ Crau Sèche et Crau Centrale, Crau“, public and private land managers by the plans for “ Forêt humide de la Reine et Catena de Rangeval“ and “Complexe de l’étang de Lindre, forêt de Romersberg et zones voisines“, NGOs, municipalities, and government agencies and research organisations by the plan for “ Crau Sèche et Crau Centrale, Crau“ and hunting organisations by the plan for “ZPS des Plaines du Mirebalais et du Neuvilleois“.

⁹² The plans do not clearly identify which measures are mandatory and which ones are voluntary. Exceptions are found in the Garzaia di Cascina Villarasca plan, where the measures are voluntary; in the Le Bine plan as well as Paludi di San Genuario e San Silvestro, they are of an ‘incentive’ nature. It therefore appears to be a voluntary measure. Moreover, some measures (e.g. in the plan for Paludi di San Genuario e San Silvestro and Boschi Sereni Torricella) appear to be mandatory, as the plans refer to ‘regulation’ or state that a measure is in a form of a ban.

⁹³ Management Plan “Paludi di San Genuario e San Silvestro”

⁹⁴ Management plan “Management plan for the site IT20A0004 (Le Bine)“ for measure 10 - Training and awareness about species protection

⁹⁵ The Management Plan “Paludi di San Genuario e San Silvestro” specifies for measure 1 (one off investment) that the guidelines will be drafted in less than one year from the adoption of the plan. For the rest of the assessed 5 measures, the plan states that these measures are permanently active thus in the category of minimum 5 years.

⁹⁶ The Management Plan “Paludi di San Genuario e San Silvestro”

⁹⁷ Conservation and creation of linear vegetation structures -The plan explicitly mentions the possibility to use RDP funds and links this measure to measure 214 - Action F “Maintenance of plant structures linear and wooded buffer strips ” and measure 216 - "Non-productive investments", type A.1) Creation of hedges, rows of trees and wooded buffer strips of the 2007-2013 RDP of Lombardia.

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
			<p>Rules on management of agricultural residues and wastewater; Rules on fertiliser use</p> <p>Rules on mowing and grazing; Rules on organic farming; Land purchase and conservation of habitat and species within</p>							
AT	13 ⁹⁸	Intensive grazing, increased nutrient inputs from pesticides and	Restrictions on mowing, grazing, fertilizer, pesticide and machinery	Yes.	Some. One the plan identifies farmers as	Some. Requirements described for three plans. ^{Fehler!}	Not defined.	Some. Three plans identify the RDP as a	Yes. All measures can be linked to several impact, result and	None of the plans assessed provide specific information on costs (it

⁹⁸ Three out of the 13 measures are clearly identified as being voluntary; no indication is provided for the other measures.

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
		fertilisers, as well as loss of landscape features and elements.	use as well as cultivation times and crop times to implement the measures and achieve the intended conservation goals.		beneficiaries ⁹⁹	Textmarke nicht definiert.		funding source. ¹⁰⁰	output indicators.	was assumed by the expert that income foregone/ costs incurred would be covered based on the information provided).
NL ¹⁰¹	1 (grouped).	Intensive agricultural activities disturbing nesting birds.	Rules to protect meadow birds in grasslands.	Yes.	Yes (agricultural managers).	Yes.	Yes (7 years).	Yes.	Yes.	No information on costs is provided in the plan assessed.
PL	13 ¹⁰²	Intensive mowing of grasslands, abandonment of	Rules on extensive grass	Yes.	Yes. Landowners for all plans; in addition, environment	Yes.	Some. One Plan ¹⁰⁴ states the	Some. Four plans link voluntary measures to	Yes. All measures can be linked to several	No information on cost is provided in

⁹⁹ Management Plan “Ortolan-Vorkommen Silz–Haiming–Stams”

¹⁰⁰ The Management Plans for the following sites: “Ortolan-Vorkommen Silz–Haiming–Stams”, “Lower Traun”, and “Lafnitztal und Neudauer Teiche”.

¹⁰¹ In the Netherlands, only one management plan relevant for agriculture was identified out of five reviewed management plans.

¹⁰² All the plans appear to contain both voluntary and mandatory measures for farmers. However, the description of some measures is not sufficient to draw some definite conclusions about their status

¹⁰⁴ The Management Plan for the site “Bagno Pulwy”.

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
		mowing and/or grazing, and irrigation and drainage.	mowing and grazing.		al agencies for one plan. ¹⁰³		duration as 10 years.	RDP funding. ¹⁰⁵	impact, result and output indicators	the plans assessed.
RO	15 ¹⁰⁶	Intensive pesticides and intensive fertiliser use, intensive grazing, water drainage, land abandonment, invasive species and habitat loss	Rules on grazing and grassland management Restrictions on use of agricultural nutrients and chemicals Ban on destruction or conversion of pastures;	Yes.	Yes. Farmers, environmental agencies, and land managers are listed by all plans. In addition, research organisations, NGOs, and local authorities are identified by	Yes.	Yes. 5 years min.	Some. One measure group (on invasive species), which refers to Natura 2000 payments. ¹⁰⁸	Yes. All measures can be linked to impact indicators and some also to output indicators.	Information on the budget and resources provided in general terms (EU/national funds to cover the costs without further detail).

¹⁰³ The Management Plan for the site “Bagno Pulwy”.

¹⁰⁵ The Management Plans for the following sites: “Dolina Noteci (Notec Valley)”, “Dolina Sołokiji (Sołokija Valley)”, “Dolina Tyśmienicy (Tyśmienica Valley)”, and “Bagno Pulwy (Pulwy Marshes)”

¹⁰⁶ A total of 15 groups of measures relevant for agriculture were identified in the five Romanian Natura 2000 sites management plans assessed. None of the assessed 5 plans specifically mention whether the measures are of voluntary or mandatory nature. In four three of the five plans, some of the measures assessed appear to be mandatory due to the way they are phrased – for example, the measures refer to targets to be achieved and do not mention agreements to be reached with farmers. Due to the lack of information, however, but it was not possible to verify this make a final determination whether any of the measures are voluntary or mandatory. One measure in one plan (on support for farmers) appears to be of voluntary nature although this is also not explicitly stated.

¹⁰⁸ Management plan “ROSCI0214 Râuul Tur, special avifaunistic protection area ROSPA0068 Lunca inferioară a Turului, protected natural area of national interest VII.10 Tur River and the natural reserve of county interest Noroieni”

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
		and degradation.	Requirements for sustainable farming practices; Rules for landscape conservation and management; Rules for biodiversity management; Rules for management of invasive species		three plans. ¹⁰⁷					
SE	6	Intensive grazing, land abandonment, intensive fertilisers and	Rules on grazing and mowing; Restrictions and bans on pesticides	Yes.	Some. Three plans identify. forest managers, environmental agencies,	Yes.	No. ¹¹⁰	Some. Four plans link measures to existing CAP/RDP funding. ¹¹¹	Yes. Measures can mostly be linked to impact and	No details on specific costs provided (only information is a link to

¹⁰⁷ The Management plans for the following sites: “ROSPA0019 Cheile Dobrogei, ROSCI0215 Jurassic reefs Cheia, 2.362 Nature reserve Jurassic reefs Cheia, 2.356 Nature reserve La Adam Cave, 2.357 Nature reserve Gura Dobrogei cave, B.2 Nature reserve Gura Dobrogei”, “ROSCI0295 Hills of East Cluj and of the Natural Reserves VII.6. the meadows of Cluj "La Copârșaie" and VII.7. the meadows of Cluj "La Craiu", and “ROSCI0214 Râul Tur, special avifaunistic protection area ROSPA0068 Lunca inferioară a Turului, protected natural area of national interest VII.10 Tur River and the natural reserve of county interest Noroieni”.

¹¹⁰ None of the assessed plans provide duration of the measure’s information – the plans only state that the measures are of recurring annual nature.

¹¹¹ The Management Plans for the sites “Kvismaren”, “Täkern”, “Pulken”, and “Svartåmynningen”.

MS	# measures	Pressures	Type of action	Objectives	Beneficiaries	Requirements	Duration	CAP financing	CAP indicator	cost provided
		pesticides use.	and fertilisers.		farmers, and landowners as beneficiaries ¹⁰⁹				result indicators.	the RDP/ national funds where they can be applied).

¹⁰⁹ The Management Plans for the sites “Hornborgasjön”, “Tåkern”, and “Pulken”.

Assessment of the fundability of the measures identified in N2000 Plans

Overall, the measures identified in the management plans were lacking sufficient information to make conclusive statements on their suitability for CAP funding: the descriptions in many plans lacked information on duration of the measures, beneficiaries, clearer (direct) link to CAP indicators, more detailed requirements description. However, despite the lack of information on these elements, the fact that many plans already established links to CAP funding imply that these measures could be included in future Strategic Plans. It is nevertheless important to bear in mind that different interventions under the upcoming 2021-2027 CAP can mean that some measures could be funded through the RDP and others through eco-schemes. It often proved impossible to give conclusive statement on this, however. Table 21 highlights specific information on fundability of Natura 2000 measures per individual Member State.

Table 21: Overview of information on financing found in the site management plans

MS	Summary
BE	<i>Natura 2000 plans not available for assessment</i>
DE	<i>Natura 2000 plans are in the process of being assessed</i>
IE	All 10 measures identified as relevant for agriculture were linked to the RDP existing at the time the plans were published (2005/2010). However, there were not sufficient details provided to conclusively state whether they could be funded by the upcoming 2021-2027 CAP (e.g. on duration, cross-compliance, voluntary/mandatory nature, clearer link to indicators).
ES	Only one of the five plans referred to the CAP as a financing source (Es Trenc – Salobrar de Campos). Overall, it proved difficult to assess the possibility for the measures to be financed by the CAP due to the lack of multiple details, including identification of the intended beneficiaries, requirements and objectives of the measures as well as their duration.
FR	Nearly all the measures identified (32) were funded via the CAP at the time of the plans – and all plans refer indirectly to the CAP funding via commitment schemes under RDPs. It appears, on the basis of the information available, that the measures could still be financed under the new CAP proposal.
IT	Some explicit links to the CAP, namely to RDPs, are made in the plans with regards to voluntary measures. In three plans the measures were considered to go beyond SMR3 and SMR4 ¹¹² and/or relevant GAECs such as GAEC 9 ¹¹³ as they were indicated as voluntary for farmers in the Natura 2000 site ¹¹⁴ . For other there was not sufficient information to conclusively state whether could be funded under the CAP proposal: e.g. to determine if they are mandatory or voluntary.
NL	In the one plan assessed, the measures can be linked to SMR 3 and GAEC 9 (although this was not explicitly spelled out). The Plan does not refer to the CAP.

¹¹² SMR 3 – Article 3(1), Article 3 (2)(b), Article 4(1), (2) and (4) of the Birds Directive (2009/147/EC), SMR 4 – Article 6(1) and (2) of the Habitats Directive (92/43/EEC).

¹¹³ GAEC 9: minimum share of agricultural area devoted to non-productive features or areas, retention of landscape features, ban on cutting hedges and trees during bird breeding and rearing season and measures for avoiding invasive plant species (optional);

¹¹⁴ Garzaia di Cascina Villarasca plan, the measures are voluntary; in the Le Bine plan as well as Paludi di San Genuario e San Silvestro, the measures are of an ‘incentive’ nature. It is not clearly stated whether the measure is mandatory or voluntary. However, since it states that the measure is about ‘incentives’ to farmers, it appears to be a voluntary measure.

MS	Summary
	Nevertheless, it was specified that the measures are voluntary (moreover, measures for meadow birds are listed in the national Index for Nature and Landscape and funding under the RDP is identified).
AT	Nine out of the 13 measures from four assessed plans are linked to RDP funding (in particular agri-environmental measures), which suggests they are all voluntary in nature. However, none of the assessed plans made reference to cross-compliance and the measure descriptions did not provide sufficient information to make a judgment concerning this point. In addition, some other elements were missing (e.g. duration, beneficiaries, clearer link to CAP and thus reaching conclusions was not possible).
PL	In four plans ¹¹⁵ some identified voluntary measures are linked to existing RDP funding. For the rest of the measures (mandatory ones and those without specification) it was not possible to definitively link them to CAP funding as there was insufficient information, including whether they go beyond enhanced conditionality.
RO	Although detailed descriptions of measures are provided in all five Natura 2000 plans, it is not clear whether the measures are voluntary or mandatory and whether they go beyond relevant GAECs or SMRs as required by the CAP proposal. Consequently, it was not possible to ascertain whether CAP funding could be used.
SE	In four ¹¹⁶ of the five plans assessed ¹¹⁷ , some measures were directly linked to the existing RDP funding. All measures could be attributed to some SMRs (mainly numbers 3 and 4) and GAECs 9 and 10, but there was insufficient information to conclude whether the measures are voluntary or mandatory, or go beyond cross-compliance, and thus to determine if they can be funded under the CAP proposal.

3.3.3. Barriers and opportunities for more effective transposition of measures into the CAP

The following sections outlines barriers and opportunities for more effective transposition of measures into the CAP.

Scale and timing of the PAFs and Natura 2000 plans

For the Member States reviewed here, the scale and timing of the PAFs match that of the RDPs: in countries with an important regional role, such as Belgium and Spain, both PAFs and RDPs are prepared at regional level. The timeframe for the PAFs is linked to the EU's Multiannual Financial Framework and consequently is the same as that for the CAP.

¹¹⁵ Dolina Noteci (Noteć Valley), PLH300004, 2014, Dolina Sołokiji (Sołokija Valley) PLB060021, 2014 4, Dolina Tyśmienicy (Tyśmienica Valley) PLB06004, 200Bagno Pulwy (Pulwy Marshes) LB140015, 2016

¹¹⁶ Tåkern SE0230067, Management plan (2019), Conservation plan (2017), Skötselplan för naturreservatet Pulken-Yngsjön i Kristianstads kommun”, Management plan (20109), Conservation plan (2018), Kvismaren Draft management plan (2019), Conservation plan (2017), Svartåmynningen, Management plan (2006), Conservation plan (2018)

¹¹⁷ The only plan without the specific link was Hornborgsjön Conservation plan 2018, Management plan 1997

For Natura 2000 site management plans, however, differences in scale and timing can affect the transposition of measures into the CAP. Natura 2000 sites vary significantly in size. Moreover, the average size varies across Member States. Among the 11 Member States reviewed in this study, the average size varies from about 90 km² for Sweden's Natura 2000 sites to just over 10 km² for sites designated in Belgium and Germany.¹¹⁸ The Natura 2000 sites are uniformly smaller than the area for the CAP RDPs, which finance measures across a range of sites.

One interviewee in Germany said that the regional RDPs in that Member State are intended as high-level planning documents. Consequently, they do not contain local detail, and there is not a direct link between the Natura 2000 site plans and the RDPs (and there will be even less of a link with the CAP Strategic Plan, to be prepared at national level).

With regard to timing, the Birds and Habitats Directives do not contain provisions specifically calling for the revision of site management plans. Consequently, the date of publication of the plans reviewed varied significantly, even within individual Member States: for examples, from 2009 to 2017 among the five French plans; from 2004 to 2016 among the five plans reviewed in Poland. In Ireland, all plans assessed were adopted in 2005 as no newer plans relevant for agriculture in Natura 2000 sites were identified. The review found only one example of a revision of a plan: the 2009 plan for the Crau Natura 2000 site in France was replaced by a 2015 plan (it is possible that other site plans in France and other review countries were revised and the older plans are now longer available online or mentioned on websites).

Older site plans were prepared under previous versions of the CAP. This can impact considerations whether the measures in the Natura 2000 plans can be funded by the current CAP. Where older Natura 2000 plans clearly identify CAP funding for their measures, it is likely that these measures could be included in the future Strategic Plans. Nonetheless, it is possible that the needs at the site have evolved; moreover, definitions of the baseline (GAEC and SMRs) may also be different under the next CAP compared to when the site plan was approved.

These considerations suggest that the channel from Natura 2000 plans to CAP programming documents is not always direct. At the same time, key details on Natura 2000 management measures are needed for the CAP, including the beneficiaries, hectares covered and more. The following section reviews the information gathered on the extent of detail in the plans reviewed; the final section then considers the need for cooperation and coordination for programming.

Extent of detail in PAFs and Natura 2000 plans

The review of the PAFs and Natura 2000 plans in sections 3.3.1 and 3.3.2 show that the extent of detail varies across and also within Member States.

As noted in section 3.4.1.2, most of the PAFs reviewed identify pressures for groups of measures; only one identified pressure for each measure. Four PAFs identify objectives for individual measures, while the others set out objectives at more strategic programming level. Few details were found concerning specific requirements for each measure. Nonetheless, the majority of the PAFs reviewed – 6 of 10 – identified the CAP as a source of financing for measures related to agriculture. As noted above, due to timing considerations the assessment covered the first draft versions of the 2021-2027 PAFs submitted to the European Commission. Consequently, some of the gaps of information may have been addressed in the final versions, also following comments by the Commission. Where draft PAFs for the 2021-2027 period were not available, final PAFs for the 2014-2020 period were assessed: these, however, were based on a simpler format.

The Natura 2000 plans reviewed varied greatly in terms of the extent of detail available for measures, as shown above in section 3.5. The plans in France provided specific detail on the duration of measures, the beneficiaries, location and other information. In contrast, those in Germany varied, with none providing information on measures and one providing little information on its measures. None of the five site plans assessed in Spain provided details on the measures. In these as well as a number of other plans across the Member States reviewed, as shown in the previous section, details on beneficiaries, duration of measures, and objectives were not found.

¹¹⁸ Based on 2018 data downloaded from EEA, Natura 2000 barometer statistics. Available at: <https://www.eea.europa.eu/themes/biodiversity/document-library/natura-2000/natura-2000-network-statistics/natura-2000-barometer-statistics/statistics/barometer-statistics#tab-european-data>, last accessed on 26 May 2020.

In Germany at least, a lack of detail in the site management plans has not hindered CAP financing for nature protection measures, according to the interview carried out. In contrast, interviews in Romania indicated that shortcomings in Natura 2000 plans there did affect CAP financing in the 2014-2020 period: among the shortcomings, many site plans were not approved before the CAP and RDP were in place; moreover, the lack of details for the measures – for example on the specific actions or restrictions required of farmers and the locations where the measures were to be carried out – was an obstacle for financing. Consequently, the development of detailed site measures can be a valuable step for CAP financing in some Member States, as they appear to be in France.

None of the plans reviewed specifically identify the extent to which their measures need to be implemented in order to achieve policy goals such as good site status. A few Natura 2000 plans nonetheless set out specific targets to be achieved. For example, the plan for Dolina Tyśmienicy (PLB06004) in Poland sets targets for breeding populations of four bird species.¹¹⁹ Many PAFs identify the area over which measures should be taken (but they do not state if this is a minimum to achieve the objectives of the Birds and Habitats Directives).

The Natura 2000 plans reviewed do not identify clear priorities among their measures; however, this information is found in the PAFs, as the template calls for the identification of priority measures by type of habitat.

Cooperation among agriculture and nature protection authorities

The interviews noted that cooperation has been a key factor in ensuring that the CAP – and in particular RDPs – provides financial support for Natura 2000 sites.

One element cited as supporting good cooperation is to have agriculture and nature protection authorities in the same ministry: this was mentioned in Mecklenburg-Western Pomerania in Germany, where a single Ministry is responsible for both agriculture and environment. In the Autonomous Community of Castilla-La Mancha in Spain, agriculture and nature protection authorities were previously part of the same ministry; following a restructuring, they are now in separate ministries though according to an interview close cooperation continues.

A further element is a well-working cooperation mechanism among authorities and with stakeholders. In Mecklenburg-Western Pomerania, the monitoring committee formed to support the implementation of EU funds¹²⁰ helps to develop the RDP (as well as the regional ERDF and ESF Operational Programmes). The committee includes partners from business organisations, agriculture, trade unions, environmental associations and social organisations. Among its roles, the committee coordinates the preparation of funding guidelines and reviews and approves project selection criteria, and its remit and work go beyond the minimum requirements set out in EU legislation for 2014-2020. Moreover, these cooperation mechanisms are part of a long-standing “decision-making process where the general priorities are clear”, according to an interview with an official in Germany.

These examples suggest that a strong and participative coordination process can play a key role in supporting the translation of local site needs into provisions in high-level programming documents.

In addition to cooperation, capacity within both agricultural and nature authorities to prepare effective site plans and link their objectives to agricultural measures has been an important factor. In Romania, a lack of capacity to develop Natura 2000 site plans was mentioned in an interview as an obstacle; the lack of capacity is also highlighted in Romania’s draft PAF.

¹¹⁹ Corn crane (*Crex crex*), Black-tailed godwit (*Limosa limosa*), Eurasian curlew (*Numenius arquata*) and Common redshank (*Tringa tetanus*)

¹²⁰ As per Articles 49 and 110 of Regulation (EU) No. 1303/2013.

4. CONCLUSIONS, LESSONS LEARNED AND RECOMMENDATIONS

In the last chapter outlines the conclusions, recommendations and lessons learned of the study.

4.1. Measures relevant to be included in the Strategic Plans of the MS

Based on assessments above the following six measures can be recommended to be included in most CAP-SP. They are all targeted towards farmers and can be funded under the next phase of the CAP.

4.1.1. Measures related to air

Low-emission manure spreading techniques

Name of the measure:	Low-emission manure spreading techniques (see RDP 4.1 Targeted Agricultural Modernisation Scheme)
Description of the measure:	<p>According to the UNECE “Code for Good Agricultural Practice for Reducing Ammonia Emissions” NH₃ emissions from manure spreading can be reduced by the use of injectors or band spreaders, under specific conditions laid down in Annex III part 2 A 4 of the NECD. Injectors place the manure beneath the soil surface, thus decreasing the manure surface area exposed to the air and increasing infiltration into the soil. Band spreaders reduce emissions of NH₃ from slurries and liquid manures through decreasing the manure surface area exposed to the air and decreasing exposure to the air flow over it. Injectors are generally more effective for reduction of NH₃ emission than band spreaders.</p> <p>This measure addresses farmers in general who voluntary apply such techniques.</p>
Risk for farmers when implementing the measure	<p>More complicated technology, possibly higher operating costs</p> <p>Use of techniques is difficult on field sizes < 2 ha and on areas with larger slopes</p>
Ways of controlling the implementation:	<p>On-site inspection (according to Commission Delegated Regulation¹²¹ (EU) No 640/2014, Commission Implementing Regulation¹²² (EU) No 809/2014)</p> <p>Documentation of the investment (invoices) (according to Commission Delegated Regulation¹²¹ (EU) No 640/2014, Commission Implementing Regulation¹²² (EU) No 809/2014)</p>
Description of how and which environmental objectives the measure support (including multiple benefits)	<p>Measure supports the following CAP proposal objectives by reduction of NH₃ emissions:</p> <ul style="list-style-type: none"> • foster sustainable development and efficient management of natural resources such as water, soil and air; • contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes <p>This measure could be funded in the CAP SP under the intervention “Payments for management commitments”, output indicator “O.13 Number of ha (agricultural) covered by environment/climate</p>

¹²¹ See <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1581339198865&uri=CELEX:32014R0640>

¹²² See <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1581339238332&uri=CELEX:32014R0809>

	commitments going beyond mandatory requirements”, result indicator “R.13 Reducing emissions in the livestock sector”.
Example of implementation	NAPCP of Sweden (Nationellt luftvårdsprogram ¹²³ , Naturvårdsverket 2019a): use of band spreader for slurry (measure NH3-1 Bandspridning av flytgödsel)
Measure duration	The NAPCP states that the start year of the implementation will be 2019, the final year of the implementation will be 2020. However, it does not state, for how long it will be implemented. Nevertheless, for technical measures that result in one-off investments in e.g. band spreader for slurry and covers for slurry/manure storages, these investments will continue to have effects during the life-cycle of that technology or installation. In addition, the national emission reduction commitments according to Annex II of the NECD apply for any year from 2020 to 2029 and for any year from 2030. The NAPCP and its measures have to ensure the appropriate emission reductions for compliance. Therefore, if any measure is required to comply with these commitments, it has to be ensured by the Member State that it will be continuously effective throughout this period and from 2030 onwards, respectively.
Can the measures be linked to one or more of the CAP indicators¹²⁴?	Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH ₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH ₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years. N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

Low-emissions manure storage systems

Name of the measure:	Low-emissions manure storage systems (see RDP 4.1 Targeted Agricultural Modernisation Scheme)
Description of the measure:	According to the UNECE “Code for Good Agricultural Practice for Reducing Ammonia Emissions”, covers for manure stores (slurry tanks) can effectively reduce NH ₃ emissions. This measure addresses farmers in general who voluntary apply such storage systems.
Risk for farmers when implementing the measure	No risk for farmers could be identified.
Ways of controlling the implementation:	On-site inspection (according to Commission Delegated Regulation (EU) No 640/2014, Commission Implementing Regulation (EU) No 809/2014)

¹²³ See http://cdr.eionet.europa.eu/se/eu/nec_revised/programmes/

¹²⁴ ANNEXES to the Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for Strategic Plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council

<p>Description of how and which environmental objectives the measure support (including multiple benefits]</p>	<p>Measure supports the following CAP proposal objectives by reduction of NH₃ emissions:</p> <ul style="list-style-type: none"> • foster sustainable development and efficient management of natural resources such as water, soil and air; contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes. <p>This measure could be funded in the CAP SP under the intervention "Payments for management commitments", output indicator "O.13 Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements", result indicator "R.13 Reducing emissions in the livestock sector". It also relates to result indicator "R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission" and output indicator "O.15 Number of ha with support for organic farming". and result indicator "R.23 Environment-/climate-related performance through investment: Share of farmers with support in investments related to care for the environment or climate" and output Indicator "O.19 Number of supported local infrastructures"</p>
<p>Example of implementation</p>	<p>NAPCP of Sweden (Nationellt luftvårdsprogram¹²³, Naturvårdsverket 2019a): covering manure storages (slurry and urine stores) (NH3-4 Täckning av urinbehållare med tak)</p>
<p>Measure duration</p>	<p>The NAPCP states that the start year of the implementation will be 2019, the final year of the implementation will be 2020. However, it does not state, for how long it will be implemented. Nevertheless, for technical measures that result in one-off investments in e.g. band spreader for slurry and covers for slurry/manure storages, these investments will continue to have effects during the life-cycle of that technology or installation. In addition, the national emission reduction commitments according to Annex II of the NECD apply for any year from 2020 to 2029 and for any year from 2030. The NAPCP and its measures have to ensure the appropriate emission reductions for compliance. Therefore, if any measure is required to comply with this commitment, it has to be ensured by the Member State that it will be continuously effective throughout this period and from 2030 onwards, respectively.</p>
<p>Can the measures be linked to one or more of the CAP indicators¹²⁵?</p>	<p>Indicator "I.14 Improving air quality: Reduce ammonia emissions from agriculture" in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called "Informative Inventory Report" and biannual projected emissions for specific future years.</p> <p>N.B. The NEC Directive does not require reporting of indicator "R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission"</p>

¹²⁵ ANNEXES to the Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing rules on support for Strategic Plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council.

4.1.2. Measures related to water protection

Agri-environment-climate commitments (M10.1) - Buffer strips

Name of the measure:	Agri-environment-climate commitments (M10.1)- Buffer strips
Description of the measure:	<p>Agri-environment measures can finance a suite of actions to improve the status of water bodies, including but not only buffer strips, wetland creation, conversion to permanent grassland, winter cover crops, prohibition of the use of fertilisers and pesticides.</p> <p>Agri-environment-climate (AEC) payments are granted to farmers and land-managers who, on a voluntary base, commit their farming activities to one or more specific agri-environment-climate practices. Support under M10.1 shall "cover only those commitments going beyond the relevant mandatory standards..., the relevant criteria and minimum activities..., and relevant minimum requirements for fertiliser and plant protection products use as well as other relevant mandatory requirements established by national law."</p>
Risk for farmers when implementing the measure	Depending on the type of buffer strip established (e.g. wet buffer strip ¹²⁶) there is a risk that the area covered by the buffer strip is no longer counted as agricultural land
Ways of controlling the implementation:	On-the-spot checks, ortho photos
Description of how and which environmental objectives the measure support (including multiple benefits]	<p>The creation of buffer strips on farmed land supports:</p> <ul style="list-style-type: none"> • biodiversity protection in the context of N2000 • prevention of water pollution and soil erosion helping to achieve or to maintain good water status under the WFD <p>This measure could be funded in the CAP SP under the intervention "Payments for management commitments", output indicator "O.13 Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements", result indicator "R.20 Protecting water quality: Share of agricultural land under management commitments for water quality".</p>
Example of implementation	<p>Austria applies the ND across its entire territory and the nitrate action program sets specific minimum widths for buffer stripes where no N-fertilisation is allowed. Under M10 Austria is funding buffer strips in specific surface water protection areas. These strips have to be at least 12 meter and:</p> <ul style="list-style-type: none"> • permanent, winter hard cover, • no sowing of predominantly legumes, • no application of fertilisers and pesticides, • no change of the areas, • Grazing is not allowed. • Annual care or use of land by mowing and removal of the crop or care mowing / shredding is possible.
Measure duration	According to the regulation payments of 450 €/ha shall be granted annually, for a period of five-to-seven years. Funding is provided for costs and income losses that result from the creation of a planting mix in relation to the inclusion of the areas in the operational crop rotation and thus in relation to normal agricultural use."

¹²⁶ To create a wet buffer zone, the topsoil is stripped over a certain width. Wet buffer strips are similar to dry buffer strips in that they are strips of land alongside water courses but are either semi-permanently or permanently wet throughout the year.

Can the measures be linked to one or more of the CAP indicators¹²⁷?	I.15 Improving water quality: Gross nutrient balance on agricultural land I.13 Reducing soil erosion: Percentage of land in moderate and severe soil erosion on agricultural land
---	--

Natura 2000 & Water Framework Directive payments (M12)

Name of the measure:	Natura 2000 & Water Framework Directive payments (M12)
Description of the measure:	The measure provides annual per hectare compensation payments to farmers and forest owners for the additional costs and income foregone when implementing the Birds and Habitats Directives or (for farmers only) the Water Framework Directive. The measure is designed to compensate farmers and forest owners for the disadvantages they face as a result of mandatory activities they carry out as a result of the legal requirements set out under these directives, compared to the situation of farmers and forest owners in other areas not affected by these requirements. In the case of the Water Framework Directive compensation payments are relevant to measures defined in river basin management plans (RBMPs) that affect the use of agricultural land.
Risk for farmers when implementing the measure	None, as the measures are mandatory to farmers and the payment is an additional benefit.
Ways of controlling the implementation:	On-the-spot checks
Description of how and which environmental objectives the measure support (including multiple benefits]	The measure supports the WFD objective of good water status by reducing nutrient and pesticide pollution. It could be funded in the CAP SP under the intervention "Payments for management commitments", output indicator "O.12 Number of ha receiving support under Natura 2000 or the Water Framework Directive", result indicator "R.20 Protecting water quality: Share of agricultural land under management commitments for water quality".
Example of implementation	<ul style="list-style-type: none"> • The French National Framework refers specifically to drinking water protected areas where these are contaminated by agricultural diffuse pollution, as identified in the French RBMPs of the WFD. The measure has been implemented in: Bretagne. Loire-Bretagne RBD • Bourgogne. The Bourgogne RDP is situated between three river basins: the Loire-Bretagne, the Rhone-Mediterranee and the Seine-Normandie. • Midi Pyrénées - located in the Adour Garrone RBD • Picardie. The RDP Picardie is situated in Artois-Picardie and Seine Normandie RBDs • Provence-Alpes-Côte d'Azur. Rhône-Méditerranée RBD • Poitou-Charentes. Adour-Garonne and Loire-Bretagne RBDs <p>M12 is used specifically for the implementation of measures in drinking water protected areas. It should be used when M10 (Agri-environment-climate commitments) and M11 (organic agriculture) - which are of a voluntary nature - are not enough to achieve the objectives and must be made compulsory. M12 will support actions that contribute to the</p>

¹²⁷ Annexes to the Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for Strategic pPlans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council

	<p>following: reduced use of fertilisers/pesticide products, maintain or support expansion of beneficial cover and crops, extensification of land use, maintenance of green infrastructures.</p> <p>The National Framework indicates that Measure 12 is made compulsory where Measure 10 and 11 have first been implemented (i.e. through a voluntary contract), but have not been effective. The State can then decide to require the compulsory implementation of the operations, with funding being directed from Measure 12 but with compensation levels which can be lower. Funding is declining over time, i.e. farmers must integrate the new mode of production into their exploitation. The objective is thus to help any single farmer to adapt and ensure the new agricultural practices are maintained after the funding period. In addition, compensation levels are different depending on whether the farmer has been engaged before in Measure 10 or 11. Those previously engaged in Measure 10 or 11 will receive higher compensation levels: the objective is to encourage farmers to voluntarily engage at the soonest possible opportunity into changing the agricultural practices.</p>
Measure duration	The payment is annually and can be paid from the moment the WFD Program of Measures has come into force.
Can the measures be linked to one or more of the CAP indicators¹²⁸?	<p>I.15 Improving water quality: Gross nutrient balance on agricultural land</p> <p>I.13 Reducing soil erosion: Percentage of land in moderate and severe soil erosion on agricultural land</p>

4.1.3. Measures related to Natura 2000

Addressing overgrazing and excessive mowing of grasslands

Name of the measure:	Reducing agricultural pressures to preserve grassland habitats
Description of the measure	<p>Grasslands are an important landscape across many Member States. Depending on the local conditions, they can provide nesting and feeding areas for birds and also host a range of plant diversity. Consequently, natural and semi-natural grasslands are one of the categories of habitat types listed in Annex I of the Habitats Directive for protected sites. Moreover, the Birds Directive calls on Member States to designate special protection areas for the conservation of specific bird species listed in its Annex I: as grasslands can provide crucial habitats for certain bird species, they can require protection under this Directive.</p> <p>Many grasslands in the EU, however, are affected by intensive grazing. Some are affected by intensive mowing for agricultural purposes such as livestock fodder. (In other cases, grasslands are affected by land abandonment; a different type of measure ensures ongoing, extensive grazing and mowing to maintain grassland characteristics favourable for biodiversity.)</p> <p>The specific provisions for this measure will vary according to specific sites (examples are given below). These provisions can include:</p> <ul style="list-style-type: none"> • For mowing, setting specific times of the year when mowing is allowed and when it is not allowed

¹²⁸ Annexes to the Proposal for a Regulation Of The European Parliament And Of The Council establishing rules on support for Strategic Plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council

	<ul style="list-style-type: none"> • Specific requirements for mowing, such as – circular mowing; mowing using traditional or other low-impact tools; use of startling devices to warn birds in the grass; partial mowing (i.e. leaving unmowed strips) • For grazing, setting specific times of the year when this is allowed and not allowed • Limits on grazing intensity, e.g. in terms of livestock units (LUs) per hectare • Identifying grassland areas where grazing is allowed and those where it is not (for example, avoiding grazing on waterlogged grasslands) • Prohibition or limits on the amounts of manure, fertiliser and/or plant protection products allowed on the grassland areas • Prohibition on the conversion of grasslands to crop production or other types of agricultural land use <p>The specific details (e.g. times of the year for mowing or grazing) will be set in function of the needs of the site and protected species found there.</p> <p>This type of measure is carried out via voluntary commitments with farmers.</p>
Risk for farmers when implementing the measure	Reduction in income and additional cost to record and report livestock levels within Natura 2000 site.
Ways of controlling the implementation	<p>The mechanisms for controlling implementation can include the following:</p> <ul style="list-style-type: none"> • Documentation on grazing times and levels • On- the spot checks • Aerial photography • Remote sensing
Description of how and which environmental objectives the measure support (including multiple benefits)	<p>The measure in particular supports two objectives set out in the CAP proposal:</p> <ul style="list-style-type: none"> - foster sustainable development and efficient management of natural resources such as water, soil and air; - contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes; <p>Grasslands support biodiversity in Natura 2000 sites (and outside them): this type of measure supports other biodiversity values by ensuring sustainable use of grassland areas. For example, a measure for extensive grazing in Crau, in France, refers to the preservation of the pseudo-steppe habitat (H6220 in Annex I of the Habitats Directive) as well as lowland hay meadows (H6510).</p> <p>The measure can include objectives for specific species. For example, management plan for the Bagno Pulwy (Pulwy Marshes) Natura 2000 site in Poland sets specific targets for two bird species in a measure to reduce intensive livestock use of grasslands: maintaining the breeding population of the Eurasian curlew (<i>Numenius arquata</i>) at the level of at least 10 pairs; and maintaining the breeding population of the Corn crake (<i>Crex crex</i>) at the level of at least 90 territorial males.</p> <p>This type of measure supports extensive grazing and/or mowing to maintain favourable site conditions: consequently, it supports specific forms of agricultural activities.</p> <p>This measure could be funded in the CAP SP under the intervention "Payments for management commitments", output indicator "O.12 Number of ha receiving support under Natura 2000 or the Water Framework Directive)", result indicator "R.28 Supporting Natura 2000:</p>

	Area in Natura 2000 sites under commitments for protection, maintenance and restoration".
Examples of implementation	<p>One example of this measure is seen in the management plan for Bagno Pulwy (Pulwy Marshes), LB140015, in Poland, where as noted above its objectives include the protection of two bird species, the Eurasian curlew (<i>Numenius arquata</i>) and the Corn crake (<i>Crex crex</i>). In this measure, requirements for mowing are set out: circular mowing, starting from the centre of the mowed area; and the use of startling devices during mowing to avoid bird casualties. The measure description specifies the beneficiaries (landowners) and the geographical location. While the measure description does not refer to CAP, it does state that beneficiaries will be compensated for a loss in profitability: this appears to be a reference to an agri-environmental measure.</p> <p>Another example is seen in the site management for two sites in southern France, <i>Crau</i> and <i>Crau Sèche et Crau Centrale</i>. One of the measures in the plan calls to encourage and develop extensive grazing practices for <i>coussols</i>¹²⁹, fallows, spring grasses and undergrowth heaths. This measure includes the following elements:</p> <ul style="list-style-type: none"> • Establishment of grazing management plans • Periods where grazing is allowed are specified • Rotational grazing should use mobile fencing to keep livestock on designated plots • The use of plant protection products (pesticides) is prohibited except for certain invasive species <p>The beneficiaries and geographical locations are specified in the plan (which includes maps identifying locations for each measure). In this plan, these measures for grasslands are funded via the agri-environmental schemes in place at the time. The measure for <i>Crau</i> management plan specifies an indicative level of support (based on levels provided in years prior to the plan): 75.44 Euros/ha per year.</p> <p>A further example is seen in the site <i>Elbtalhänge zwischen Loschwitz und Bonnewitz</i> in Germany. The objectives of extensive grazing include the preservation of meadow habitats and of a butterfly species (the dusky large blue). Elements of the measure include:</p> <ul style="list-style-type: none"> • Specified times for mowing (first and second cuts) • Minimum mowing height specified to avoid soil wounds • Restrictions on grazing times and locations and species (prohibiting horses) • Rules on fertiliser application: phosphorus and potassium fertilisers allowed under specific conditions; specific limits for nitrogen fertiliser (60-75 kg N / ha per year) • Requirements to maintain rotating fallow areas, including to ensuring flowering species for the butterfly habitat
Measure duration	The <i>Crau</i> management plan states that the duration of its grassland measure is a minimum of five years.
Can the measures be linked to one or more of the CAP indicators?	<p>The measure can be linked to several indicators in the CAP proposal. The specific indicators will depend on the measure and its objectives, which can vary across sites. The indicators can include:</p> <p>Impact indicators</p> <ul style="list-style-type: none"> - Increased farmland bird populations: Farmland Bird Index

¹²⁹ A type of semi-arid pasture found at the sites where the topsoil is isolated from groundwater

	<ul style="list-style-type: none"> - Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends - Enhanced provision of ecosystem services: share of UAA covered with landscape features <p>Result indicators</p> <ul style="list-style-type: none"> - Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration <p>Output indicators</p> <ul style="list-style-type: none"> - Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements <p>The plan for Bagno Pulwy in Poland does not specify indicators; however, its targets for two species can be linked to the impact indicator on farmland birds in the CAP proposal.</p> <p>The plan for the Crau in France specifies output indicators, such as the number of participants in the measure. It also refers to the state of the site and the quality of grass in grazed areas as indicators: these can be linked to impact indicators in the CAP proposal. The plan also specifies the area on which the measure is to be carried out: this can be linked to the output indicator on hectares covered by commitments; the result indicator noted above on area in Natura 2000 sites under commitments; and potentially to the impact indicator on enhanced provision of ecosystem services.</p>
--	--

Maintaining and restoring landscape features (hedgerows, tree lines)

Name of the measure:	Preserve, develop and maintain ecological corridors and landscape features
Description of the measure	<p>Hedgerows are a landscape feature that supports and protects biodiversity: they can contain a diverse set of native plant species and they provide nesting and feeding area for invertebrates, small mammals and birds. Hedgerows provide other environmental benefits, for example as a barrier to wind erosion of soil and to agricultural pollutant runoff reaching water bodies. A recent JRC highlighted the potential role of new hedgerows in connecting isolated natural habitats¹³⁰. Tree rows, groves and isolated trees can also support biodiversity, in particular protected bird species.</p> <p>This type of measure can include the following elements:</p> <ul style="list-style-type: none"> • Support for planting of new hedgerows or treelines • Support for the maintenance and restoration of existing and degraded hedgerows or treelines • Specifications for the use of specific tree and shrub species or a requirement that species native to the site be used • Specifications for the periods for maintenance of hedgerows and cutting or pollarding of trees to protect site-specific species such as birds and bats

¹³⁰ European Commission, EU Science Hub, Hedging our bets: conserving biodiversity with hedgerows, web page: <https://ec.europa.eu/jrc/en/science-update/hedging-our-bets-conserving-biodiversity-hedgerows>

	<p>The specific details (e.g. times of the year for mowing or grazing) will be set in function of the needs of the site and of protected species found there.</p> <p>This type of measure is carried out via voluntary commitments with farmers.</p>
Risk for farmers when implementing the measure	<p>The risks and costs can include:</p> <ul style="list-style-type: none"> - Loss of a small share of agricultural land. - Administrative costs to maintain documentation of actions taken. - Ongoing maintenance costs. <p>Hedgerows can also provide benefits, such as enclosures for livestock and sources of firewood.</p>
Ways of controlling the implementation	<p>Documentation on actions taken</p> <p>The site plan specifies that on-the-spot checks can be carried out for agricultural measures and also indicates that aerial photography can be used.</p>
Description of how and which environmental objectives the measure support (including multiple benefits)	<p>The measure in particular supports one objective set out in the CAP proposal:</p> <ul style="list-style-type: none"> - contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes <p>In the site plan for the <i>Forêt humide de la Reine et caténa de Rangéval</i>, for example, the description of a measure for hedgerows and treelines refers to the protection of bat species such as the lesser horseshoe bat (<i>Rhinolophus hipposideros</i>) as well as bird species such as the black kite (<i>Milvus migrans</i>) and red kite (<i>Milvus milvus</i>).</p> <p>This measure could be funded in the CAP SP under the intervention "Payments for management commitments", output indicator "O.12 Number of ha receiving support under Natura 2000 or the Water Framework Directive result indicator "R.29 Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows".</p>
Examples of implementation	<p>One example of this measure is found in the site management plan for the <i>Forêt humide de la Reine et caténa de Rangéval</i> (ZSC FR4100189 / ZPS FR4112004). The measure specifies that dead trees and trees in poor condition should not be removed from hedgerows, as they can support biodiversity. Before any trees are cut down, it should be verified that they are not used by nesting birds or bats. More generally, hedgerow and tree maintenance should be carried out outside of key periods for bird and bat species and where possible in winter (specifically, November to February). Beneficiaries are identified (landowners). Costs are to be reimbursed on the basis of the metres of hedgerow developed or maintained.</p> <p>This plan notes that the indicative level of reimbursement (based on levels in previous years) is 0.17 Euros/metre of landscape feature per year. The costs of studies (such as an inventory of current hedgerows and tree rows) and expert fees can also be covered. No indicative levels of reimbursement are provided for these, however.</p> <p>Other site plans include similar measures. One example is the measure for the <i>Creation and restoration of tree rows and hedges</i> in the management plan for <i>Boschi Sereni Torricella</i> (IT5210033) in Umbria in Italy. A further example is seen in the Lower Traun Natura 2000 site in</p>

	Austria, which has a measure for the preservation and maintenance of landscape features, including hedges and shrub groves.
Measure duration	For the <i>Forêt humide de la Reine et caténa de Rangéval</i> , a duration of 5 years is specified for the measure
Can the measures be linked to one or more of the CAP indicators?	<p>The measure can be linked to several indicators in the CAP proposal.</p> <p>Impact indicators</p> <ul style="list-style-type: none"> - Enhanced provision of ecosystem services: share of UAA covered with landscape features <p>Result indicators</p> <ul style="list-style-type: none"> - Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows <p>Output indicators</p> <ul style="list-style-type: none"> - Number of supported non-productive investments <p>It should be noted, however, that the site management plan for the <i>Reine</i> Natura 2000 site in France specifies only one indicator for this measure: length of hedgerows. This could be linked to the impact indicator listed above from the CAP proposal. The other site management plans mentioned above do not specify indicators for their hedgerow measures.</p>

4.2. Recommendations on how to design adequately environmental measures in environmental planning tools in order that they can be supported under the CAP strategic plans

The recommendations in the following section have been developed along a set of questions identified by the European Commission and are answered based on the lessons learned when conducting the interviews under task 3 and the assessments carried out under task 1 and 2.

Current Baseline

Before providing these recommendations, it is important to note some basic factors that frame the overall situation of the current interaction between different environmental planning instruments and CAP:

- First, it should be reminded that RBMPS, PAFs and NAPCPs cannot be drafted in a straightforward way to exactly describe the CAP requirements because their legal basis is not the CAP, they are not CAP plans for water, nature or air. They should contain useful elements to be used in CAP SP such as concrete needs for farming practices and restoration of landscape feature, the quantification of the pressure from agriculture, the funding needs, the expected targets, the priorities. Those elements need then to be properly translated into their concrete corresponding measures of the CAP
- Implementation of environmental legislation and the CAP follows the subsidiary principle, and consequently many national or even regional factors influence implementation. This is a particularly important aspect for water and nature legislation, where the planning tools have to address the environmental pressures on small geographic units (e.g. water body or Nature2000 sites). On the other hand, for the NAPCP, plans are for reducing

national emissions of NH₃ (among other pollutants) into air. Therefore, only the national level is addressed in the NAPCPs, the same level as the CAP SP.¹³¹

- There are mismatches in time frames (with the exception of the PAFs), geographical scales and boundaries between environmental planning instruments and the CAP. These are outlined in the table below.

Table 22: Mismatches in time frames and geographical scales between planning tools and CAP SP

	Geographic scale	Duration
CAP SP	Type of interventions need to be available throughout MS territories, in accordance with their national, regional or local specific needs.	2021-2027
RBMP/PoM;	River basin level/water body level	2015-2021
Natura 2000 management plans	Local level	Varies according to the specific plan; often not specified
PAFs	Plans address whole territory (national or regional depending on MS), with sections focusing on specific types of habitats (e.g. grasslands) without identifying locations	2021-2027
NAPCP	National level	Can be set by each MS, individually for each measure, as long as emission reduction commitments for 2020 and 2030 are met

- With the exception of the PAFs – which are intended to ensure that EU financing instruments address Natura 2000 planning needs – the environmental planning tools reviewed are not per se designed to match the requirements of the CAP. They are designed in the context of their legal basis and to achieve the objectives set in the related environmental legislation (the PAFs, however, are specifically intended to bridge the gap between habitat and species conservation and EU funding instruments).
- The work for this study has shown that environmental planning instruments do not always provide quantitative indications of the extent to which measures are needed to achieve policy goals. Some planning instruments should and do contain this information or key elements:
 - Information on financing needs to maintain and restore favourable conservation status of ecosystems and species are provided in the PAFs (though on PAFs the conclusions have to be nuanced, because they have been done on draft documents or on old PAFs).
 - Some Natura 2000 plans reviewed provided specific detail on measures to be carried out – as seen in the examples in section 4.1.3 above. However, as detailed in Chapter 3.5.1.2, many Natura 2000 plans lacked specific quantitative information such as the one on the cost of implementation.
 - There is a requirement¹³² in the WFD that RBMPs are to identify the gap to good status and then to develop the PoMs in order to close this gap. This has not been done for every Member State, and the Commission's 5th Implementation Report makes recommendations to address this in the next RBMPs where necessary¹³³.

¹³¹ This is not the case for other pollutants such as NO₂ or PM₁₀, for which local and regional air quality plans exist which have to be taken into account in the NAPCP according to Article 6 Dir. (EU) 2016/2284.

¹³² In Art. 11 and in Art. 7 of Annex VIII.

¹³³ See https://eur-lex.europa.eu/resource.html?uri=cellar:bee2c9d9-39d2-11e9-8d04-01aa75ed71a1.0005.02/DOC_1&format=PDF

- In several Member States' NAPCPs, air pollution measures provide useful insight
This lack of a broader assessment of gaps, however, limits any assessment of the adequacy of current and planned CAP measures for the environment.
- Many of the mandatory measures in the environmental planning tools to address air, water and nature impacts of farming can increase farmers' costs and reduce their production. So, farmers are sometimes reluctant to apply these measures.
- While the CAP provides resources for compensation of voluntary measures, farmers can be reluctant to take up these measures, as they may be reluctant to face an additional administrative burden to qualify for payments.
- Some assessments have shown that some voluntary measures do not result in the expected environmental improvements. For example, within the most recent assessment of the RBMP one conclusion is that the voluntary measures in CAP may not be enough to reach good status due to the voluntary nature and farmers not up taking measures¹³⁴.
- With regards to biodiversity preservation, the 2019 Evaluation report of the impact of the CAP on habitats, landscapes, biodiversity¹³⁵ found that whilst there are examples of the CAP's instruments facilitating maintenance and, in some cases even an increase of protected habitats and species, such cases are still relatively scarce. The report findings indicate the opposite trend – biodiversity losses have occurred despite significant intervention under the CAP and there is also evidence that this is also the case with Birds and Habitats Directive species. This conclusion corresponds to the biodiversity monitoring results which indicate that overall, CAP has not been sufficient to counteract the pressures on biodiversity from agriculture both in semi-natural habitats and in more intensively management farmland.

Helpful preconditions for designing measures

When designing measures in the environmental planning tools a certain set of preconditions should be considered by the national authorities in order to:

- design the measures in terms to realise their full environmental potential. Many measures supported by the EAFRD can deliver an improved environment as well as an enhanced business performance. The key is to select the measure from the environmental planning tools most suited to the target to be achieved, focussing on the delivery objectives and the conditions and criteria for implementation.
- Ensure their uptake by those who should implement the measure in practice. This can be a main challenge as farmers prefer measures that maximise production, require fewer changes to their management practices, and result in fewer long-term obligations¹³⁶.

While under the past CAPs no mandatory relationship between environmental and agricultural authorities had to be established, Article 94 of the new CAP regulation requires¹³⁷ certain procedural issues. As such *"the Member State responsible for drawing up the CAP Strategic Plan shall ensure that the competent authorities for the environment and climate are effectively involved in the preparation of the environmental and climate aspects of the plan"*. This requirement does not necessarily affect the process for the design of the environmental measures in the environmental planning tool, but could be used to do so. From interviews with several MS (see Table 6 the following observations have been made:

- The current CAP proposal will reduce the weaknesses in coordination and consultation seen in the past as well as in the now-ending financial period, as it contains requirements for consultation and strengthening MS coordination. A good example is Spain, where under the current CAP (2014 to 2020), air quality and air emissions have not been addressed by the Autonomous Communities, who were responsible for developing Rural Development Programmes (however, water management, soil erosion and management, climate change were addressed). For the programming period CAP 2021-2027 air quality and air emissions is a specific objective and formal contacts between administrations

¹³⁴ See https://eur-lex.europa.eu/resource.html?uri=cellar:bee2c9d9-39d2-11e9-8d04-01aa75ed71a1.0005.02/DOC_1&format=PDF

¹³⁵ https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key_policies/documents/ext-eval-biodiversity-final-report_2020_en.pdf

¹³⁶ http://www.eclipse-mechanism.eu/apps/Eclipse_data/website/EKLIPSE_CAP-AgriReport_Final_DigitalVersion.pdf

¹³⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A392%3AFIN>

have been established. However, as the process is only in the beginning, the Member States interviewed could not provide a picture on the quality of this required cooperation in terms of outcomes, the challenges and obstacles.

- A good policy coordination process among environmental and agricultural authorities is vital. In cases where a single ministry is or was responsible for both policy areas (e.g. Austria¹³⁸ and Belgium) the link is much stronger than in other cases. However, whether or not there is a single ministry, having a strong coordination process has been identified as important (see in DE and ES versus IT). This process is more important than the published descriptions in the environmental planning tools. While detailed descriptions of measures were not always found in the environmental planning tools reviewed, interviews underlined that key details are known within the relevant authorities and can be communicated where there is good coordination.
- Stakeholders were involved via official consultations organised by the Ministry of Agriculture in all countries reviewed. These consultations helped to improve the design of the measures regarding environmental issues. The involvement of stakeholders – both on agriculture and environmental sides – has been judged as important in several interviews (e.g. DE).

Even if measures are designed in a very good manner, with a high probability to deliver the expected environmental results some other factors need to be considered in order to ensure their uptake and implementation on the ground:

- Another important factor influencing which measures are included in the CAP strategic plans is the “tradition”. Changes in the measures offered and the design of measures are difficult to “sell” to farmers and maintaining the status quo is favoured. Therefore, a lot of measures are prolonged and modifications made to those are limited.
- Measures need to be voluntary and to match the CAP regulation requirements. While this appears obvious, it is an important factor as environmental authorities consider drawing up more mandatory measures under environmental legislation¹³⁹ rather than rely on voluntary measures.
- The measures offered need to be accepted by farmers, otherwise there is little uptake. Data on the progress of the current EAFRD indicates that spending overall under Pillar II moved slowly in the first years of the 2014-2020 period, as did progress on environmental indicators (those under the 2014-2020 CAP, e.g. Agricultural land under management contracts supporting biodiversity and/or landscapes)¹⁴⁰. Spending has accelerated over the course of the programming period; moreover, Member States will be allowed to complete their spending after 2020. Nonetheless, the spending data suggest a risk that the implementation of some measures may have been delayed in the first years of the period – and also that resources may have been reallocated away from environmental priorities (further research would be needed to assess these factors).

The 2019 CAP and Biodiversity Evaluation report¹⁴¹ highlighted that nearly all of the most successful examples of CAP support to biodiversity protection draw on other sources of funding from outside the CAP at some stage (including State aid, LIFE, and other ESIF) and **secure the active involvement of farmers and other key environmental and agricultural stakeholders throughout scheme implementation**, not just at the consultation stage.

What is needed to design adequately environmental measures in environmental planning tools in order that they can be supported under the CAP strategic plans?

¹³⁸ In Austria with the new Government this has changed since 2020.

¹³⁹ e.g. see current discussion between Germany and the EC on implementing the Nitrate Directive. Several recent reports from the German authorities show worsening nitrate pollution in groundwater and surface waters. From the European Commission view point Germany has not taken sufficient additional measures to effectively address nitrates pollution and revise its relevant legislation to comply with the EU rules on nitrates. Since the Commission considers that the water pollution by nitrates is also not sufficiently addressed in the framework of the ongoing revision of the national action programme, it has decided to refer Germany to the Court of Justice of the EU. See https://ec.europa.eu/commission/presscorner/detail/HU/IP_16_1453

¹⁴⁰ See <https://cohesiondata.ec.europa.eu/funds/eafrd#top>

¹⁴¹ https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key_policies/documents/ext-eval-biodiversity-final-report_2020_en.pdf

To answer this question the following aspects should be considered:

- It is essential to quantify the environmental problem to be solved. If the “distance to target” (current environmental status compared to the one set in legislation) is not fully understood and quantified it is difficult to design an appropriate measure. For example, according to the second WFD implementation report of the European Commission¹⁴² only some Member States have conducted a gap assessment - how far away are we from reaching good status in waters? For agriculture less than half of the RBMPs has this information. **In order to design measures accordingly and to include the adequate measures within CAP SP to achieve the objectives this information is essential and it is recommended that it is included in all environmental planning tools.**
- The design process of the measures: Due to the different timeframes for environmental planning tools and the CAP SP, (see Table 20) **it is recommended that agricultural and environmental authorities start to cooperate at an early stage in the process and discuss the design of the measures commonly.**
- **The information that specifies the measure** provided in the environmental planning tools **should be clear, precise and having the sufficient level of detail.** At least the following elements should be included in the planning tools:
 - Nature of the measure (voluntary /mandatory) so agricultural authorities know if the measure can be included in the CAP SP
 - Objective of the measures. What is the main purpose of the measure in terms of environmental improvement?
 - Technical description of the measures. Here the mechanism on how the measure is reducing the gap / improving the environment should be described
 - Geographical area to be covered. This can be done in terms of hectares, but also by applying only to certain types of areas such as water protection zones
 - Description if the measure is one off (e.g. investment) or needs to be applied for several years/permanently
 - Synergies to and with other measures
 - Entity or economic actors responsible for implementing the measure (e.g. farmers)
 - Cost of the measure for the entity responsible for implementing the measure
 - Methods and requirements to monitor implementation of the measure (e.g. record-keeping requirements, bodies responsible for inspections, etc.)
 - Evaluation of the effectiveness of the measure
 - Potential links to the CAP indicators

The relevant measures presented above in section 4.1 provide many of these elements.

It is further recommended that the SP have a clear description of the measures (including how it contributes to the specific environmental objective set out in legislation), a clear definition of the area on which it should be applied (maps), the duration of the measure and what the MS is undertaking to boost farmers uptake. It is also important that the design of the measures is based on the same data sets as used by the environmental authorities in order to ensure coherence. This was not always the case under the current CAP where the latest environmental information has not always been used¹⁴³.

How should priorities be set of those tools that should be funded under the CAP strategic plans?

As financing of measures is limited due to restricted resources, priority should be on measures that can improve multiple environmental issues, address several specific objectives as set out Article 6(1)d to f and are most (cost-)effective. For example, better fertiliser management can reduce air

¹⁴²See https://eur-lex.europa.eu/resource.html?uri=cellar:bee2c9d9-39d2-11e9-8d04-01aa75ed71a1.0005.02/DOC_1&format=PDF

¹⁴³ See also Berglund, M.; Rouillard, J.; Schmidt, G.; Banfi, P.; Dworak, T.; Zamparutti, T. (2016): Specific Contract No. 070201/2014/SFRA/695493/ENV.C.1 'Compliance checking of the Water Framework Directive and Floods Directive implementation': RDPs

emissions and improve water quality. Buffer strips increase water quality and have a positive impact on biodiversity. (Examples of both these types of measures are found in section 4.1.) In other words, measures with multiple environmental benefits should be prioritised. This can require environmental authorities to develop methods that combine assessments of benefits across different themes – air, water and biodiversity. The high priority should be given to measures that respond to CAP objectives, too. However any prioritization should be considered again the possibility of the measures to effectively achieve the objective of the sectorial legislation : eg a decrease by 30 % of fertilizations could contribute positively to the water status but might not be sufficient to restore semi natural grasslands.

Another priority should be given to most vulnerable areas to ensure that they are not further degraded. Priority should also go to those areas where human pressures are increasing due to new developments.

Who are the actors that can facilitate the process and what can each of the actors do to improve the process of linking CAP and environmental planning tools?

In order to ensure a better coordination process linking CAP and environmental planning tools a multilevel approach is needed, as outlined below:

- Agricultural authorities at national and regional levels:
 - ensure adequate coordination with environmental authorities in the preparation of CAP policy and programming documents
 - ensure coordination with stakeholders, including both agricultural interests and environmental groups
- Environmental authorities at national and regional levels:
 - Ensure coordination with agricultural authorities in the preparation of environmental planning instruments (NB: this is already the case for NAPCPs, as measures for NH₃ emission reduction have to address agriculture. Thus, measures cannot be developed and implemented without close interaction with agricultural authorities)
 - Seek synergies among environmental planning measures (e.g. for air and water protection)
- European Commission:
 - Review CAP Strategic Plans and environmental planning tools documents together to ensure that environmental objectives are addressed properly in the CAP SP and that there is a good coordination between those documents
 - Promote good practice in dialogues and coordination at Member State and regional levels between agriculture and environmental authorities, when designing the CAP SP.
 - Promote an exchange of lessons learned among MS.
 - Consider the development of further guidance planning tools – for example, guidance for Natura 2000 management plans could identify key information to incorporate that can support uptake into CAP and other EU funding instruments and could encourage the regular review of the plans themselves, also to adapt to changes in EU financial mechanisms. A revision of the CIS guidance document 11 on the planning process¹⁴⁴ could also encourage the better link with other EU funding instruments. In addition, the Guidance for the development of National Air Pollution Control Programmes¹⁴⁵ should identify this key information as well.
 - Evaluate interim reports on the progress of required coordination among authorities and consultation of stakeholders when designing the CAP SP. These reports should clearly outline how coordination and consultation is carried out and which challenges and obstacles are currently faced.

¹⁴⁴ See [https://circabc.europa.eu/sd/a/4de11d70-5ce1-48f7-994d-65017a862218/Guidance%20No%2011%20-%20Planning%20Process%20\(WG%202.9\).pdf](https://circabc.europa.eu/sd/a/4de11d70-5ce1-48f7-994d-65017a862218/Guidance%20No%2011%20-%20Planning%20Process%20(WG%202.9).pdf)

¹⁴⁵ See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2019.077.01.0001.01.ENG

Which planning tools are scheduled to be updated or in draft stage to the finalisation of the CAP SP?

None of the RBMPs will be updated before the CAP SP will need to be ready (December 2021 is the timeframe for the next cycle of RBMPs). Nonetheless, Member States that are advanced in the process of updating their RBMPs could coordinate their measures in preparation with the SP.

Natura 2000 plans do not have a specific timeframe for renewal; the PAFs, on the other hand, follow the timeframe of the EU's Multiannual Financial Framework and thus the same timeframe as the CAP and its SP.

According to Article 10 (1) NECD, Member States had to submit the first NAPCP until 1 April 2019; according to Article 6 (3) these NAPCP have to be updated at least every four years, i.e. until 1 April 2023 at the latest, which lies within the CAP SP timeframe 2021-2027.

While the environmental planning tools set out the measures to reach certain environmental objectives, the CAP is the main financing mechanism for agriculture. It is therefore recommended that a better streamlining of the CAP and the environmental planning tools in terms of timelines is envisaged. In other words, environmental planning tools and CAP plans should be designed at the same time to ensure that env measures are incorporated into the CAP SP. In other words, the CAP and all environmental planning tools should follow the same timelines. This would in effect be the timeframe of the EU's Multiannual Financial Framework, and would have the additional advantage of improving coordination between environmental planning tools and other EU financing sources, notably the European Structural and Investment Funds. (This will be valuable for all three areas, air, water and nature; moreover, NAPCP have to address four further air pollutants¹⁴⁶, where agriculture only plays a minor role and for which other European policies are of importance.) However, this coordination of timeframes would require a specific process of amending several EU legislative acts.

Do planning tools identify the minimal quantitative uptake of measures that is required to achieve the environmental objective?

As noted above, many of the planning tools reviewed do not describe the minimal quantitative uptake of measures that is required to achieve the environmental objective in their official reports (although this is required for some, for example, in the WFD and in the PAF format). However, this information is sometimes provided in other formats, depending on the environmental planning tool. For example, under the WISE¹⁴⁷ reporting for the WFD several MS reported relevant information indicating what is needed to close the gap between the current status and the achievement of good status in terms of load reductions for nutrients and pesticides¹⁴⁸. If this information would be provided in the planning tools it could build the basis for the assessment of needs as set out in Article 95(1)a.¹⁴⁹

It is recommended that such "gap assessments" become mandatory in all environmental legislation that sets environmental objectives. This is already included as a section in the PAF template for the funding period 2021-2027. Under the water Framework Directive this is also required, however as stated before not always followed by MS.

The impacts of measures in terms of better environmental quality may take more than a single CAP cycle (NB: the NAPCP have to address emission reduction commitments for 2030): consequently, these gap assessments should be maintained across planning cycles. The CAP impact indicators are useful but are not always stated in the terms of environmental legislation: for example, they do not refer to good water status as per the WFD. Further cross-links between CAP and environmental indicators / targets will be needed.

Are there sufficient details in the description of the environmental planning tools to provide substantial input to the design of the CAP SP?

In many cases, environmental planning documents do not contain sufficient details for CAP:

- NAPCPs are at general (national) level, without details needed for CAP

¹⁴⁶ NMVOC, NO_x, PM_{2.5}, SO₂

¹⁴⁷ See <https://www.eea.europa.eu/data-and-maps/data/wise-wfd-3>

¹⁴⁸ See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=SWD:2019:30:FIN&qid=1551267381862&from=EN>

¹⁴⁹ See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=SWD:2019:30:FIN&qid=1551267381862&from=EN>

- RBMPs are generally at a high level, without these details as only summaries of the programs of measures are required to be published
- Natura 2000 plans – measure descriptions are not always sufficiently detailed, and the information provided can vary significantly across and also within the Member States reviewed
- PAFs are generally at a high level. Some of the draft PAFs provide detail on the area to be covered by types of measures, but others do not. However this issue should be solved in the final PAFs.

A solution for this could be the setup of specific measure databases that detail all the relevant information needed by agricultural and environmental authorities. The information stored in there could also be used for the reporting purposes across relevant environmental legislation and for the CAP.

How can draft CAP SP be cross-checked to have taken account of the environmental planning tools?

Such cross checks will require a close cooperation between DG Agriculture and DG Environment (plus the EEA), by bringing together draft CAP SP with relevant environmental planning tools (e.g. RBMPs, PAFs) and related data from the environmental side on MS level (e.g. WISE).

The cross check should cover three main aspects:

- Do the contents of the SWOT assessment as set out in Article 103 cover the aspects set out in the environmental planning tools?
- Are the measures in the CAP SP the same as in the environmental planning tools, and if not is there a justification for these circumstances.
- Are the underlying data and tools the same for both the CAP SP and the environmental planning tools?

A common cross check protocol needs to be developed that checks the information in the draft SP against the content from the relevant environmental planning tool. In any case of inconsistency, Member States need to be consulted to explain gaps, allowing them to adjust the final SP.

5. ANNEX 1: MS SUMMARY REPORTS

Introduction

The EU Water Framework Directive, the Habitats and Birds Directive and the directives in the area of Clean Air policy require Member States to develop plans that present a strategy on how to achieve objectives as laid out in the respective directives. The respective strategies should include information on measures to address pressures, including – where applicable – from the agriculture production. The measures included can be mandatory or voluntary. While mandatory measures linked to cross compliance cannot be funded¹⁵⁰, voluntary measures can be funded in the Member States to incentivise implementation.

Under Task 1, a review of environmental planning tools in the field of water (i.e. river basin management plans), nature (priority action frameworks, Natura 2000 management plans) and air (national air pollution control programmes under the National Emission Ceilings Directive) identified a number of mandatory and voluntary measures targeting pressures related to agricultural production. The identified mandatory measures, e.g. measures to implement the Nitrates Directive, were not analysed further as they cannot be funded. The voluntary measures were collated and information was extracted to determine their objectives, who should implement the measures, where and for how long, the requirements of the measure, as well as whether the measures are already funded under the CAP.

On the basis of the information gathered in Task 1, in Task 2 the measures not linked to CAP funding have been reviewed to determine whether they are eligible for inclusion in the next CAP Strategic Plans. The CAP proposal offers MS three types of interventions under which they can finance measures related to water management, nature conservation and air quality improvement, namely:

- eco-schemes,
- action under sectoral programmes, and
- rural development interventions.

Eco-schemes are a new intervention under Pillar 1, requiring Member States to offer financing for agri-environment-climate type measures; these are in addition to the same type of measures required under the rural development interventions (formally rural development programmes). Sectoral interventions are specific programmes linked to production types (e.g. fruit and vegetables, vineyards, hops, and others covering most production types including cereals like wheat and corn). Rural development interventions cover interventions such as agri-environment-climate measures, area-specific disadvantages, investments (productive and non-productive), risk management, cooperation and knowledge exchange and information.

Under each relevant article, the CAP proposal defines the requirements for each type of operation (i.e. measure), namely:

- what objective they must cover (WHAT),
- who can be the beneficiary (WHO),

¹⁵⁰ There are nevertheless some exceptions such as for example a possibility to fund mandatory measures under art. 67 of the CAP proposal

- the type of intervention that can be financed and in some cases what expressly cannot be financed (HOW),
- the specific objective and the impact and the expected result (see annex 1 of the proposal)
- the minimum or maximum duration (WHEN),
- the level of co-financing,
- what costs can be covered (i.e. everything, % of total costs, costs incurred and income foregone, incentive payments)

The CAP proposal stipulates that operations financed under the individual operations must be monitored and assessed using the Performance Monitoring and Evaluation Framework (PMEF). Only measures that can be linked to result indicators can be financed under the Strategic Plans.

The analysis below presents a first attempt to indicate whether the measures included in the environmental planning tool have the potential to be financed in the next programming cycle to better ensure their implementation and thus the achievement of environmental objectives of the three relevant EU directives.

5.1. Belgium

5.1.1. Air Quality

The NAPCP does not include a description of individual measures. The separate description of Policies and Measures (PaMs) includes measures individually for the three regions, wherefrom only the Flemish region (2 measures) and Wallonia (3 measures) have included measures for agriculture, but not the Brussels region.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
0	Ammonia emissions	low emission manure spreading techniques, low emission animal housing and manure storage systems low emission fertilizer and fertilizer application	Yes	No	Yes	No	No	Yes (indicator I.14)

The two measures for the Flemish region and the three measures for Wallonia will be implemented by changes to existing regulations (“Mestdecreet” and “Plan de Gestion de l’Agriculture de la Wallonie”, respectively). The PaMs document to the NAPCP does provide for a detailed description how the measures will be designed and implemented. The measures will be implemented between 2019 and 2023. The duration of the measures is not defined in the NAPCP.

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.1.2. Water Management

In Flanders, one Programme of Measures document was produced for both RBDs in the region. The document itself provides very limited information on the measures as only a short description of each measure is presented. The objectives are clear but there is not information regarding measures duration, links to cross compliance requirements, information on costs or specific indicators to measure progress. Three main agriculture measures were identified, focusing on reducing soil erosion, groundwater use for irrigation and fertiliser application. The measure on reducing fertiliser application and associated diffuse pollution makes a reference to the CAP, in that the PoM states that under the ‘PDPOII’, voluntary management agreements and agri-environmental commitments will improve water quality, but individuals measures are not concretely linked to the RDP. Two measures – on reducing erosion and fertiliser applications – are technical on-farm measures, whereas the measure on switching from groundwater to surface water for irrigation focusses on legal issues and awareness-raising, two sub-measures that cannot be financed by the CAP and hence have not been assessed in detail.

The Meuse River Basin Management Plan (Wallonia) has 13 measures related to agricultural activities in its Programme of Measures. 11 of the 13 measures identified are mandatory measures, administrative nature (e.g. establishment of controls) or support studies¹⁵¹, etc., making them not eligible for CAP support.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Maas and Scheldt River Basin Management Plan (Flanders)	4	Soil erosion Fertiliser use	- Erosion control - Reduction of nutrients by agricultural and horticultural sector in surface water	Yes, for all measures	No, but from the descriptions it is clear that farmers are targeted	3 from the 4 measures are clearly defined	No	In Flanders there is a general statement on financing AECMs under the CAP but	Yes - Impact indicators: improving water quality, reducing soil erosion

¹⁵¹ Under the current RDP Regulation, Measure 7 enables financing for studies and investments associated with the maintenance, restoration and upgrading of the cultural and natural heritage of villages, rural landscapes and high nature value sites, including related socio-economic aspects, as well as environmental awareness actions; and M16 enables financing for studies related to co-operation approaches among different actors in the Union agriculture sector, forestry sector and food chain and other actors that contribute to achieving the objectives and priorities of rural development policy, including producer groups, cooperatives and inter-branch organisations; the creation of clusters and networks; and the establishment and operation of operational groups of the EIP for agricultural productivity and sustainability as referred to in Article 56. The CAP does not fund general studies on assessing the implementation of a measure, pilot projects solely run by administrations where no research institute is involved. The CAP also does not fund studies for identifying risk areas or how to implement controls.

Meuse River Basin Management Plan (Wallonia)		Pesticide pollution	- Organic farming					does not link funding at individual measure level. Both measures in Meuse link to the CAP.	- Result indicators: protect water quality - Output indicators: Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements
---	--	---------------------	-------------------	--	--	--	--	--	---

The erosion control measure in Flanders document provides detailed information on what the measure entails, but does not make a clear link to the RDPs, despite the measure being included in the 2014-2020 RDP. The measure on reducing nutrient use provides few details on the measure description¹⁵² but links to the CAP without specific details. Neither plan provides information on the measure duration. Nevertheless, both types of measures have been included as agri-environmental measures under RDPs, so they could be included in the rural development intervention in the next programming period. The measure on erosion control can be linked to impact and result indicators regarding protecting water quality. The measure on nutrient reduction provides too few details on the commitments to tick any of the impact and result indicators. While agri-environmental measures are mentioned in general within the context of addressing nutrient pollution, there is no information regarding which sub-measures.

In Wallonia, 12 of the 13 measures target reducing nutrient pollution (diffuse and point source). Over half of the measures also target pesticide pollution, whereas two measures aim reducing the morphological pressures resulting from livestock farming. Of the two measures potentially relevant for CAP, the measure on buffer strips specifically mentions that it is already financed under the current RDP. From the description of the other measure - implementation of the pesticides action programme, it is not fully clear whether the programme solely implements the Pesticides Directives and relates to the articles referred to in SMR 13 of the CAP proposal or whether the action programme includes voluntary measures that could be financed under the CAP.

5.1.3. Nature protection

As Natura 2000 site management plans had not been approved in either the Flanders or Walloon region at the time of assessment, only the draft PAFs were assessed (the separate PAFs for Flanders and for Wallonia were covered).

¹⁵² The PoM provides little details regarding the voluntary measures under this focus area. The PoM mainly provides information relating to the implementation of the Nitrates Directive. The PoM only mentions that under the 'PDPOII', voluntary management agreements and agri-environmental commitments will improve water quality. The PoM also states that awareness will be raised through providing practical information and advice on the sustainable application of fertiliser by the agricultural and horticultural sector. Further information on what the measure commitments are for farmers are not elaborated in the planning document.

Priority Action Frameworks (PAFs)

Flanders

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/recurring</i>
PAF for Natura 2000 in Flanders, Belgium for the Multiannual Financial Framework for the period 2021-2027	2 groups of measures. The number of individual measures could not be determined, given that only general descriptions are provided for the types of commitments involved (recurring, one-off) without any measure titles or references.	Actions to create and maintain habitats favourable for biodiversity or to maintain the landscape, including the conservation of its historical features	No	No	No	No	Yes Impact indicators - Enhanced biodiversity protection, Result indicators - Supporting Natura 2000, Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive	Both measures are One-off and recurring

Summary

The draft PAF provides very little information on the individual measures, in fact only containing general descriptions of the types of commitments involved for the two measure groups as detailed in the table (recurring or one-off). Similarly, no information is provided in relation to CAP financing.

Assessment

Although no indicators are provided in the PAF, the measures can be linked to impact (“Enhanced biodiversity protection”), result (“Supporting Natura 2000”) and output (“Number of ha receiving support under Natura 2000 or the Water Framework Directive”) indicators in the CAP proposal. While the brief descriptions indicate the types of one-off actions and recurring actions that may be eligible for CAP financing, there is insufficient information in the PAF in general in order to make a clear determination as to whether and which measures can be financed by the CAP.

Wallonia

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can measures be linked to one or more of the CAP indicators?	Type of costs covered
			Yes/no/for some	Yes/no/for some	Yes/no/for some	Yes/no	Yes/no/some	one-off/recurring
Prioritised Action Framework (PAF) for Natura 2000 in Wallonia/Belgium for the <i>Multiannual Financial Framework</i> period 2021 – 2027 ¹⁵³	3 groups of measures, covering 110 individual measures ¹⁵⁴	Actions to create and maintain habitats favourable for biodiversity or to maintain the landscape, including the conservation of its historical features	Yes	No ¹⁵⁵	Yes, pressures are mentioned for each habitat to which the measures apply.	No. The column “Possible EU co-funding source” is not filled in the measures. CAP financing can be inferred for measures referring to AES (agri-environmental schemes) in their title, however. The plan mentions EAFRD (assumed to be EAFRD), but doesn’t link individual measures to this.	Yes Impact indicators - Enhanced biodiversity protection, Result indicators - Supporting Natura 2000, Preserving landscape features, Preserving habitats and species.	one-off ¹⁵⁶ and recurring ¹⁵⁷

¹⁵³ <http://biodiversite.wallonie.be/fr/paf-2014-2020.html?IDC=6243>

¹⁵⁴ The individual measures were grouped into three measure groups based on type of actions involved- this was due to the fact that very little information was provided on the individual measures making the required assessment unfeasible.

¹⁵⁵ The measure requirements are only mentioned by title. In some cases, this is self-explanatory, but no additional detail is provided.

¹⁵⁶ Land acquisition is a one-time expenditure.

¹⁵⁷ Creation or restoration measures are financed on a one-off basis, and recurring costs are covered for maintenance measures, Measures concerning the creation of habitats or landscape features are mentioned as a one-off cost, whereas management measures are cited as recurring costs.

Summary

The measures assessed have been grouped into three general measure types covering several different habitats.¹⁵⁸ The individual measures in the PAF do not have descriptions as such, as only a title is provided, which sometimes mentions some of the actions involved (e.g. mowing, grazing, controlled burning). None of the individual measures in the PAF are explicitly linked to CAP financing, although many of the maintenance measures specify that they are implemented through AES, which would imply CAP financing.

Assessment

The measures assessed do not mention indicators, but links can be made to impact (“Enhanced biodiversity protection”) and result (“Supporting Natura 2000”, “Preserving landscape features”, “Preserving habitats and species”) indicators in the CAP proposal. Concerning most of the management measures described in the PAF, implementation through AES is specified and therefore CAP financing can be inferred. For the other measures, there is no information concerning the mandatory or voluntary nature of the measures and whether their content goes beyond mandatory requirements: consequently, it is not possible to assess whether they are eligible for CAP funding.

¹⁵⁸ The individual measures were grouped into three measure groups based on type of actions involved- this was due to the fact that very little information was provided on the individual measures making the required assessment unfeasible.

5.2. Germany

5.2.1. *Air Quality*

The NAPCP for Germany provides a package of 12 measures to reduce ammonia emissions. However, the NAPCP provides only a summary table with headings for these measures, but no detailed description. Some additional information can be found in Annex H (Policies and Measures), but still not sufficient detail to draw full conclusions regarding these measures. The measures address low-emission manure spreading techniques, livestock feeding strategies, low-emission manure storage systems, low-emission animal housing systems, and limiting ammonia emissions from the use of mineral fertilisers.

Measure 1: No manure application with broadcast spreader on bare arable land before sowing (V+M)

Measure 2: Rapid incorporation of slurry on bare arable land before sowing (V+M)

Measure 3: Rapid incorporation of solid manure on bare arable land before sowing (V+M)

Measure 4: Covering of storages of slurry or digestates at least with foil (V+M)

Measure 5: N-reduced nutritional management (livestock feeding strategies) for pigs and poultry in houses according to IED and BImSchG (V+M)

Measure 6: 70 % emission reduction in housing systems for pigs and poultry according to IED (e.g. exhaust air cleaning with acid scrubbers) (V+M)

Measure 7: System integrated measures in housing systems for pigs and poultry according to BImSchG (40 % emission reduction) (V+M)

Measure 8: Application of slurries and other liquid manures on cropped land with injector or band spreader or after acidification (V+M)

Measure 9: Shift 50 % of subfloor slurry storage to covered storage systems outside the houses (V+M)

Measure 10: Reduction of N-excretion by nutritional management (livestock feeding strategies) for cattle (V+M)

Measure 11: System integrated measures in cattle housing systems (V+M)

Measure 12: Reduction of the total N-balance surplus by 20 kg N / ha (V+M)

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>
12 (both economic and regulatory instruments are named for all measures)	Ammonia emissions	low emission manure spreading techniques, rapid incorporation of slurry and manure low emission manure storage systems low-emission animal housing systems livestock feeding strategies limiting ammonia emissions from inorganic fertilisers	Yes	No	No	No	No	Yes (indicator I.14)

The NAPCP does not provide a detailed description of how the measures will be designed.

The NAPCP states that the start year of the implementation of all measures will be 2020 and the measures will continue for the foreseeable future.

According the NAPCP and PaM xml file, the measures “No manure application with broadcast spreader on bare arable land before sowing”, “Rapid incorporation of slurry on bare arable land before sowing”, “Rapid incorporation of solid manure on bare arable land before sowing”, “Application of slurries and other liquid manures on cropped land with injector or band spreader or after acidification”, “Reduction of the total N-balance surplus by 20 kg N / ha” will be implemented by changes to legislation (“Düngerecht”) and subsidies.

Measures “Covering of storages of slurry or digestates at least with foil”, “N-reduced nutritional management (livestock feeding strategies) for pigs and poultry in houses according to IED and BImSchG”, “70 % emission reduction in housing systems for pigs and poultry according to IED (e.g. exhaust air cleaning with acid scrubbers)”, “system integrated measures in housing systems for pigs and poultry according to BImSchG (40 % emission reduction)”, “Shift 50 % of subfloor slurry storage to covered storage systems outside the houses”, “Reduction of N-excretion by nutritional management (livestock feeding strategies) for cattle”, and “System integrated measures in cattle housing systems (25 % emission reduction) will be implemented via technical regulations (“TA Luft” for some measures) and subsidies.

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”.

5.2.2. Water Management

The Programme of Measures for the Weser River Basin District indicates that 3 agriculture-related measure categories will be implemented. Within each measure group, individual measures are briefly mentioned as options but the list is not exhaustive. Neither in the main PoM or in the Annexes are the measures described in detail. The documents mention that agri-environmental measures under the RDPs are part of the supplementary measures defined in the WFD to address nutrient pollution. Details on the individual measure requirements, their duration, who can implement them or indicators to measure progress are not provided in the documents.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Weser	4	Diffuse pollution of nutrients and pesticides Soil erosion.	- Measure to reduce nutrient pollution from agriculture such as measures to reduce pollution from surface runoff (e.g. cover crops, catch	Yes, according to pressure	No, farmer is assumed	No	No	Yes	No

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			crops, organic production); soil erosion measures (e.g. no-tillage, conservation practices, crop rotation, greening slopes, erosion-reducing division of parcels); buffer strips; measures to reduce phosphorus pollution from drainage systems, e.g. controlled drainage; measures to reduce nutrient pollution in flood risk areas; measures to reduce direct nutrient pollution; measures to reduce nutrient pollution in						

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			drinking water zones - Measures to reduce pesticide pollution from agriculture - Measures to reduce soil erosion and sedimentation -Farm advice						
Elbe	6	Diffuse pollution of nutrients and pesticides	- Measures to reduce nutrient and fine particulate pollution through erosion, e.g. no tillage, conservation tillage, erosion-reducing parcel division, greening terraces, catch crop cultivation	Yes, according to pressure	No, farmer is assumed	No	No	Yes	No

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			<ul style="list-style-type: none"> - Measures to reduce diffuse nutrient pollution, e.g. by catch crop cultivation and undersown seed cultivation (reduction and/or Change in the use of fertilisers, conversion to organic farming), - Measures to reduce point source nutrient pollution - Measures to reduce pesticide pollution - Buffer strips - Farm advice 						

The PoM for the Weser River Basin specifically mentions that the EAFRD (European Agricultural Fund for Rural Development) is a potential financial instrument for financing measures. The document states that each Land should assess the extent to which the EAFRD can be used for the implementation of the WFD. Specific

details on the measures are not provided. There is no definitive list on which supplemental measures the Weser is specifically intending to implement to address agriculture pressures. The measures mentioned in the document appear to be suggestions. The descriptions of the groups on tackling pesticide pollution and soil erosion provide no suggestions on the types of the measures within the overarching measures category. The PoM for the Weser River Basin District states that agri-environment measures to reduce diffuse pollution are potentially implemented on 210,000 ha. If all 210,000 ha are covered by the measures, a reduction of 5,200 t Nges /year is foreseen. More information is not provided. It can be assumed that CAP financing will be used to support achieving objectives under the WFD, but it is not clear from the document which measures are exactly being implemented, their specific objective or requirements.

The PoM for the Elbe River Basin specifically mentions that the EAFRD (European Agricultural Fund for Rural Development) is a potential financial instrument for financing measures, but this information is on a general level and there is no specification at measure level. Specific details on the measures are not provided. The measures mentioned in the document are examples and do not appear to be an exhaustive, specific list. Information provided includes the pressure being addressed, the number of measures within each category and the number of water bodies where the measures will be implemented. It can be assumed that CAP financing will be used to support achieving objectives under the WFD, but it is not clear from the document which measures are exactly being implemented, their specific objective or requirements.

5.2.3. *Nature protection*

In Germany, the national PAF for the period 2014-2020¹⁵⁹ as well as the Natura 2000 Management Plans for the following Natura 2000 sites were analysed (dates of publication in brackets):

- Mittlerer Schwarzwald bei Hornberg und Schramberg (2012)
- Elbtalhänge zwischen Loschwitz und Bonnewitz (2008)
- Mildnitztal mit Zuflüssen und verbundenen Seen (2014)
- Nahetal zwischen Simmertal und Bad Kreuznach (2013)
- Eberfinger Drumlinfeld mit Magnetsrieder Hardt und Bernrieder Filz (2019)

Priority Action Framework (PAFs)

The German PAF (2014-2020) presents in total 25 categories of measures to meet the strategic conservation objectives defined for the funding period. For each measure category, the types of actions eligible for funding as well as potential sources of funding are provided in tabular form. The PAF broadly distinguishes between (1) general priority measures, (2) priority measures for Natura 2000 habitats and species characterised by agriculture and forestry, (3) priority measures for marine and coastal Natura 2000 habitats and species, (4) priority measures for Natura 2000 wetland habitats and species (including moorland) and (5) other priority measures. Measures can feature under several of these categories. An overview table details pressures and threats for specific habitat types and identifies the relevant priority measure by federal State.

¹⁵⁹ The draft national PAF for the period 2021-2027 has not been submitted yet to the Commission at the time of the analysis.

Out of the 25 categories of measures, 19 are identified as priority measures for Natura 2000 habitats and species characterised by agriculture and forestry. Only three of these measures relate to the technical implementation of measures (Measure numbers 12, 13, and 14). Another measure refers to the implementation of the management plans through landowners and farmers (Measure no. 15). These four measures were included in the assessment. The information reported for each measure is limited. The EAFRD is listed as a potential source of funding for all four types of measures; actions eligible for funding under each measure are only briefly described (federal States where measures should be applied are in brackets):

- Measure category 12: Conservation management measures, maintenance of a favourable conservation status of habitats and further improvement, including renaturation measures, establishment of corridors, management of specific habitats, preparation of management plans ((BB, BE, BW, BY, HB, HE, HH, MV, NI, NW, RP, SH, SL, SN, ST, TH));
- Measure category 13: Conservation management measures, maintenance of a favourable conservation status of the species and further improvement, including renaturation, establishment of game corridors, management of specific species (flora and fauna), preparation of management plans ((BB, BE, BW, BY, HB, HE, HH, MV, NI, NW, RP, SH, SL, SN, ST, TH));
- Measure category 14: Nature conservation management measures in relation to invasive species, Including renaturation, infrastructure, management of specific types, preparation of management plans (BB, BE, HB, HE, NI, SH, TH);
- Measure category 15: Implementation of management plans and agreements with owners and farmers to comply with certain regulations, including
 - agri-environmental measures, e.g. wildlife-friendly production methods, restoration of habitats on agricultural land, extensive livestock farming, protection of grassland etc.
 - forest environmental measures, e.g. creation of protection zones, conservation of dead wood, control and / or extinction of invasive alien species, reforestation or reforestation measures, management of specific vegetation, etc.
 - conservation of habitats in aquaculture areas etc.(BB, BE, BW, BY, HB, HE, HH, MV, NI, NW, RP, SH, SL, SN, ST, TH).

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/recurring</i>
PAF for Germany 14/20¹⁶⁰	4	<ul style="list-style-type: none"> - Conservation measures to achieve favourable status for habitats (Measure category 12) and species (Measure category 13) - Nature measures to combat invasive measures (Measure category 143) - Implementation of plan by landowners and farmers that include agri-environment type measures (Measure category 15) 	No, objectives are not defined at measure level but at programme level	No. The PAF provides general descriptions of the types of activities that can be funded. For measure categories 12, 12, and 14 these include renaturation measures, establishment of corridors, management of specific habitats/species, preparation of management plans. For measure category 15, examples of agri-environmental, forest-environmental measures, and	No. Pressures are listed per specific habitat type and then linked to groups of relevant measures. It is therefore not possible to disaggregate the pressures addressed by individual measures.	Yes.	<p>Yes. All measure categories can be linked to the following indicators:</p> <p>Result indicators:</p> <ul style="list-style-type: none"> - Share of farmers with support in investments related to care for the environment or climate; - Area in Natura 2000 sites under commitments for protection, maintenance and restoration; - Share of agricultural land under management commitments supporting biodiversity conservation or restoration) <p>Output indicators:</p> <ul style="list-style-type: none"> - Number of ha receiving support under Natura 	No information provided.

¹⁶⁰ https://www.bfn.de/fileadmin/MDB/documents/themen/natura2000/Prioritaerer_Aktionsrahmen_fuer_Natura_2000_in_Deutschland.pdf

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
				conservation measures are listed. Further details specifying measure requirements or commitments are not provided.			2000 or the Water Framework Directive, <ul style="list-style-type: none"> - Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements. - Number of supported non-productive investments). In addition, measure category 15 can be linked to the following result indicators: <ul style="list-style-type: none"> - Share of forest land under management commitments to support forest protection and management. - Share of forest land under management commitments for supporting landscape, biodiversity and ecosystem services 	

Assessment

The PAF only provides a very high-level description of the types of measures to be implemented to meet Germany's strategic conservation targets for the Natura 2000 network.), The limited information reported in the document therefore does not allow an assessment of the extent to which measures meet the inclusion and exclusion criteria for CAP funding. More specifically, measure objectives, requirements, beneficiaries and pressures addressed are not reported or not reported by measure, respectively. The PAF clearly identifies CAP as a potential source of funding for each of the four four technical measures analysed. Each of the measures can be linked to CAP indicators. It can therefore be assumed that the measures might qualify for funding under the rural development interventions in the new CAP Strategic Plans. Measure category 15 which makes reference to agri-environmental measures might be eligible for funding under the eco-schemes.

Natura 2000 Management Plans

In total 35 measures relevant for agriculture were identified in the five Natura 2000 site management plans assessed for Germany. With the exception of one measure which is to be implemented on arable land, measures aim to maintain and expand specific grassland habitats, including moist perennial corridor, juniper heaths, mat grass pastures, lean grasslands, fens, heathlands, mountain meadows, and lowland meadows.

Management Plans do not explicitly link measures to pressures or impacts related to agriculture. However, measure descriptions suggest that the most common pressures addressed include land abandonment, degradation of grassland through grazing and nutrient inputs. For 11 of the measures analysed, the plans set out restrictions on mowing, grazing, and fertiliser use to achieve the intended conservation goals. For the remaining measures, the actions to be taken to implement the measures are not described. None of the Management Plans provides targets to be achieved or establishes indicators to monitor the measures' impacts, results or outputs. Based on the available information, we conclude that all measures can be linked to several indicators in the CAP proposal (see table below).

Four¹⁶¹ out of the 35 measures are clearly identified as being voluntary; these measures were all established under the Management Plan for the Natura 2000 site "Mildentzital mit Zuflüssen und verbundenen Seen". The other four plans do not report whether measures are mandatory or voluntary.

¹⁶¹ The voluntary measures presented in the Management Plan for the Natura 2000 site "Mildentzital mit Zuflüssen und verbundenen Seen" are: Preservation of grassland, no ploughing of grassland, Creation/extension of existing buffer strips, Conversion of arable land to grassland, Establishment of a site-appropriate grazing regime, preferably through sheep and goats.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Mittlerer Schwarzwald bei Hornberg und Schramberg (2012)	7	Restrictions on fertiliser use and grazing; mulching to restrict growth of specific species; controlled burning to rejuvenate heather; ban on amelioration of fens.	Yes	No (measure description suggests farmers and landowners)	Yes	No	No	Yes: Impact indicators – Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends Result indicators – Share of farmers with support in investments related to care for the environment or climate – Area in Natura 2000 sites under commitments for protection, maintenance and restoration – Share of agricultural land under management commitments supporting biodiversity conservation or restoration Output indicators – Number of ha receiving support under Natura 2000 or the Water Framework Directive – Number of ha (agricultural) covered by environment/climate

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
								commitments going beyond mandatory requirements
Elbtalhänge zwischen Loschwitz und Bonnewitz (2008)	2	Rules on mowing, restrictions on fertiliser use and grazing.	Yes	No (measure description suggests farmers and landowners)	Yes	No	Some ¹⁶²	Yes, as above
Mildentztal mit Zuflüssen und verbundenen Seen (2014)	4	Not specified	Yes	Yes, landowners and environmental agencies (farmers are not specifically mentioned)	No	No	Some ¹⁶³	Yes, as above

¹⁶² Measure LRT 6510 “Conservation measures for grassland”. This measure specifically targets the lowland meadows at the edge of the Schönfeld plateau and in the creek valleys, some of which are also habitat areas of the Dusky Large Blue. Grasslands are to be maintained by establishing a strict mowing regime and restrictions on the use of fertilisers and grazing. The users or owners of agricultural and forestry land may be compensated for the financial losses associated with the implementation of corresponding conservation measures. In addition, the plan states that the directive on the Promotion of Area-Related Agri-environmental Measures and Ecological Forest Enhancement” (RL AuW/2007) as well as ongoing management contracts under the previous directive "Environmentally Friendly Agriculture" (UL), subprogramme "Extensive Grassland Management" (KULAP) allow at least partial implementation of the conservation measures for lowland meadows and the habitats of the Dusky Large Blue.

¹⁶³ The plan includes a specific chapter on cross compliance after the chapter on measures, which indicates which cross compliance elements needs to be considered. For the measure “Preservation of grassland, no ploughing of grassland” the plan specifically mentions the following elements: no conversion of grassland and prohibition on of intensification. This information is not provided for any of the other three measures analysed.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Nahetal zwischen Simmertal und Bad Kreuznach (2013)	20	Not specified	Yes	No	No	No	Some ¹⁶⁴	Yes, as above
Eberfinger Drumlinfeld mit Magnetsrieder Hardt und Bernrieder Filz (2019) ¹⁶⁵	2	Buffer strips and limiting nutrient use on adjacent farmland, rules for mowing.	Yes	No (measure description suggests farmers)	Yes	No	No	Yes: Results indicators – Share of farmers with support in investments related to care for the environment or climate Output indicators – Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements – Number of supported non-productive investments"

¹⁶⁴ Only one measure title “Preservation or promotion of extensive grassland use” out of 20 identifies RDP funding as a way of implementing this measure on relevant grassland areas.

¹⁶⁵ The management plan contains two measures relevant to agriculture which were included in the analysis. In addition, the management plan contains two habitat-measures which are not described in detail and could therefore not be analysed. These measures are: (1) Grazing without fertilisation on willow-embossed lime grassland; (2) Regulation of a lime-lean grassland-friendly grazing through the regulation of stocking levels and periods.

Generally, the objectives, pressures and actions to be taken are well described in three out of the five plans reviewed¹⁶⁶. None of the five plans, however, provides the duration of its measures and only one¹⁶⁷ explicitly identifies landowners and environmental authorities as beneficiaries. Three plans identify CAP funding for a small number of measures. Overall, all measures seem to contribute to meeting SMRs (mainly numbers 3 and 4) but there is not sufficient information to conclude whether they go beyond enhanced conditionality. Only four measures are clearly identified as being voluntary.¹⁶⁸ Of these measures, only one (Preservation of grassland, no ploughing) is already explicitly linked to RDP funding.

Assessment

Based on the above, explicit links to the CAP, namely to agri-environment measures, are made for three out of the 35 measures. For the rest of the measures, the information is not provided. As for potential funding under the future CAP, the measure descriptions do not provide sufficient information to conclusively state whether they go beyond enhanced conditionality as required by the CAP proposal. In addition, information which would allow an assessment of the extent to which measures meet the inclusion and exclusion criteria for funding under one of the interventions proposed under the new CAP are missing.

¹⁶⁶ These include the Management Plans for the Natura 2000 sites „Mittlerer Schwarzwald bei Hornberg und Schramberg“, „Elbtalhänge zwischen Loschwitz und Bonnewitz“, and „Eberfinger Drumlinfeld mit Magnetsrieder Hardt und Bernrieder Filz“.

¹⁶⁷ Management Plan „Mildnitztal mit Zuflüssen und verbundenen Seen“

¹⁶⁸ The voluntary measures presented in the Management Plan for the Natura 2000 site “Mildnitztal mit Zuflüssen und verbundenen Seen” are: Preservation of grassland, no ploughing of grassland, Creation/extension of existing buffer strips, Conversion of arable land to grassland, Establishment of a site-appropriate grazing regime, preferably through sheep and goats.

5.3. Ireland

5.3.1. Air Quality

So far, Ireland published only a draft NAPCP. The draft NAPCP of Ireland does not describe any measures for agriculture as none have been adopted yet.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
NA	Ammonia emissions	NA	NA	NA	NA	NA	NA	NA

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.3.2. Water Management

For the 2018-2021 management cycle, Ireland merged the management plans of its river basin districts into one national management plan. A separate programme of measures has not been published. The Programme of Measures chapter within the river basin management plan points to a number of different programmes to address pressures from agricultural production. Beyond the Nitrates Directive, the document highlights 4 complementary supporting measures, including 1) knowledge-transfer initiatives to promote the adoption of best environmental practices, 2) measures included within the rural development programme for 2014-2020, 3) Smart Farming Collaborative Initiative and 4) monitoring and modelling initiatives to assess the impact of sectoral changes on water quality. Measures under the Nitrates Directive are mandatory and have not been assessed further. Within knowledge transfer, the focus is on farm advice. Within the rural development programme, 2 farm-level measures are relevant for the assessment: the GLAS agri-environmental scheme and the agricultural modernisation scheme focussing on nutrient storage. The Smart Farming Collaborative Initiative offers farmer a resource-efficiency study for their farm. This study identifies ways to improve farm returns and enhance the rural environment. Almost 50% of the cost savings found on participating farms are linked to reduced use of fertilizers. Such assessments, however, are not offered under the RDP regulation for funding. The monitoring element is also an administrative support measure and cannot be financed under the CAP.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Irish National River Basin Management Plan	2	Diffuse pollution of nutrients and pesticides	<ul style="list-style-type: none"> - Farm advice - Agri-environmental measures like fencing of water courses, low-input farming, growing catch crops - modernisation investments like manure storage and low emission slurry spreading 	Yes	Yes, farmers	No	No	Some agri-environmental measures	No

The Irish National River Basin Management Plan without an accompanying national Programme of Measures provides general information on the four intervention pillars to address agricultural pressures beyond the implementation of the Nitrates Directive. The RBMP provides information on the objectives of each programme, as well as the budget allocated. However, the programme descriptions do not provide detailed information on the specific measures to be implemented. There are a few programmes providing farm advice, one of which is specifically linked to CAP funding. The advisory programmes include 1) the official Farm Advisory System (CC-FAS) to advise farmers on meeting cross-compliance requirements, including those set down by the Nitrates Directive. There are over 700 DAFM-trained CC-

FAS advisors in Ireland. The most recent training for agricultural advisors included a session on water quality, delivered by the EPA, which aimed to improve advisors' understanding of the impact of nutrient losses from agriculture on water quality; 2) a Sustainability and Advisory Support Programme between the State and the dairy industry, consisting of 30 Sustainability Advisers, with the aim to promote best farming practice in 190 areas chosen for action, for up to 5,000 farmers; and 3) a Dairy Sustainability Initiative to help improve water quality: 18,000 dairy farmers to receive advice on sustainable farming practices in the 190 areas for action. The description of the agri-environmental and modernisation schemes mentions types of measures, as indicated in the table above, but further details are not provided. Indicators to assess the progress of the measures are not provided in the document. The information provided in the plan does not make it possible to evaluate the eligibility of the measures for the next financing period. It can be assumed that agri-environmental and investment measures will continue to be offered in Ireland within the CAP Strategic Plans. It appears that the RBMP relies on the content of the CAP programme to inform its Programme of Measures and therefore the text remains on a general level.

5.3.3. Nature protection

The assessment reviewed Ireland's draft PAF for 2021-27. The following five Natura 2000 site management plans were reviewed:

1. Galtee Mountains
2. Bolingbrook Hill
3. Lough Coy
4. Coolvoy Bog
5. Kilcarren-Firville Bog

Priority Action Frameworks (PAF)

Ireland's draft PAF for 2021-27 was assessed. A total of 11 groups of measures were identified as relevant for agriculture. The measures focus on livestock production and are located in heaths, grasslands and meadows. The focus is on extensification of livestock production, for example via extensive grazing and low/no fertiliser input. The main pressures addressed are overgrazing, inappropriate land uses, as well as overgrazing. In some cases, undergrazing was also reported as an issue.

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/recurring</i>
PAF draft for the period 2021-2027	11 groups of measures	There are several types of actions: <ul style="list-style-type: none"> - Environmental, climate and other management commitments - Actions to create and maintain habitats - Investments in non-tangible assets 	No, though the objectives can be inferred from the measure titles	No	The PAF has a good overview of pressures; these are not specifically linked to measures, but the pressures addressed can be inferred	Yes The PAF indicates financing sources – and many individual measures refer to CAP (in particular EAFRD)	Yes All the measures identified can be linked to CAP indicators (see below for further details)	The measures refer in particular to recurring costs, though it appears one-off costs are also covered

Summary

Under the draft reviewed for the Irish PAF, the measures are not detailed beyond the title of each measure. However, these titles are quite specific. For nearly all measures in the PAF, a financing source is indicated. Many of the measures identified as relevant for agriculture refer to CAP financing, specifically EAFRD: this is the case for 7 of the 11 groups of measures. For others, no financing source is indicated; however, the measures appear to be eligible for CAP financing¹⁶⁹.

As noted in the table, the assessment has identified possible indicators from the CAP proposal for all the measures. The following indicators were identified:

Impact

- Increasing farmland bird populations: Farmland Bird Index
- Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends

Result

- Environment-/climate-related performance through investment: Share of farmers with support in investments related to care for the environment or climate
- Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration
- Preserving habitats and species: Share of agricultural land under management commitments supporting biodiversity conservation or restoration

Output

- Number of ha receiving support under Natura 2000 or the Water Framework Directive
- Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements
- Number of supported non-productive investments

Assessment

As noted above, all the groups of measures could be linked to CAP indicators.

Most of the measures relevant for agriculture identify CAP source of financing, specifically EAFRD. Moreover, as noted above, the remaining measures identified as relevant for agriculture appear to be eligible for CAP financing.

¹⁶⁹ For example, no EU co-funding source is indicated for the following measure: Agri-environmental scheme for farmed land on islands and lakeshores at key sites selected for waterbird assemblages including 4 SPAs selected for *Melanitta nigra*; extensive grazing (average annual cost per hectare: €400). This measure is found in section E.2.8. Freshwater habitats (rivers and lakes), and in this section – unlike the others – possible EU co-funding sources are not identified for any measures.

Natura 2000 plans

Introduction

There are in total 10 identified measures in the five Natura 2000 sites management plans that were reviewed¹⁷⁰. All plans provide brief information on the objective of the measures and its description. Most of the measures identified as relevant for agriculture are concerning with sustainable grazing management practices in grasslands; some are directed at protection of specific habitat (bog/wetland) or species. The pressures generally stem from either intensive grazing or intensive fertilizers use. No plan indicates the duration of the measures. All but one plan (Lough Coy) link the implementation of their measures to specific beneficiaries (farmers and landowners).

All measures can be linked to some of the CAP indicators although the plans themselves do to identify any indicators (details are provided below). Neither of the assessed plans refer to greening or cross-compliance or specify whether the measures are voluntary or mandatory.

Overview table (Natura 2000 plans)

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures (and key types)</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>
Galtree Mountains (2005)	1	Rules on grazing management	Yes	Yes	Yes	No	Yes	yes
Bolingbrook Hill (2005)	3	Rules on grazing management; improvement of grassland damaged areas; rules on	Yes	Yes	Yes	No	Yes	Yes

¹⁷⁰ As noted in the table, all plans assessed were adopted in 2005. More recent plans relevant for agriculture in Natura 2000 sites were not identified.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		management of blanket bog and wet heath						
Lough Coy (2005)	2	Rules on sustainable grazing; rules on fertilizers' use	Yes	No	Yes	No	Yes	Yes
Coolvoy Bog (2005)	1	Rules on grazing management	Yes	Yes	Yes	No	Yes	Yes
Kilcarren-Firville Bog (2005)	3	Rules on bog protection; rules on grassland management; rules on grazing management in wetlands	Yes	Yes	Yes	No	Yes	Yes

Generally, the objectives, pressures and targets are described but the plans do not provide comprehensive details. All plans state that the measures will be implemented within the REPS plan of a farm. REPS (Rural Environment Protection Scheme) is Ireland's entry-level schemes for agri-environment measures in the RDP. Although it is not stated in the plans, as REPS implements agri-environment measures under the RDP, it is assumed that these measures are voluntary. No plan has any reference to cross compliance. There is, however, an explicit link to the RDPs – all plans specifically mentioned that the measures could be part of the REPS scheme, which was financed by the RDP at the time. Overall, all measures can be attributed to some SMRs (mainly numbers 3 and 4).

As noted in the table, the assessment has identified possible indicators from the CAP proposal for all the measures. The following indicators were identified:

Impact

- Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends

- Enhanced provision of ecosystem services: share of UAA covered with landscape features

Result

- Environment-/climate-related performance through investment: Share of farmers with support in investments related to care for the environment or climate
- Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration

Output

- Number of ha receiving support under Natura 2000 or the Water Framework Directive
- Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements

Assessment

Based on the above information, it can be stated that the measures identified are all linked to the RDP existing at the time (2005/2010). However, there were not sufficient details provided to conclusively state whether they could potentially be funded by the current CAP (no duration information, cross-compliance, voluntary/mandatory nature, clearer link to indicators).

5.4. Spain

5.4.1. Air Quality

The Spanish NAPCP distinguishes three packages that include altogether 18 measures for limiting of ammonia emissions from the use of fertilisers, low-emission housing systems, manure storage, low-emission manure spreading technologies, and for burning of pruning remains.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
3 packages, 18 measures	Ammonia and PM emissions	Low emission fertilization and fertilization plans low emission manure spreading techniques, low emission housing and manure storage systems reduction of burning pruning remains	Yes	No	No	Yes	Some measures (Package A.2: Reduction of the burning of pruning remains in the field, Package A.3: Manure management in animal housing and storage in pigs, cattle and poultry)	Yes (indicator I.14)

The NAPCP does not provide for a detailed description how the measures will be designed and implemented. The NAPCP states that the implementation of the measures will start in 2020 and will be finalized in 2030. For one package of measures (Reduction of the burning of pruning remains in the field) the NAPCP describes that funding under future CAP will be necessary (currently, the extra costs are funded by rural development programmes). For one measure (Package A.3: Manure management in animal housing and storage in pigs, cattle and poultry) the NAPCP states that currently the measure is financed under Real Decreto 1179/2018, but

requires funding under CAP from 2023 on. For the measure “Package A.2: Reduction of the burning of pruning remains in the field” funding under the Real Decreto 1179/2018 for the years 2014 to 2016 is provided in the NAPCP.

Whether further measures could be financed under CAP cannot be inferred unambiguously from the NAPCP as both mandatory and voluntary policy instruments are described. For some measures, the NAPCP describes explicitly that changes in current decrees and planning rules will be required.

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.4.2. *Water Management*

The PoM for the Guadalquivir includes 9 groups of measures related to agriculture. 1 measure is linked to mandatory legislation and cannot be financed by the CAP. 1 measure provides too little detail to assess¹⁷¹. None of the measure descriptions specifically mention that the measure is mandatory. 4 measures are specifically voluntary. 3 measures specifically target livestock holdings, and 2 measures specifically target arable farming. For the other measures, the descriptions are not specific to production or land type. The measures for livestock holdings include manure treatment, optimization of the use of agrochemicals, adoption of Management Plans for livestock sub-products, enlargement of the obligation to apply action programmes outside of nitrate vulnerable zones and maintenance and practice of organic farming and livestock holding

The PoM for the Ebro includes 5 measures, of which 3 measure groups are relevant for the assessment.. One measure relates to research and one to afforestation, which was not the focus of this study. The PoM mentions 19 agri-environmental measures within the RDPs of the different regions to address agriculture pressures. These include dissemination measures, purine treatment, cleaning of nitrates polluted wells, studies on pesticide pollution, support to good practice in nutrients management; and nitrates pollution control measures. Approximately 120 measures are included in the PoM under Type A8 for irrigation modernization, new irrigation areas, water supply infrastructure for irrigation, e.g. pumping schema, pond construction and and energy efficiency.

¹⁷¹ The description of the measure “Establishment of sustainable farming systems (Note: understood in this assessment as “integrated farming”)” does not provide information on which actions or commitments are exactly included. There is no further description provided in the RBMP beyond the fact that this measure addresses diffuse agricultural pollution (a package which often is CAP-funded), nor is the specific measure listed for any water body in risk as a measure to help achieving its environmental objectives.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Guadalquivir River Basin Management Plan	7	Diffuse pollution of nutrients and pesticides Water abstraction Morphological alterations	- Irrigation modernisation - Manure treatment. Optimization of the use of agrochemicals . Adoption of Management Plans for livestock subproducts in agricultural exploitations - Enlargement of the obligation to apply action programmes in nitrate vulnerable areas or outside of these	Yes	Yes, farmers	No, only limited information is provided ¹⁷²	No	Some measures: irrigation, advisory services and organic farming	Some measures - Impact indicators: reducing pressure on water resources; reducing nutrient leakage - Result indicators: sustainable water use – irrigation investments committed to improving water balance; share of farmers with support to investments related to care for the environment and climate; share of farmers receiving support for advice/training related to environmental-climate performance;

¹⁷² E.g. the document states that it will finance afforestation and river restoration but does not specify the exact type of actions within these measures.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing ?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			<ul style="list-style-type: none"> - Advisory services for agricultural holdings - Organic farming - Hydrological forestry restoration, including afforestation, soil protection and erosion control (and in other measures also targeting fauna and climate change adaptation) - River restoration 						sustainable pesticide use - Output indicators: Number of supported on-farm productive investments; Number of farmers trained/given advice; Number of ha with support for organic farming
Ebro River Basin	3	Diffuse pollution (no specific)	- 19 Agri-environmental measures of the Rural	No	Some measures, irrigator communities,	No, measures descriptions are very limited and list	PoMPoM only mentions that water-reuse projects and	Yes	Yes: - Impact indicators: improving water

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing ?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Management Plan		information provided) Water abstraction	Development programmes - Irrigation investments - Water re-use		farmers (not explicit)	potential options without detailing commitments	irrigation investments one-off investments		quality, reducing nutrient leakage; reducing pressure on water resources - Result indicators: protect water quality, sustainable nutrient management; sustainable water use - Output indicators: number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; number of investment projects

In the Guadalquivir, measures are grouped into these overarching categories without details on the individual measures within the group. The generic descriptions include some overall data as the overall budget; and annexed tables which include one line per each of the measures, informing about its name, the measure code, the measure type code, the classification under the WFD (obligatory, complementary), the name of the administration responsible, the state of implementation at date of the RBMP adoption, the overall budget for 2016-2021 and 2022-2027, the annual maintenance costs and the average annual costs of the measure. The measures on diffuse pollution appear are linked to the RDPs into the RBMP; however, no further details (than inclusion in an overview table) are provided. Regarding

abstractions, 20 measures target irrigation modernisation projects plus one measure for advisory services. There are a number of measures targeting river restoration, but the information within the RBMP is incomplete. Indicators to assess the impact, result or output of the measure are not mentioned in the document. However, the measure on irrigation can be linked to investment indicators. The measure on manure, which focuses on advice, can be linked to the indicators on farm advice. The measure on addressing nitrate pollution outside vulnerable zones, hydrological forestry restoration and river restoration provide too little information to link it to CAP indicators. In the future CAP, the measures on irrigation could be financed under the sectoral interventions or the investment measures under the rural development interventions. Irrigation is currently financed by the CAP in Spain and it is expected that this trend will continue. Depending on the actual requirements for the measures outside NVZs (not enough detailed provided), they could conceivably be financed by the CAP, but the RBMP and PoM provides too little information to make an assessment. Organic farming will likely be financed by the CAP in the future. Technically, depending on the requirements, river restoration could be financed by the investments measures under the rural development interventions. Here, the PoM provides too little information to make a judgement.

The information provided in the Ebro PoM varies widely among the measures. The document mentions agri-environmental measures the RDP but does not provide information on which sub-measures are being referred to. The PoM does not clarify the objectives of the agri-environmental measures, irrigation measures or water-reuse measures, nor if or how they contribute to reducing pressures or achieving the WFD objectives. Information on measure duration is provided for irrigation and water-reuse measures. Due to the limited information provided, it is difficult to link the measures to potential CAP funding. In the past, the CAP has financed irrigation and water-reuse so it can be assumed that this will continue in the next period. These two measures can link to the investment indicators and water saving indicators within the monitoring and evaluation framework. The measure linked to agri-environmental payments under the CAP provides not enough detail for further assessment.

5.4.3. Nature protection

Natura 2000 plans

Introduction

For three of the five Natura 2000 site management plans that were assessed (Albufera de Valencia , Es Trenc – Salobrar de Campos, Doñana National Park)) one measure was identified; for two, a group of measures was identified, each containing a set of sub-measures (3 in case of Bardenas Reales, 19 in case of steppe sites in Castille La Manche).

The measures address a range of land use types, including grasslands, arable land and permanent cropland (fruit and nut trees, olive groves, vineyards).

The measures do not include extensive information: the beneficiaries are not identified in any of the assessed plans, nor are measure durations defined and overall few details are provided. For two of the five site management plans (Doñana, 2016, and Bardenas Reales, 2017), the measures related to agriculture take the form of the development of recommendations that are then to be implemented, suggesting that measures directly applicable to farmers will be prepared in the future.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Albufera de Valencia (2004)	1	The measure calls for fostering agro-environmental practices. It refers to organic farming; pesticide/fertiliser management; soil conservation. The measure is for arable land (rice) and permanent cropland (horticulture)	No Overall objectives are clear; no details provided for the measure	No (Presumed to be farmers)	No ¹⁷³	No	No	Yes result indicator - Preserving habitats and species; Output indicator - Number of ha receiving support under Natura 2000 or the Water Framework Directive, Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements, Number of ha with support for organic farming
Es Trenc – Salobrar de Campos (2015)	1	The measure involves agreements with farmers for environmentally friendly practices,	No	Yes (Landowners and rights holders,	No	No	Yes (EAFRD)	Yes Impact indicator - Increasing farmland bird populations, Enhanced biodiversity

¹⁷³ Although the type of actions are described, details on the actual requirements to be taken by those implementing the measure are not provided.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		and groundwater preservation. The agreements cover cropland (cereals), permanent cropland (fruit trees) and grassland.		presumably including farmers)				protection; Environment-/climate-related performance through investment; result indicators - Supporting Natura 2000; Preserving habitats and species, Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive, Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements, Number of ha with support for organic farming
Doñana National Park (2016)	1	The measure is for recommendations on organic and integrated farming, soil conservation, without further details.	No (Neither specific objectives for the measure nor targets)	Yes (farmers and environmental agencies)	No	No	No	No (measure itself is for the preparation of recommendations, an indicator isn't clear)

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		For arable land, permanent cropland (vineyards, olives).						
steppe sites in Castille La Manche (2017)	1 group of measures containing 19 sub-measures	The measure is for actions to create / maintain habitats; organic and integrated farming; via commitments. A range of land use is covered, including arable land, grassland, permanent cropland, non-productive land	Some (targets are provided for some sub-measures ¹⁷⁴)	No (Presumably farmers)	No ¹⁷⁵ ()	No	No	Yes Impact indicators - Increasing farmland bird populations; result indicators - Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of ha with support for organic farming

¹⁷⁴ The only quantified objectives are: keeping large crops (sunflower, etc.) below 10% of the area and fallow at 15%. Other objectives refer to a “balance” among farming types (e.g. tree crops vs. annual crops), but without quantification.

¹⁷⁵ Although the type of actions are described, details on the actual requirements to be taken by those implementing the measures are not provided.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
Bardenas Reales (2017)	1 group of measures, with three sub-measures	The measure is for a set of recommendations for voluntary commitments for organic and integrated farming and for abandoning farming that creates erosion; there are rules for crop rotation and fallow. The measures cover arable land and permanent cropland.	Yes	No	No	No	No	Yes Impact indicators - Increasing farmland bird populations, Enhanced biodiversity protection; result indicators - Supporting Natura 2000; Preserving landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive, Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of ha with support for organic farming

Only one of the five assessed plans refer to the CAP as a financing source (Es Trenc – Salobrar de Campos). This was the EAFRD.

Assessment

Overall, it proved difficult to assess the possibility for the measures to be financed by the CAP due to the lack of multiple details, including identification of the intended beneficiaries, requirements and objectives of the measures as well as their duration.

Priority Action Frameworks (PAFs)

The PAFs of three Autonomous Communities (regions) were assessed: Andalusia, Balearic Islands and Castilla La Mancha. These regions were chosen to as they are the locations for some of the Natura 2000 sites whose plans were assessed.

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/ recurring</i>
Andalucía. Period 21/27	One central measure (with submeasures and specific sub-sub-measures) for agriculture, targeting stone-and cork-oak woodlands. Other measures also include specific sub-sub-	Organic production, integrated production, training and environmental commitments	Yes Identified as "expected result"	No Only in 2-3 lines without necessary technical details for implementation	No Pressures are not specified as such	Only One specific sub-measure will be financed under EFARD ¹⁷⁶	Yes Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services; Environment-/climate-related performance through investment; Result indicators - Supporting Natura 2000; Preserving habitats and species; Output indicators - Number of ha	one-off and recurring ¹⁷⁷

¹⁷⁶ Table 3.4 of the PAF refers to EARDF as specific funding instrument for the implementation of the measure 15.1.1 and its sub-sub measure – “Compatibilization of uses, including land management contracts”. It is however not mentioned for the other measures, e.g. support to organic and integrated farming practices.

¹⁷⁷ Each sub-sub measure includes information on whether the financing is recurring or one-time expenditure.

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
	measures for agriculture						receiving support under Natura 2000 or the Water Framework Directive; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of ha with support for organic farming; Number of supported non-productive investments	
Balearic Islands. Period 21/27	One measure for grasslands, including two sub-measures for agriculture	Erosion control, habitat conservation	Yes, though not stated as objective but as "expected result"	No ¹⁷⁸ ,	Yes; however the measures do not necessarily align clearly with the	No	Yes Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result indicators - Supporting Natura 2000; Preserving habitats and species; Output indicators - Number of ha receiving support	one-off and recurring ¹⁸⁰

¹⁷⁸ The measure descriptions overall are not very detailed in regards of technical practical implementation; however, they each include a brief 2-3 line description and mention specifically if they are recurrent or one-off financing.

¹⁸⁰ Each sub-sub measure includes information on whether the financing is recurring or one-time expenditure

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
					listed pressures ¹⁷⁹		under Natura 2000 or the Water Framework Directive; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements.	
Castilla La Mancha. Period 21/27	More than 4 measures (with submeasures) for agriculture, plus one measure for forestry (with submeasures)	Maintaining habitats, organic and integration production, and environmental commitments	<i>Yes, though not stated as objective but as "expected result"</i>	<i>No</i> ¹⁸¹ ,	<i>No, the pressures are not specified as such</i>	<i>Yes, to 2014-2020 EARDFEARDF as reference frame</i>	<i>Yes</i> Impact indicators - Increasing farmland bird populations; Enhanced biodiversity protection; Enhanced provision of ecosystem services; Environment-/climate-related performance through investment; Supporting Result indicators - Natura	<i>one-off and recurring</i> ¹⁸²

¹⁷⁹ The specific chapter of the PAF E.2.4 refers to grasslands, and as all other chapters it mentions (page 39) explicitly the different pressures on the habitat, including those from agriculture. In addition, the PAF also lists expected future pressures and specific pressures for some habitat types. However, the measure descriptions overall are not very detailed in regards of technical practical implementation; each include a brief 2-3 line description without being linked to a specific pressure.

¹⁸¹ The measure descriptions overall are not very detailed in regards of technical practical implementation; however, they each include a brief 2-3 line description and mention specifically if they are recurrent or one-off financing.

¹⁸² Each sub-sub measure includes information on whether the financing is recurring or one-time expenditure.

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
							2000; Preserving landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of ha with support for organic farming; Number of supported non-productive investments	

Summary

In all three PAFs, the measure descriptions overall are not very detailed in regards of practical technical implementation; however, they include a brief 2-3 line description. For Andalusia, sub-sub-measures are listed in one line and refer to specific habitats/species, and identify if they are recurrent or one-off financing. For the Balears, each measure provides further information regarding the cost per unit and the units targeted (number of SCIs, SPAs; however, no further details are provided). For Castilla La Mancha, the measures refer to a group of habitats/species addressed and mention specifically if they are recurrent or one-off financing, including the cost per unit.

All three PAFs provide expected results both in terms of benefits for habitats and species and for other socio-economic aspects.

Assessment

For all three PAFs, the measures can be linked to CAP indicators, though the PAFs have not explicitly stated this information. For all three, the measures identified can be financed by the CAP. Two of the assessed plans - Castilla La Mancha and Andalusia (1 -sub-measure) have specifically indicated EAFRD as a financing tool. The last assessed plan – the Balears - does not provide any information on the possibility for the measures to be financed by the CAP although based on the information provided it appears that it could be financed by the CAP.

5.5. France

5.5.1. Air Quality

France published a national emission reduction plan already in 2017, an NAPCP and information on policies and measures (PaM) via the xml file were published in October 2019. Nevertheless, the NAPCP refers to the 2017 documents and the accompanying process to develop the plan. The 2019 NAPCP does not provide details on the measures in most cases. The PaM provides some information for seven measures¹⁸³.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
7 (for one measure both regulatory and voluntary instruments are named as policy instruments)	Ammonia emissions PM emissions	low emission manure spreading techniques, rapid incorporation of slurry and manure Limiting the burning of agricultural waste	No	No	No	Yes	Some measures ¹⁸⁴ (1 out of 7)	Yes (indicator I.14)

¹⁸³ Helping investments to reduce the volatilization of ammonia in farms and during fertilizer application

Reduce the volatilization of ammonia from mineral fertilizers, in particular by reducing their emissivity potential, by encouraging their substitution by less emissive forms of nitrogen fertilizer and by adapting the practices and modalities of intake

Limit burning of agricultural residues from the 2019-2020 crop year

Mobilize European funding by the regions and implement an action plan to control air pollution of agricultural origin by region

Develop and disseminate good agricultural practices for air quality

Pilot projects to disseminate on-farm technologies and practices that help reduce ammonia or particulate emissions

Reduce the volatilization of ammonia from livestock effluents and other organic effluents spread on agricultural soils, taking into account the constraints of work organization, European regulations, climatic hazards and agronomic imperatives

¹⁸⁴ Mobilize European funding by the regions and implement an action plan to control air pollution of agricultural origin by region

The NAPCP does not provide for a detailed description how the measures will be designed and implemented. The PaM data describes one measure with an end date (*Reduce the volatilization of ammonia from mineral fertilizers, in particular by reducing their emissivity potential, by encouraging their substitution by less emissive forms of nitrogen fertilizer and by adapting the practices and modalities of intake*). The other measures do not have an end date.

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.5.2. Water Management

The PoM for the Adour-Garonne RBD in France includes 8 agriculture related measures, of which 6 are related to mandatory measures or administrative support like master plans and studies etc. and therefore cannot be financed by the CAP. These measures include 1) Global study and master plan to reduce pesticides, nitrates and phosphorus pollution, 2) Limiting inputs of fertilisers under the Nitrates Directive, 3) National Action Programme under the Nitrates Directive, 4) Develop and action plan in one single water catchment feeding area; 5) Development of an action plan in an area at risk of erosion; and 6) Reduce point source pollution measure specifically mentioned as a basic measure. These measures focus mainly on reducing nutrient and pesticide pollution. Measures for livestock farming are not included in the PoM. The PoM also includes a measure on water savings but too little information is provided to assess the measure.

The PoM for the Rhone River Basin District includes 12 measures related to the agriculture sector, of which 5 are related to administrative support like master plans and studies or mandatory measures under cross compliance. These measures include: 1) conduct a global study or a master plan about the reduction of diffuse or point source pollution from agricultural origin; 2) limit transfer of fertilisers and erosion in the framework of the Nitrates Directive; 3) reduce nitrogen pressures related to cattle raising in the framework of the Nitrates Directive; 4) limit inputs of fertilisers and/or use adapted fertilisation practices in the framework of the Nitrates Directive; and 5) Develop an action plan on one single area feeding a water catchment. Of the 7 remaining measures, 2 focus on livestock farming and the rest on arable farming. 2 measures are specific to nutrients pollution and 2 measure are specific to pesticide pollution, with two measures addressing both. One measure addresses water abstraction. All 7 measures link to CAP funding and the regional rural development programme.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Adour-Garonne River Basin	1	Nutrient pollution	- Sustainable practices like	Yes	No, farmers have been assumed	No	No	Yes	Yes:

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Management Plan		Pesticide pollution	organic production						- Impact indicators: improving water quality; reducing nutrient leakage; sustainable use of pesticides - Result indicators: protect water quality, sustainable nutrient management, sustainable pesticide use - Output indicators: Number of ha (agricultural) covered by environment/climate commitments; Number of ha with support for organic farming
Rhone River Basin Management Plan	7	Nutrient pollution	- Implement a water saving system in the field of agriculture	Yes	Yes	Yes	No	Yes	Yes: - Impact indicators: improving water quality; reducing nutrient leakage; sustainable use of

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
		Pesticide pollution Water abstraction Soil erosion	- Limit transfer for substances and erosion beyond the requirements of the Nitrates Directive - Limit inputs of fertilisers and/or use adapted fertilisation practices going beyond requirements of the Nitrates Directive - Limit inputs of pesticides in agriculture and/or use alternative practices to the use of plant protection products						pesticides; reducing soil erosion; reducing pressure on water resources - Result indicators: protect water quality; sustainable nutrient management; sustainable water use; sustainable pesticide use; Share of farmers with support in investments related to care for the environment and climate; Share of farmers receiving support for advice/training related to environmental-climate performance - Output indicators: number of ha (agricultural) covered by environment/climate

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>
			<ul style="list-style-type: none"> - Implement perennial practices (organic farming, grazing land, crop rotation, land management) - Reduce point source pollution from fertilisers going beyond the requirements of the Nitrates Directive - Reduce point source pollution resulting from pesticides used in agriculture 						commitments; number of supported on-farm productive investments

In the PoM for Adour-Garonne a general reference is made to the EAFRD and the RDP, but the PoM does not make a specific link to CAP funding per measure. The 2014-2020 RDP from Midi-Pyrennes, which is within the Adour Garonne Basin, includes a number of agriculture measures, including erosion-minimising measures, reducing pollution from fertilisers and pesticides, irrigation efficiency activities, preserving wetlands and swamps etc. M12 is also activated in drinking water protection areas. However, these RDP measures are not mentioned in the PoM despite being relevant for the achievement of WFD objectives. The PoM only mentions one measure on sustainable practices, referencing organic farming and general pollution reduction measures. According to the PoM, this measure is linked to the implementation of regional rural development programmes with “agri-environmental measures, such as measures in favour of organic farming or measures to encourage environmentally friendly practices in particular with regard to the use of inputs”. No further details are available on this measure such as information commitments, beneficiaries or duration. .

The PoM for the Rhone specifically links all the measures to the CAP, provides measure descriptions that provide enough information to enable an assessment that they could be further financed under the CAP Strategic Plans, either through the eco-schemes or the environmental, climate and other management commitments intervention under rural development interventions, and a link to indicators can be made. There is a section in the PoM explaining that “the measures of the nitrate action programmes and the measures imposed by the conditionality rules of CAP are financed by the agricultural sector. Agri-environmental measures and investment measures falling under the rural development regulation (implemented through regional rural development programmes) are co-financed by the EU, the French State, water agencies and municipalities.” While the PoM does not provide specific information on beneficiaries or measure duration, through the link already made to the EAFRD, one can assume that they are eligible for CAP support.

5.5.3. Nature protection

In France, the national PAF for 2014-2020 was reviewed (as the draft national PAF for 2021-2027 was not available at the time of the assessment). Five Natura 2000 Management Plans for following sites were reviewed:

- Bassigny partie Lorraine (ZPS FR4112011)
- Crau Sèche et Crau Centrale (ZSC FR9301595) and Crau (ZPS FR9310064)
- Forêt humide de la Reine et Catena de Rangeval (ZSC FR4100189 / ZPS FR4112004)
- Complexe de l'étang de Lindre, forêt de Romersberg et zones voisines (FR4100219/FR4112002)
- ZPS des Plaines du Mirebalais et du Neuvilleois (ZSC FR5412018)

Priority Action Frameworks (PAFs)

The French PAF lists 4 measures that were identified for agriculture. The four measures are:

- Implementation of Natura 2000 contracts
- Management measures: maintenance and improvement of the conservation status of habitats
- Management measures: maintenance and improvement of the conservation status of species
- Compensation measures

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
Format for a Prioritised Action Framework (PAF) for Natura 2000 For the EU Multiannual Financing Period 2014-2020	4	The measures all concern actions to create and maintain habitats favourable for biodiversity	No. The objectives of the measures are never made explicit, though they can be inferred.	No. The measure descriptions are very concise and do not provide any detail on their content.	No. The frequency of pressures related to certain activities is specified for habitats and species, but not their specific nature.	Yes. EAFRD is mentioned as a potential funding source.	Yes. None of the measures make an explicit link to any of the indicators, but such a link can be inferred for all.	Both one-off and recurring costs

Summary

The PAF lacks details on what the measures entail precisely, only providing a very general description amounting essentially to a title¹⁸⁵. The pressures and threats addressed by the measure are not specifically identified either. The measure descriptions identify EAFRD as a financing source.

Assessment

Although the PAF does not refer to any of the CAP indicators, it is possible to link each measure to more than one indicator in the current CAP proposal. The measure descriptions identify EAFRD as a funding source; while it is presumed that the measures could be financed under the new CAP proposal, there is not enough information in the PAF to make a definitive determination.

Natura 2000 plans

Introduction

In total, 32 measures were identified in the five Natura 2000 site management plans that were assessed.

All 32 measures identified in the five Natura 2000 site management plans involve voluntary commitments to be taken by farmers, landowners and holders of land rights are also cited as beneficiaries; in some cases, local authorities, NGOs and other bodies. All five sites have measures that address grazing on grasslands; other measures address landscape features such as hedgerows or grassland ponds. In addition to grasslands, the measures also address cropland, permanent cropland and non-productive land (the specific types vary across the plans). The measures include rules for stocking levels for grazing, for pesticide and/or fertiliser use and for habitat restoration.

All five site plans contain details on the specific requirements to be followed. For example, the plan for the Plaines du Mirebalais et du Neuvillois provides a fiche of 2-3 pages for each measure, identifying the overall plan objectives addressed, the species of Community interest concerned, the area, quantitative targets as well as the specific actions required¹⁸⁶. Similar information is provided in the plan for Crau Sèche et Crau Centrale and Crau: this plan also contains a map identifying the area where each measure should be undertaken. The three other plans provide shorter fiches but cover the same topics: for the Forêt humide de la Reine et Catena de Rangeval, each measure fiche is one page long.

The plans refer to commitment schemes financed under the CAP (most without directly mentioning the CAP or RDPs), though some of the commitment schemes appear to be financed only from national sources.

¹⁸⁵ For example, the first measure identified – on the implementation of Natura 2000 contracts – states as a description that the measure involves, for agricultural areas, the implementation of territorial agri-environmental measures financed via EAFRD (the measure itself is broader and also includes forestry contracts, aqua-environmental measures and contracts that are neither for forestry nor agricultural land – for the latter, ERDF, ESF and LIFE funds are also identified)

¹⁸⁶ The measure for favourable grass surfaces – *Pour les surfaces en herbe favorables* – contains one page of bullet points on specific actions to be taken: e.g. for Harrier nesting areas, mowing should take place after 15 September.

Overview table (Natura 2000 plans)

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Bassigny partie Lorraine (2009)	6	Most measures: <i>Actions to create or maintain habitats (& landscape) and commitments;</i> Involving rules on grazing, mowing, burning, pesticide/ fertiliser use; For grasslands especially; also permanent cropland, wetlands	Yes	Yes (Farmers, landowners, holders of land rights, producer organisations)	Yes	Yes: in all cases, a min. of 5 years	Indirect: reference to commitment schemes financed under CAP	Yes
Forêt humide de la Reine et Catena de Rangeval (2012)	6	Most measures: <i>Actions to create or maintain habitats (& landscape) and commitments;</i>	Yes	Yes (Farmers, landowners, holders of land rights, public and private land managers)	Yes	Yes: in all cases, a min. of 5 years	Indirect: reference to commitment schemes financed under CAP	Yes

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		<p>Involving rules on grazing, mowing, burning, pesticide/ fertiliser use, restoration and maintenance of landscape;</p> <p>For grasslands especially; also arable land, non-productive land, wetlands</p>						
<p>Complexe de l'étang de Lindre, forêt de Romersberg et zones voisines (2017)</p>	6	<p>Most measures: <i>Actions to create or maintain habitats (& landscape) and commitments;</i></p> <p>Involving rules on grazing, mowing, burning, pesticide/ fertiliser use, restoration and maintenance of landscape;</p> <p>For grasslands especially; also</p>	Yes	<p>Yes</p> <p>(Farmers, landowners, holders of land rights, public and private land managers)</p>	Yes	Yes: in all cases, a min. of 5 years	Indirect: reference to commitment schemes financed under CAP	Yes

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		arable land, non-productive land, wetlands						
Crau Sèche et Crau Centrale, Crau (2015)	10	<p>Most measures: <i>Actions to create or maintain habitats (& landscape) and commitments;</i></p> <p>Involving rules on grazing, mowing, burning, pesticide/fertiliser use, restoration and maintenance of landscape;</p> <p>For grasslands especially; also arable land, non-productive land, wetlands</p>	Yes	<p>Yes</p> <p>(Farmers, landowners, also producer organisations, NGOs, municipalities, government agencies and research organisations)</p>	Yes	Yes: in all cases, a min. of 5 years	Indirect: reference to commitment schemes financed under CAP	Yes
ZPS des Plaines du Mirebalais et du Neuvillois (2011)	4	<p>Most measures: <i>Actions to create or maintain habitats (& landscape) and commitments;</i></p>	Yes	<p>Yes</p> <p>(Farmers, landowners, local authorities, hunting association)</p>	Yes	Yes: in all cases, a min. of 5 years	Indirect: reference to commitment schemes financed under CAP	Yes

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		Involving rules on mowing, pesticide/ fertiliser use, maintenance of landscape, feeding, breeding, shelter of species; For grasslands, arable land, non-productive land						

Nearly all the measures are indicated as voluntary (i.e. to be undertaken via commitments). No references were found to cross-compliance. All the measures can be attributed to some SMRs (mainly numbers 3 and 4) and to GAECs. Based on the information available in the plans – including measure descriptions indicating that all measures are voluntary – it appears that all of the measures identified could be financed under the CAP proposal.

As noted in the table, all the measures in each plan could be linked to indicators in the CAP proposal. The identification of indicators was based on expert judgement. While the specific indicators that could be used vary from measure to measure, the following indicators were seen in all plans and for nearly all measures:

Impact indicators:

- Increasing farmland bird populations: Farmland Bird Index (6 out of 32 measures)
- Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends (22 out of 32 measures)
- Enhanced provision of ecosystem services: share of UAA covered with landscape features (18 out of 32 measures)

Result

- Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration (23 out of 32 measures)

- Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows (20 out of 32 measures)
- Preserving habitats and species: Share of agricultural land under management commitments supporting biodiversity conservation or restoration (11 out of 32 measures)

Output:

- Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements (18 out of 32 measures)

Assessment

Nearly all the measures were funded via the CAP at the time of the programmes – in most cases, via commitment schemes under Rural Development Programmes. It appears, on the basis of the information available, that the measures could still be financed under the new CAP proposal.

5.6. Italy

5.6.1. Air Quality

The Italian NAPCP includes six measures for limiting of ammonia emissions from the use of fertilisers, manure storage, low-emission manure spreading technologies.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
4	Ammonia emissions	low emission fertilizer application low emission manure spreading techniques, low emission manure storage systems	Yes	No	No	No	No	Yes (Indicator I.14)

The NAPCP does not provide for a detailed description how the measures will be designed and how and when they will be implemented. No reference to CAP financing and no information on costs are provided for these measures.

Four out of the six measures (incorporation of urea fertilisers, surface applied slurry incorporation, spreading of materials, floating cover) will be implemented by voluntary instruments and might thus be financed under CAP. According to the NAPCP, two measures (spreading of non-palpable material, prohibition of new lagoons) will be implemented by regulations. No details on these regulations are provided in the NAPCP.

Indicator "I.14 Improving air quality: Reduce ammonia emissions from agriculture" in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called "Informative Inventory Report" and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.6.2. *Water Management*

The PoM for the Po River Basin District includes 16 agriculture related measure, of which 1212 are mandatory, administrative type measures either linked to legislation that is part of cross compliance or falls under basic measures of the WFD and therefore cannot be financed by the CAP. These measures focus on administrative actions like advice, controls, setting standards, etc. and include; 1) Updating of Nitrate Vulnerable Zones from agriculture and application and review of Action Programs pursuant to Directive 91/676 / EEC and Directive 2000/60 / EC; 2) update to the Ministerial Decree 7/2006 containing criteria and general technical rules for the regional regulation of agronomic use of livestock manure (it has been updated by DM 5046/201). The updates include the possibility to utilise biogas sludge and sewage sludge as organic fertilisation instead of chemical fertiliser; 3) Farmers' surveillance activity in relation to the agronomic use of livestock effluents; 4) Identification of plant protection vulnerable zones; 5) Application of the measures implementing the National Action Plan for the sustainable use of plant protection products; 6) Application of the basic measures envisaged by legislative decree 150/2012 for the sustainable use of plant protection products; 7) share and apply the standards and criteria set at national level for the reuse of water in agriculture on the basis of the EU document "Proposal (Regulation) of instruments to establish common quality standards to support water reuse – 2015"; 8) Application of national guidelines applicable to the EAFRD for the definition of homogeneous criteria to regulate the methods of quantification of the water volumes used by end users for irrigation use; 9) Mapping of the efficiency of irrigation use and identification of savings targets and / or increase in efficiency at different territorial scales (water body, irrigation scheme / consortium, sub-basin, district); 10) Implementation of plans for the reduction of withdrawals for the achievement of targets at the various territorial levels to guarantee the water saving target defined by the Water Use Plan at district level - Irrigation sector; 11) Increased knowledge on the possibility of identifying alternative sources of supply to guarantee, over the medium-long term, the availability of the resource for agricultural uses in areas at risk of water crisis; and 12) management of groundwater withdrawals.

Four measures are farm level measures. These measures are summarized in the table below:

The PoM for the Sardinia RBD includes 5 measures linked to agriculture, of which 3 are linked to mandatory legislation and therefore cannot be financed by the CAP. The administrative measures include:

- 1 Measure group on reducing nutrient pollution of agricultural origin, which includes the sub-measures to encourage the recovery and disposal of wastewater and by-products of agricultural and agroforestry origin, regional guidelines for the use of sewage sludge in agriculture and preparation of regional guidelines for the correct exercise of agro-pastoral and silvicultural activities;
- 2 Measure group to reduce pesticide pollution in agriculture, including adoption of regional legislation on the criteria for the delimitation and management of safeguard areas of surface and underground water collection points intended for human consumption and program for the adjustment of the existing catchments; identification of areas for the protection of surface water and groundwater intended for human consumption; identification of groundwater recharge areas and of reserve areas; and implementation at regional level of Directive 2009/128 / EC on the sustainable use of plant protection products in the hydrographic district of Sardinia.
- 3 Measure group to reduce water abstraction, including update of the procedures for the management and monitoring of concessions for surface and underground water extraction/withdrawal (with particular reference to maintenance and updating of the register of catchments); planning and rationalization of annual water volumes to be used for different uses (civil, irrigation, industrial, environmental); regulation of the methods of quantifying water volumes for irrigation use in implementation of the Ministerial Decree of 31 July 2015; and updating and development of the drought monitoring

system through the integration of indicators on the status of the basins with indicators based on the processing of continuously updated meteorological data.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Po River Basin Management Plan	44	Nutrient pollution Pesticide pollution Water abstraction	<ul style="list-style-type: none"> - Realization of buffer strips / filter ecosystems along the natural and artificial plain network - Actions for the mitigation of agricultural impact to be correlated to the measure envisaged by the RDPs for "water directive compensation" and "habitat directive indemnity" (specify individual interventions) - Application of measures under the Rural 	Yes	Yes, farmers	No	No	Yes	Yes: - Impact indicators: Improving water quality; Gross nutrient balance on agricultural land; Reducing nutrient leakage - Result indicators: Protect water quality; sustainable nutrient management - Output indicators: Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of supported non-productive investments; Number of ha receiving support

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			Development Programmes (RDP 2014-2020) - Use of integrated environmentally friendly nutrient collection or removal systems (N, P)						under Natura 2000 or the Water Framework Directive
Sardinia River Basin Management Plan	2	Nutrient pollution Water abstraction	- Measures to reduce nutrient pollution of agricultural origin like buffer strips - Measures to ensure an efficient and sustainable use of water	Yes	Yes, farmers and water boards	Yes	No	Yes	Yes: - Impact indicators: Improving water quality; Reducing nutrient leakage – Nitrate in ground water; Reducing pressure on water resource: Water Exploitation Index Plus (WEI+) - Result indicators: Protect water quality; Sustainable

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
									nutrient management; Sustainable water use – irrigation investments committed to improving water balance; Share of farmers with support in investments related to care for the environment and climate - Output indicators: Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of supported on-farm productive investments

In the Po, the PoM groups measures related to agri-environment-climate measures financed under regional RDPs but does not provide information on which sub-measures have been included. M12 – the measure on mandatory actions for farmers to take due to the WFD – is mentioned in the PoM without providing any details. Detailed information on which type of production or on which type of land the measures will be implemented is not provided. The measure descriptions lack detail

in that titles of measures are provided without further text on the exact commitments required by each measure. The PoM links the four measures in the table above to the CAP but the information provided overall is too limited to provide expert judgement.

In the Sardinia River Basin, measures are grouped according to pressures. Each groups of measures includes a number of sub-measures, all with the same objective. The objectives are clearly described. Within each group, the measures include administrative actions, such as implementing legislation, providing advice, mapping areas, registers, etc., as well as measures at farm level. The farm level measures include 1) measures to reduce nutrient pollution of agricultural origin like buffer strips and 2) measures to ensure an efficient and sustainable use of water focussing on irrigation efficiency. The administrative measures are mandatory, whereas the farm level measures are voluntary. The technical measures are linked to the regional RDP, although no information is provided as to type of production or land being targeted, costs being covered and minimum requirements setting the baseline for the measures to be financed. Nevertheless, the measures could continue to be financed in the next programming period under the eco-schemes or the environment and climate interventions under rural development.

5.6.3. *Nature protection*

The assessment reviewed five Natura 2000 plans in Italy that are relevant for agriculture. A draft PAF for the 2021-27 period was not available for review.

Natura 2000 plans

Introduction

In total 26 agriculture-relevant measures were identified in the five Natura 2000 site management plans reviewed in Italy. Generally, the objectives, pressures and actions to be taken are well described. All measures contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes and some also foster sustainable development and efficient management of natural resources such as water, soil and air. Only one plan that was assessed (Paludi di San Genuario e San Silvestro) provides the duration of the measures identified¹⁸⁷. The measures tackle a range of pressures and undertake a variety of actions: the most common pressures targeted include intensive pesticide use, intensive fertiliser use, inefficient irrigation, crop specialization, waste residues, intensive grazing and water drainage. All measures described in the table below can be linked to CAP indicators, although the plans themselves do not provide any indicators, so the assessment is based on the expert judgment given the information available concerning their objectives and actions.

¹⁸⁷ Measure 1 (one off investment) - The plan specifies that the guidelines will be drafted in less than one year from the adoption of the plan. The rest of the assessed 5 measures - The plans state that these measures are permanently active thus in the category of minimum 5 years.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
IT2080023 GARZAIA DI CASCINA VILLARASCA (2011)	3	Rules on preservation the alter habitat; rules on creation of linear vegetation structures; rules on biodiversity conservation	Yes	Yes (forest managers and landowners)	Yes	No	For 1 measure ¹⁸⁸	Yes Impact indicators - Increasing farmland bird populations; Enhanced provision of ecosystem services; Result indicators - Protecting forest ecosystems: Share of forest land under management commitments for supporting landscape, biodiversity and ecosystem services Sustainable water use – irrigation investments committed to improving water balance

¹⁸⁸ Conservation and creation of linear vegetation structures -The plan explicitly mentions the possibility to use RDP funds and links this measure to measure 214 - Action F "Maintenance of plant structures linear and wooded buffer strips " and measure 216 - "Non-productive investments", type A.1) Creation of hedges, rows of trees and wooded buffer strips of the 2007-2013 RDP of Lombardia.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								; Protecting habitats and species; Supporting Natura 2000; Output indicators - Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements
IT1120029 (Paludi di San Genuario e San Silvestro), Piemonte (2014)	6 (grouping a series of sub-measures)	Guidelines preparation; environmental improvement measures; rules on channel maintenance/irrigation network; certified environmental management system for economic operators including farmers; promotional activities for sustainable development; land purchase and conservation of habitat and species within	Yes	Yes (Environmental agencies, research organizations, farmers, Producer organisation or group of producer organisations; landowners)	Yes	Yes	Yes	Yes Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of supported non-productive investments

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
IT5210033 (Boschi Sereni Torricella), Umbria (2011)	6	Rules on agricultural residues; rules on pastures; rules on landscape conservation; rules on fertilizers; traditional farming activities preservation; restoration of hedges	For 1 only ¹⁸⁹	Yes (farmers, landowners)	Yes	No	No	Yes Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services Result indicators -, Supporting Natura 2000; Preserving habitats and species.; Output indicators - Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements;
IT4080001 (Foresta di Campigna, Foresta la Lama, Monte Falco), Emilia Romagna (2018)	1	creation and maintenance of drinking pools	Yes	No	Yes	No	No	Yes Result indicators - Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows

¹⁸⁹ Measure 3 Protection of the landscape and ecological niches - The measure is aimed at the conservation of the landscape and ecological features. For the rest of the measures, the Plan does not specify the specific objectives, it only states that it is a conservation measure.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
Management plan for the site IT20A0004 (Le Bine), Lombardia (year not provided)	10	Rules on moving, raking to protect wildlife; rules on chemicals and fertilizers use; rules on setting aside arable land; biodiversity/landscape protection; rules on organic farming; rules on agricultural wastewaters, training and awareness raising	Yes	For some only farmers ¹⁹⁰ and farmers and agronomy technicians ¹⁹¹ ;	Yes	No	No	Yes Impact indicators - Enhanced biodiversity protection; Result indicators - Preserving habitats and species, Supporting Natura 2000: Preserving landscape features; Output indicators - Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of farmers trained/given advice

Generally, the plans do not clearly identify which measures are mandatory and which ones are voluntary. Exceptions are found: in the Garzaia di Cascina Villarasca plan, the measures are voluntary; in the Le Bine plan as well as Paludi di San Genuario e San Silvestro, they are of an 'incentive' nature. It is not clearly stated whether the measure is mandatory or voluntary. However, since it states that the measure is about 'incentives' to farmers, it appears to be a voluntary measure.

¹⁹⁰ For measure 9 - Requirements regarding agricultural wastewater and nutrient management; measure 8 - Promote and encourage organic farming; measure 7 - Investments for the protection of Albanella minore (Circus pygargus); measure 6 - Encourage the reduction of nitrates into surface waters;

¹⁹¹ For measure 10 - Training and awareness about species protection

Moreover, measures in the plan for Paludi di San Genuario e San Silvestro¹⁹² and Boschi Sereni Torricella¹⁹³ appear to be mandatory, as the plans refer to 'regulation' or state that a measure is in a form of a ban. However, there was not sufficient information to conclude whether these measures could satisfy requirements of Article 67 of the CAP proposal with regards to compensatory measures provided to farmers in Natura 2000 areas.

Based on expert judgement, some measures including the ones of 'incentive' type were considered to go beyond SMR3 and SMR4 and/or relevant GAECs as they were indicated as voluntary for farmers in the Natura 2000 site. However, there was not sufficient information to make a conclusive statement concerning this point. Some of the measures are already linked to the RDP or the plans explicitly mention the possibility to apply for funding under the RDP. None of the assessed plans refer to cross-compliance, however.

Assessment

Overall, two plans make explicit links to the CAP, namely to RDPs¹⁹⁴. Moreover, measures in the Plan Paludi di San Genuario e San Silvestro and nine of ten measures in the Plan Le Bine are clearly voluntary. The remaining measures cannot be conclusively linked to the CAP funding as there is not sufficient information to state whether they are voluntary or mandatory and whether they go beyond enhanced conditionality. In addition, information necessary for the assessment is often missing (e.g. duration, type of beneficiaries, costs), so a conclusion is not possible to make.

¹⁹² Preparation of guidelines for the implementation of the plan

¹⁹³ E.g Prohibition of accumulation of agricultural processing residues; Protection of the landscape and ecological niches

¹⁹⁴ Paludi di San Genuario e San Silvestro), Piemonte; Garzaia di Cascina Villarasca

5.7. The Netherlands

5.7.1. Air Quality

No additional measures are required in the Netherlands to comply with the emission reduction commitment for NH₃. Therefore, no information is provided in the NAPCP on additional measures for ammonia abatement.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>
NA	Ammonia emissions	NA	NA	NA	NA	NA	NA	NA

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.7.2. Water Management

The National level Programme of Measures for the Netherlands provides very little information regarding agricultural measures.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
All basins	1	Diffuse pollution of nutrients and pesticides Water abstraction	- Delta Plan Agricultural Water Management	Yes	Yes, farmers	No	No	No	No

The national PoM describes the Delta Plan Agricultural Water Management without providing any details on the information provided. The document provides detailed information on key objectives, including quantitative targets to be achieved. However, no further details are provided on measures, thus it is not possible to assess whether they are linked to the CAP or can be financed through the CAP in the next management period.

5.7.3. Nature protection

Five Natura 2000 site management plans were reviewed¹⁹⁵. However, only one Plan – Polder Zeevang (2013) - is included in the assessment below as none of the remaining four plans is related to agriculture (neither NGOs nor DG Environment nor a request to national authorities were able to identify appropriate plans)¹⁹⁶. A draft Dutch PAF was not available at the time of the assessment.

Natura 2000 plans

Introduction

In the Netherlands, 1 group of measures relevant for agriculture was identified in the Polder Zeevang Plan from 2013.

This group of measures is linked to the management of meadow bird areas and meadow bird populations. The plan does not clearly set out the pressures that the measure addresses. Some pressures are expected to come from agriculture, as the measure puts in place 'adapted agricultural management' – covering changes in a series of agricultural practices (e.g. periods of prohibition of grazing) to protect bird species. These includes prevention of active agricultural activities (in certain periods) that can prevent meadow birds from nesting.

The groups of measures relevant to the CAP are:

- Measures for setting up plots of land for pond in the spring in order to attract meadow birds.
- Measures which allow meadow birds access to grassland to breed and forage.

This group of measures covers a rest period in the nesting phase in which agricultural activities are not permitted. This rest period runs from at least 1 April to 1 June, but can possibly extend well into the summer for certain species.

Information on the objective of the group of measures and its description is provided in the plan. The duration of the measure implementation is also specified (2013-2019) as well as beneficiaries (land managers).

Conservation and other objectives have been established for the Zeevang Polder for the habitat of nine bird species (designated under the Birds Directive). The management plan includes a detailed overview of the bird species that are to be protected with these measures – including current populations, trends, habitat, ecological requirements, obstacles for maintenance of the habitat, and the development of the conservation objectives in terms of space and size.

¹⁹⁵ Beheerplan Natura 2000, Polder Zeevang (2013), De Wieden en Weerribben (2017), Oeffelter Meent (2016), Grote Peel (Noord Brabant) (2016), Sallandse heuvelrug (2016)

¹⁹⁶ The national expert explained that the approach in Netherlands is fragmented, with a total of 160 relatively small Natura 2000 sites designated for specific natural habitats/species.

The measure can be linked to some of the CAP indicators as detailed in the table below, although the plan itself does not detail any indicators and the assessment was based on the expert judgment given the objectives and actions described for the measures assessed.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and of types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Beheerplan Natura 2000, Polder Zeevang (2013)	1 (grouped) ¹⁹⁷	Rules to protect meadow birds in grasslands	Yes ¹⁹⁸	Yes (agricultural land managers)	Yes	Yes ¹⁹⁹	Yes ²⁰⁰	Yes Impact indicators - Increasing farmland bird populations: Farmland Bird Index Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends; Result indicators - Supporting Natura 2000; Preserving habitats and species.

¹⁹⁷ Continuation of the current management (Chapter 4 of the Plan) – groups of measures to ensure birds nesting and foraging

¹⁹⁸ The objective of the measures is to ensure that part of the land can be used by birds for nesting and foraging (in certain periods of the year).

¹⁹⁹ The plan applies for the period 2013-2019.

²⁰⁰ The measures for meadow birds are listed in the national Index for Nature and Landscape, which refers to possible funding under the RDP.

Generally, the objectives, pressures and targets are described. Although the Plan does not specify this, the measures appear to be linked to SMR 3 and GAEC 9. The Plan does not refer to the CAP or CAP conditionality requirements and it is also not clear if the measures go beyond the specific requirements. Nevertheless, it is specified that the measures are voluntary. The measures for meadow birds are listed in the national Index for Nature and Landscape, which refers to possible funding under the RDP. This implies that the measures could be supported under the future Strategic Plans.

Assessment

Based on the information above, the identified group of measures could potentially be funded by the CAP (the measure is voluntary, can be linked to the CAP indicators and appears to be linked to the RDP funding existing at the time). However, as the information on whether the measures go beyond the cross-compliance requirements is not provided, it cannot be conclusively stated whether this measure could be funded by the future CAP. It is also important to bear in mind that different interventions under the future CAP can mean that some measures could be funded through the RDP and others through eco-schemes. It is not possible to give conclusive statement on this, however.

5.8. Austria

5.8.1. Air Quality

The Austrian NAPCP does describe only options for measures that will be considered in the future. Overall, five options for measures and an additional measure for enhanced implementation of these measures are described. The options for measures cover livestock feeding strategies, low-emission manure spreading techniques, low-emission manure storage systems, low-emission animal housing systems, limiting ammonia emissions from the use of mineral fertilisers.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
5 options for measures	Ammonia emissions	livestock feeding strategies, low-emission manure spreading techniques, low-emission manure storage systems, low-emission animal housing systems, limiting ammonia emissions from the use of mineral fertilisers	Yes	No	No	No	No (Chapter 6.3.1 of the NAPCP describes the importance of the CAP proposal for the future instruments and measures to reduce NH ₃ emissions)	Yes (Indicator I.14)

As the NAPCP includes only options for measures, it is not clear yet how and when the measures will be designed and implemented.

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.8.2. Water Management

The Catalogue of Agriculture measures in Austria “i.e. the Programme of Measures to address agriculture pressures” indicates that the measures included in the document are a compilation of potential measures and their selection is not legally binding, i.e. the document should be viewed as a type of “toolbox” from which measures can be selected from depending on needs and financing. 12 agriculture measures are described. All the measures are currently included in the 2014-2020 RDP for Austria and are therefore voluntary. All the measures target diffuse nutrient pollution. Pesticide pollution is not addressed. 10 of the measures are technical farm level measures (i.e. reducing fertiliser use, cover crops, etc.), one measure focuses on supporting farmers with calculating nutrient balances and one focuses on farm advice. All the measures include sub-measures with different options for farmers. Both arable and livestock farming is addressed, although measures on arable land are more predominant.

Programme	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined ?	Types of beneficiaries clearly defined ?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Austrian National Programme of MEasures	212	Diffuse pollution of nutrients	- Maintain existing permanent grassland and/or conversion of arable land into permanent grassland - Green Fallow and Buffer Strip - Landscape elements	Yes, for all measures	Yes, farmers are the beneficiaries for all	Yes, extensive information on what the measure entails, its potential benefits for reducing	Yes – 5 years, as defined in the AT Rural Development Programme	Yes	Yes for all measures: - Impact indicators: improving water quality; reducing nutrient leakage

Programme	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined ?	Types of beneficiaries clearly defined ?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			<ul style="list-style-type: none"> - Greening arable land - Terraces - Reduced Tillage - Crop Rotation - Measures to reduce fertilisation and/or prohibition of fertilisation - Application of fertiliser based on nutrient content of the soil - Direct injection of fertilisation - Nutrient balances - Farm advice and further training 		measures	nitrogen and phosphorus inputs into water, potential barriers to implementation by farmers, and average compensation rates			<ul style="list-style-type: none"> - Result indicators: protect water quality; sustainable nutrient management; share of farmers with support in investment related to care for the environment and climate; share of farmers receiving support for advice/training related to environmental-climate performance - Output indicators: number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements

The Programme of Measures for Agriculture in Austria provides very detailed information on each measure. Each measure is specifically linked to the current (2014-2020) RDP. Therefore, while the beneficiary and duration are not specifically defined, it is clear that farmers are targeted and the duration is 5 years. Indicators to assess the impact, result or output of the measure are not mentioned in the document. However, the document specifically mentions that all three types of sub-measures under this category are highly effective at reducing nitrogen emissions into ground and surface water, as well as highly effective at reducing phosphorus emissions in surface water. As such, it is possible to link the measures to the impact and result indicators relating to improving/protecting water quality and reducing nutrient leakage are ticked, as well as to the output indicator on number of ha covered by environment/climate commitments going beyond mandatory requirements. The measures contained within the document could be financed under the rural development interventions in the next cycle. Given that some of the measures are more basic in their requirements, it could be foreseen that some are included under the eco-schemes in pillar 1.

5.8.3. *Nature protection*

In Austria, the draft national PAF for the period 2021-2027 as well as the Natura 2000 Management Plans for the following Natura 2000 sites were analysed (dates of publication in brackets):

- Ortolan-Vorkommen Silz-Haiming-Stams (2007)
- Lower Taun (2011)
- Western Weinviertel (2009)
- Lafnitztal und Neudauer Teiche (2014)
- Mattersburger Hügelland (2016).

Priority Action Frameworks (PAF)

The draft Austrian PAF lists 15 measures for the five agriculture related habitats in its Natura 2000 network. Due to the lack of information provided in the document on each measure, the 15 measures were grouped into five categories with measures with the same title but indicated as one-off or recurring treated as one measure. In addition, maintenance measures with mostly the same requirements but with minor differences were grouped together as well. The measure titles listed below provide some illustrative examples of the type of actions eligible for funding; no further details are provided in the PAF:

- Measure category 1: Restoration and maintenance of existing landscapes and/or natural water management
 - Initial measures, such as clearing, mulching, milling, removing young trees and combating invasive species (one-off/recurring)
 - Initial measures, such as clearing, mulching, milling, removing young trees, combating invasive species and re-establishment of the natural water regime (one-off/recurring)
 - Initial measures, such as clearing, mulching, milling, removing young trees, combating invasive species, sowing planting and sowing of grasslands (one-off/recurring)
- Measure category 2: Management measures and contractual nature conservation measures

- Management measures adapted and/or oriented to the protected area (mowing, grazing), contractual nature conservation measures (one-off/recurring)
- Contractual nature conservation, compensation payments (water management and maintenance measures for riparian areas, etc.) (one-off/recurring)
- Measure category 3: Protected species-related projects
 - Projects targeting protected species (one-off/recurring)
- Measure category 4: Maintenance and protection of structural landscape elements
 - Initial measures and measures for the structural improvement of habitats (hedges, landscape elements, ground breeding measures, flowering strips, clearing, mulching, milling, removing young trees, combating invasive species, fallow land) (one-off/recurring)
- Measure category 5: Renaturation of watercourses and adjacent habitats
 - Renaturation of watercourses and adjacent habitats

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/recurring</i>
Austria draft PAF 2021-2017	15	- Restoration and maintenance of existing landscapes and/or natural water management (measure category 1) - Extensive management and contractual nature protection measures	No, objectives are not defined at measure level but at programme level	. No. The measure descriptions provide general descriptions of the type of actions needed to meet the conservation objectives for different habitat types and species without setting out detailed requirements.	No, pressures are not defined at measure level but broadly described for broad land use types and associated habitats and species.	Yes, the EAFRD is identified as a potential source of funding for all measures.	Yes: Result indicators - Share of farmers with support in investments related to care for the environment or climate - Area in Natura 2000 sites under commitments for protection, maintenance and restoration - Share of agriculture land under commitments for	The PAF indicates that both the one-time as well as recurring implementation of measures grouped into categories 1-4 can be financed; measures under category 5 can only be financed once. The exact types of the costs

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
		(measure category 2) - Protected species-related projects (measure category 3) - Conservation and maintenance of structural landscape elements (measure category 4) - Restoration of water bodies and freshwater habitats (measure category 5)					managing landscape features, including hedgerows - Share of agricultural land under management commitments supporting biodiversity conservation or restoration Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive - Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements - Number of supported non-productive investments	covered are not detailed.

The PAF only provides a very high-level description of the types of measures to be implemented to meet Austria’s strategic conservation targets for the Natura 2000 network. The draft PAF provides few details on the measures one table lists the priority measures to be implemented within Natura 2000 and one those to be implemented outside Natura 2000 sites. Each table gives a short description of the measure, the frequency with which it should be implemented (one-off or recurring), the approximate costs and the potential funding source. For example, “Initial measures, such as clearing, mulching, milling, removing young trees, combating invasive species, planting and sowing of grasslands” are listed as a one-off as well as a recurring measure. The one-time implementation is costed at 1

752 EUR/year and at 173 000 EUR/year for a recurring implementation. The EAFR and LIFE are identified as potential sources of funding. The EAFRD is identified as a potential source of funding for all measures. Information is not provided on who will carry out the measures, their duration, or which costs are covered.

Assessment

Since all the measures are linked to the EAFRD, it can be assumed that measures could potentially be funded under the eco schemes or rural development interventions to be established through the new CAP.

Natura 2000 plans

In total 13²⁰¹ measures relevant for agriculture were identified in the four Natura 2000 site management plans assessed for Austria. Apart from the Management Plan for the Natura 2000 site “Wester Weinviertel”, all plans explicitly link the measures to pressures or impacts related to agriculture. The majority of measures aim to create or maintain habitats for various bird species through the preservation and restoration of existing landscape features and elements including extensive grasslands, tress, terrace slopes, dams, embankments, hedges, and shrubs as well as orchards and fruit rows. Three measures specifically focus on the protection and development of specific habitat types, including extensive meadows, water bodies, and alluvial forests. Two measures seek to generally extensify agricultural practices in the sites to benefit bird species and avoid disturbance of breeding grounds²⁰².

The most common pressures addressed include intensive grazing, increased nutrient inputs from pesticides and fertilisers, as well as loss of landscape features and elements. Many measures therefore set out restrictions on mowing, grazing, fertilizer, pesticide and machinery use as well as cultivation times and crop times to implement the measures and achieve the intended conservation goals. All the measures can be linked to the indicators in the CAP proposal, although the plans themselves do not detail any indicators (consequently, the assessment of indicators was based on expert judgment based on the information available concerning objectives and actions).

Three out of the 13 measures are clearly identified as being voluntary; no indication is provided for the other measures.

²⁰¹ The management plan for the Lower Traun Natura 2000 Site splits the measures between area-specific measures and habitat-specific measures. There are five area-specific measures which do however not provide enough detail for assessment. The assessment presented here focused on the four habitat-specific measures.

²⁰² The measure “Extensification of agriculture by reducing the use of biocides and fertilisers and increasing the diversity of farming methods (crop rotation, fallow arable land) with special attention to the needs of the great bustards” in the Management Plan for the Natura 2000 site “Western Weinviertel” and “Crop-related measures” in the plan for the site “Ortolan-Vorkommen Silz-Haiming-Stams”.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures (and key types)</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>
Ortolan-Vorkommen Silz–Haiming–Stams Natura 2000 Site (2007)	2	Actions to conserve/create landscape features Rules on extensive fertiliser, pesticide, machinery use, mowing, grazing, cultivation times and crop types.	Yes	Yes: farmers	Yes	No	Yes (RDP)	Yes: Impact indicators – Farmland Bird Index – Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends – Share of UAA covered with landscape feature Result indicators – Share of agriculture land under commitments for managing landscape features, including hedgerows Output indicators – Number of supported non-productive investments – Number of ha (agricultural) covered by environment/climate commitments going

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								beyond mandatory requirements ²⁰³
Lower Traun Natura 2000 Site (2011)	4	Rules on extensive grazing and fertiliser use. Actions to preserve/maintain landscape features.	Yes	No	Some measures; for one out of four measures rules on mowing, grazing and fertiliser application are detailed ²⁰⁴ ; no information is provided for the other four measures	No	Yes (RDP)	Yes” Impact indicators – Farmland Bird Index – Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends Result indicators – Share of farmers with support in investments related to care for the environment or climate – Share of agricultural land under management commitments supporting biodiversity conservation or restoration – Share of agricultural land under management commitments

²⁰³ All indicators but the last one can be linked to both measures: “Proposals for the maintenance and creation of spots for bird singing” and “Crop-related measures”. The last indicator may only be relevant for the second measure.

²⁰⁴ Measure “Preservation of existing extensive grassland”

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								supporting biodiversity conservation or restoration Output indicators – Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements
Western Weinviertel Natura 2000 Site (2009)	4	Rules on extensive grazing, mowing, removal of landscape features, use of biocides, fertilisers and farming methods.	No	No	No	No	No	Cannot be assessed ²⁰⁵
Lafnitztal und Neudauer Teiche Natura 2000 Site (2014)	3	Rules on extensive use of pesticides, fertilisers, drainage, and mowing. Bans on sowing of forage grasses and use of heavy machinery.	Yes	No	Yes	No	Yes (RDP)	Yes: Impact indicators – Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends Result indicators – Share of farmers with support in

²⁰⁵ There is no information on who will implement the measures, their duration, details on what the measures should entail, how the measures will be financed or how the results of the measures will be assessed. Due to the lack of information, it is therefore not possible to respond to the questions in the template.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		<p>Actions to restore and preserve of various water bodies.</p> <p>Bans on fisheries management, river development, and intensive use in general.</p>						<p>investments related to care for the environment or climate</p> <ul style="list-style-type: none"> - Area in Natura 2000 sites under commitments for protection, maintenance and restoration - Share of agricultural land under management commitments supporting biodiversity conservation or restoration - Share of agriculture land under commitments for managing landscape features, including hedgerows - Share of agricultural land under management commitments supporting biodiversity conservation or restoration <p>Output indicators</p> <ul style="list-style-type: none"> - Number of ha receiving support

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								under Natura 2000 or the Water Framework Directive – Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements

Generally, the objectives, pressures and actions to be taken are well described in all plans reviewed apart from the Management Plan for the Natura 2000 site “Western Weinviertel”. The same three plans link all measures to the existing RDP funding. None of the four plans, however, provides the duration of its measures and only the plan for the “Ortolan-Vorkommen Silz–Haiming–Stams” Natura 2000 Site explicitly identifies farmers as beneficiaries. Overall, all measures can be attributed to SMRs (mainly numbers 3 and 4) and/or GAEC 9 but there is not sufficient information to conclude whether they go beyond enhanced conditionality. Only the three measures are clearly identified as being voluntary.²⁰⁶ Since measures in the plans “Ortolan-Vorkommen Silz–Haiming–Stams”, “Lower Traun” and “Lafnitztal und Neudauer Teiche” are already explicitly linked to RDP funding (in particular agri-environmental measures) it may be assumed that they are all voluntary in nature. However, none of the assessed plans mentions enhanced conditionality as described in the CAP proposal (cross-compliance under previous CAP).

Assessment

Based on the above, explicit links to the CAP, namely to agri-environment measures, are already made for nine out of the 13 measures. For the rest of the measures, the information is not provided. As for potential funding under the future CAP, the measure descriptions do not provide sufficient information to conclusively state whether they go beyond enhanced conditionality. In addition, some other elements are missing (e.g. duration, beneficiaries, costs) and thus reaching conclusions is not possible.

²⁰⁶ “Measures for the conservation of extensive meadow types”, “Measures for water bodies”, and “Measures for alluvial forests” established by the Management Plan for the Natura 2000 site “Lafnitztal und Neudauer Teiche”.

5.9. Poland

5.9.1. Air Quality

The Polish NAPCP includes five measures for limiting of ammonia emissions from the use of fertilisers, manure storage, low-emission manure spreading technologies.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
probable 3 (but not clearly described)	Ammonia emissions	low emission manure spreading techniques, low emission manure storage systems low emission fertilizer application	Yes	No	No	No	No	Yes (Indicator I.14)

The NAPCP does not provide a detailed description of how the measures will be designed and implemented. The NAPCP states for some measures²⁰⁷ that the implementation will start in 2020 (no further information provided). No reference to CAP financing and no information on costs are provided for these measures.

Whether these measures could be financed under CAP cannot be inferred unambiguously from the NAPCP as both mandatory and voluntary policy instruments are described. For two measures²⁰⁸, the NAPCP describes explicitly that the measures will be implemented via regulations on national level.

²⁰⁷ To promote farmers' use of other methods of spreading liquid manure than spraying, propagate manure plow among farmers within 12 hours of application to the soil

²⁰⁸ Prohibition on the use of ammonium carbonate fertilisers, covers for slurry and liquid manure storages

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.9.2. Water Management

12 agricultural measures have been identified in the PoM for the Vistula and Odra RBDs. The Polish PoM relates to the whole territory of Poland and is very general in the description of the measures. All the agricultural measures listed in the PoM are applicable to both river basins. 88 measures²⁰⁹ from this list are implemented within the framework of the Nitrates Action Plan. Such measures cannot be funded by the CAP. One measure listed in the PoM among agricultural measures does not refer to the Nitrates Action Plan. This measure concerns the creation of a database of groundwater water wells. This type of action is not eligible for funding under the CAP.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Odra and Vistula Programme of Measures	2	Nutrient pollution	- Education of agricultural workers who carry out activities in NVZs	No	No	Yes, limited information – details on exact commitments	No	Yes, both measures are explicitly	Yes: - Impact indicators:

²⁰⁹ These include: 1) Control of agricultural sources of pollution and control of the implementation of the obligatory provisions of the Nitrate Action Plan by the farmers who carry out activities in the NVZs; 2) Limiting fertilisation on wet, flooded, frozen or snow-covered soils; 3) Monitoring and documentation related to the implementation of the Nitrate Action Plan and its effects; 4) Adherence to the storage conditions for natural fertilisers and the handling of leachate; 5) Adherence to field fertilisation rules; 6) Adherence to field fertilisation rules on steep slopes; 7) Coverage of the area particularly sensitive to pollution by nitrates with agricultural origin established by Regulation No. of the Director of the Regional Water Management Board in ... with a programme of activities aimed at limiting nitrogen outflow from agricultural sources; 8) Proper fertilisation in the vicinity of water courses

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
			regarding good farming practice and providing them with specialist advisory services - 2 measures for Manure storage			are not provided		linked to CAP funding	reducing nutrient leakage - Result indicators: share of farmers with support investments related to care for the environment and climate; protect water quality; share of farmers receiving supporting for advice/training related to environmental-climate performance - Output indicators: number of supported on-farm productive investments;

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
									number of farmers trained/given advice

One measure under the NAP related to manure storage for young farmers. Annex 5 of the PoM specifically mentions that this measure is potentially financed within the framework of the Rural Development Programme. According to Art. 17 of the Regulation (EU) No 1305/2013 on support for rural development by the EAFRD, farmers can receive support for investments in physical assets up to 12 months from the date the requirements become mandatory for the agricultural holding, and young farmers can receive support for 24 months after setting up an agricultural holding for the first time. Annex 3 of the PoM includes an indicator to assess the progress of the 2 manure storage measures: % of the facilities constructed and % of the facilities extended. Farm advisory services are eligible for CAP funding. Annex 3 of the PoM includes an indicator to assess the implementation of the measure: % of training activities implemented and % of farmers trained. These indicators are similar to the CAP result and output indicators on number of supported on-farm productive investments and share of farmers receiving advice.

A short description of the RDP is included in the PoM in a section related to sources of financing of measures within the framework of the PoM (section 7.3). Various sources of financing are briefly described here, including Operational Programmes and the RDP, with some description of the most relevant parts of these programmes. There is a section on good practices in the PoM. Here, the PoM mentions measures like counteracting erosion, maintaining buffer zones between agricultural land and water ecosystems – however, these measures are not listed as such in the catalogue of measures (Annex 2).

5.9.3. Nature protection

Natura 2000 plans

Introduction

In total 13 measures relevant for agriculture were identified in the five Natura 2000 sites management plans reviewed. In all five Natura 2000 management plans, the descriptions of the measures do not explicitly link them to pressures or impacts as specified in the CAP proposal. The main objectives of the plans include preservation of the existing permanent grassland, maintaining of key floodplains, optimisation of water outflow from bird breeding areas. Use of grassland according to the relevant agri-environment measures in accordance with the RDP is the main aim of the voluntary measures identified.

Stemming from this, the most common pressures at the sites include: intensive mowing of grasslands, abandonment of mowing and/or grazing, and irrigation and drainage. All the measures identified can be linked to some of the CAP indicators, although the plans themselves do not provide indicators and the assessment was based on the expert judgment given the information available concerning their objectives and actions.

All the plans appear to contain both voluntary and mandatory measures for farmers (in at least two plans, the description of some measures is not sufficient to determine this, however.)

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Dolina Dolnej Wisły (Lower Vistula Valley), PLB040003 2015	5	Rules on mowing, rules on extensive use of permanent grassland	Yes	Yes Yes (landowners, forest managers)	Yes	No	No	Yes Impact indicators - Increasing farmland bird populations; Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result indicators - Supporting Natura 2000; Preserving landscape

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of supported non-productive investments
Dolina Noteci (Notec Valley), PLH300004 2014	1	Rules on extensive grass mowing and grazing	Yes	Yes (landowners)	Yes	No	Yes (RDP for voluntary measures)	Yes Impact indicators - Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result indicators - Supporting Natura 2000; Preserving

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of supported non-productive investments
Dolina Sołokiji (Sołokija Valley) PLB060021 2014	1	Rules on extensive grass mowing and grazing	Yes	Yes (landowners)	Yes	No	Yes (RDP for voluntary measures)	Yes Impact indicators - Increasing farmland bird populations; Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								indicators - Supporting Natura 2000; Preserving landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of supported non-productive investments.
Dolina Tyśmienicy (Tyśmienica Valley) PLB06004 2004	1	Rules on extensive grass mowing and grazing	Yes	Yes (landowners)	Yes	No	Yes (RDP for voluntary measures)	Yes Impact indicators - Increasing farmland bird populations; Enhanced provision of

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								ecosystem services; Result indicators - Supporting Natura 2000; Preserving landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of supported non-productive investments.
Bagno Pulwy (Pulwy Marshes) LB140015	5	Rules on extensive mowing and grazing	Yes	(landowners, Environmental agencies)	Yes	For only 1 ²¹⁰ Counteracting the process of lowering of	Yes (only implicitly to RDP for	Yes Impact indicators - Increasing

²¹⁰ The measure duration is 10 years (the duration of the management plan).

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
2016						groundwater table	voluntary measures)	farmland bird populations; Enhanced provision of ecosystem services; Result indicators - Supporting Natura 2000; Preserving landscape features; Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive; Number of supported non-productive investments.

For all the plans, overall objectives, pressures and actions to be taken are described. Only one of the five assessed plans (Bagno Pulwy (Pulwy Marshes), however, provides the duration of the measures (10 years). In four plans, some voluntary measures are directly linked to existing RDP funding. Overall, all measures can be attributed to some SMRs (mainly numbers 3 and 4) and GAECs (mainly numbers 9 and 10, and some numbers 1 and 4). With regards to mandatory measures, it is

not clear if they go beyond GAECs and thus could be funded by the CAP. With regards to voluntary measures, they are often already explicitly linked to the existing RDP funding (agri-environmental measures). However, none of the assessed plans mention cross-compliance.

Assessment

Based on the information summarised above, some explicit links to the CAP, namely to agri-environment measures, are already made with regards to voluntary measures. For the rest of the measures (mandatory ones and those without specification), it is not possible to confirm their eligibility for CAP funding as there is insufficient information to conclusively state whether they go beyond enhanced conditionality. In addition, there are some other elements missing (e.g. duration, costs) which are not defined.

Priority Action Framework (PAFs)

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/recurring</i>
PAF for Natura 2000 in Poland for the Multiannual Financial Framework for the period 2021-2027(draft 2019)	10 measures ²¹¹	Actions related to conservation and protection of specific habitats, actions to target alien species, actions related to grazing management	Yes	No	Yes	No	No	One-off and recurring for all measures

²¹¹ The assessment of the measures provided is an aggregated summary of the measures that are listed in the PAF document separately for each type of habitat. The assessed measures have been selected using an expert judgement as measures having relevance for agriculture.

Summary

The PAF does not contain any sections devoted specifically to the habitat types and/or species dependent on agriculture, neither does it contain data on proportion of Natura 2000 sites used for agriculture purposes. The section devoted to the description of priority actions and financial needs for the period 2021-2027 is divided into sub-sections focusing on the specific types of habitats and listing the species at risk that are subject to protective measures. The protective measures are listed in tables in each of the habitat-type relevant section. Many of the measures are repeated for various types of habitats.

Relevant identified measures all aim at the preservation or restoration of natural habitats. All the measures involve actions for habitat maintenance or restoration, and some may involve investments. The involvement of farmers in specific measures is not identified, however. The PAF does not provide detail on pressures addressed by each measure; based on the types of actions, however, it can be said that some measures address pressures including invasive species and changes in landscapes (the latter perhaps due to land abandonment). Nonetheless, the descriptions of the measures in the document are not detailed so it is not possible to identify clearly the pressures addressed.

Assessment

The description of the measures provided in the Polish PAF does not include information on sources of financing per measure. However, information on possible financing sources for the PAF overall, with cost estimates per source, is provided in a separate section (section D at p. 19). The EAFRD is listed among these sources of financing, in division into specific categories of activities. However, the PAF does not link individual measures to CAP funding, and the information available does not allow a judgement which measure specifically could be financed by the CAP. Moreover, no indicators are specifically identified for the measures, though all those identified above could be linked to CAP indicators.

In conclusion it is not possible to determine which individual agriculture related measures could be financed by the CAP as relevant information is missing – specific requirements, link to CAP indicators and link to CAP for financing of individual measures).

5.10. Romania

5.10.1. *Air Quality*

Plan not available.

5.10.2. *Water Management*

The PoM for the Danube River Basin District includes 5 agriculture related measures. Most of the measures related to agriculture are identified in the RBMP as basic measures. The National RBMP lists the following supplementary measures but does not provide any details and thus could not be included in the assessment:

- application of cultivation practices to reduce use of/pollution with plant protection products,
- protection of water bodies against pesticide pollution, application of the Code of Good Agricultural and Environmental Conditions and other codes of good practice on farms, advice / training for farmers,
- the conversion of arable land into pastures,
- the creation and maintenance of buffer zones along water at a greater distance than foreseen in the Code of Good Agricultural Practice,
- the application of organic farming, and
- the prevention and combating of pollution from agricultural activities in areas facing constraints natural constraints or significant natural constraints or other specific constraints (e.g. conversion of arable land to pasture).

The listed supplementary measures correspond in part to measures found in the 2014-2020 RDPs, namely organic farming and reducing the use of the pesticides. Conversion of arable land to pastures and creation of buffer strips are not part of the RDP and there is no information provided on who can implement the measure, what is required, duration of the measure and how the measures will be financed.

3 of these measures relate to the implementation of the Nitrates Directive and 1 relates to the implementation of the Pesticides Directive. These measures are mandatory and cannot be financed by the CAP. 1 measure links specifically to the Romania RDP's measures related to investments in irrigation efficiency.

Plan	No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Danube River Basin Management Plan	1	Water abstraction	- National Rural Development Program 2014-2020 (NRDP) Measure 4.1: Investments in agricultural holdings and Measure 4.3: Investments for the development, modernisation or adaptation of agricultural and forestry infrastructure	Yes	Yes, the National Agency for Real Estate Improvement, responsible for the management of the irrigation system	Yes, information commitments only includes the following: The two measures if, following the ex-ante evaluation, water savings of between 5% and 25% are achieved in accordance with the technical parameters of the installation or existing infrastructure, as well as a net increase in the irrigated area.	Yes, one-off investment	Yes	Yes: - Impact indicator: reducing pressure on water resources - Result indicator: sustainable water use - Output indicator: number of supported off-farm productive investments.

Little information is provided in the Danube River Basin Management Plan and Programme of Measures other than the measure's objective and that the focus is on areas facing water scarcity. The Romanian National River Basin Management Plan contains few details on the specificities of the measures listed: information is provided on the water savings provision but additional details are not provided. As presented in the RBMP, the measures provide for the continuation in the 2014-2020 period of the process of rehabilitation and modernisation of the irrigation system in areas with water scarcity and where agricultural crops are affected by drought and desertification, respecting the principle of not deteriorating the good status / potential of bodies of surface water and groundwater. No further details are provided. The two sub-measures on irrigation are specifically linked to the CAP. They are currently financed under M4.1 and M4.3 of the 2014-2020 RDP. As the measure relates to technical irrigation infrastructure, in the future CAP they could be financed under the sectoral interventions – so long as the crops grown are linked to those listed in the regulation – or under the investments provision under the rural development interventions. As the measure targets the irrigation network and not on-farm irrigation equipment, the indicator related to off-farm investments is relevant.

5.10.3. *Nature protection*

Priority Action Framework (PAF)

The draft Romanian PAF for 2021-27 contains a total of 57 measures that were identified as potentially relevant for agriculture and the CAP; these were aggregated into 6 groups for the assessment. These groups follow the habitat types set out in the PAF:

1. Measures related to heathlands and shrubs (section E.2.2. of the PAF)
2. Measures related to bogs, mires, fens and other wetlands (E.2.3.)
3. Measures related to grasslands (E.2.4.)
4. Measures related to other agro-ecosystems (incl. croplands) (E.2.5.)
5. Measures related to freshwater habitats (rivers and lakes) (E.2.8.)
6. Measures related to the prevention, mitigation or compensation of damages caused by protected species (E.3.2.)

Some of the measures included in these groups are clearly intended for agriculture: for example, a measure in the last category is for 'Supporting farmers to access monetary compensations in the event of damage caused by wildlife'²¹². Other measures included are likely to involve farmers but this is not clear as the PAF does not provide detail on the actions involved: an example would be the measure for grasslands, 'Effective combating Invasive species in grasslands'²¹³.

The PAF notes that the Natura 2000 network evolved over the course of the current programming period: a 2016 Government decision (Order No. 46/2016) added 54 SCIs and expanded 29 existing sites – with these additions and changes, the Natura 2000 network 'can be considered completed'. The approval of management

²¹² PAF (English version), p. 88

²¹³ PAF (English version), p. 59

plans also took place during the current programming period: by 2018, 240 plans had been approved covering 284 Natura 2000 sites; of these, 126 were approved in 2016 and 2017²¹⁴.

The PAF also notes that the National Agency for Protected Natura Areas was established in 2016 (Law No. 95/2016), and as a result 'the structure for the management of protected areas and implicitly of the Natura 2000 network in Romania has been reactivated', though 'a significant strengthening of the capacity' of this Agency is still needed: the PAF also refers to 'a massive shortage of qualified personnel and limited technical and financial resources'²¹⁵.

The PAF also refers to issues concerning the use of CAP funding in current programming period, stating that the National RDP 2014-2020 as approved did not contain a measure for Natura 2000 payments due to the lack of management plans for Natura 2000 sites, though the RDP does contain agri-environmental schemes²¹⁶.

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
			<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no/for some</i>	<i>Yes/no</i>	<i>Yes/no/some</i>	<i>one-off/recurring</i>
PAF draft for the period 2021-2027	6 groups of measures	Five of the groups of measures fall under <i>Actions to create and maintain habitats favourable for biodiversity or to</i>	Yes	No	Yes	Yes, measures under both measures groups 1 and 3 refer to the Future Strategic Agricultural Plan ²¹⁷ .	Some – all apart from measure group 5 on freshwater habitats ²¹⁸ .	one-off and recurring

²¹⁴ PAF (English version), p. 39

²¹⁵ PAF (English version), p. 42

²¹⁶ PAF (English version), pp. 63-4

²¹⁷ For example, the two measures for 'Maintaining landscape elements in agricultural land' under measure group 1 (heathlands and shrubs) refers to the 'Future Strategic Plan for Agriculture' and to 'Pillar I of the Common Agricultural Policy'. It is presumed that the first reference is to the CAP Strategic Plan for Romania (the second might be a reference to eco-schemes). The two measures by this title are, respectively, within and outside Natura 2000 sites. For measure group 3 on grasslands, the two measures on 'agri-environment packages' (one inside and the other outside Natura 2000 sites) refer to the 'Future Strategic Agricultural Plan'; so does one measure on 'Natura 2000 payments' (only inside Natura 2000 sites).

²¹⁸ This measure group contains one measure potentially relevant for the CAP: 'Controlling agricultural activities in order to limit the use of chemicals, mechanized means and other methods that can affect the conservation status of river and lake species and habitats'. This measure cites agri-environment 'measures' as a financing source. PAF (English version), p. 76.

PAF and financing period (14/20 or 21/27)	No. of measures identified for agriculture in the PAF	Types of actions	Objective of measures clearly defined?	Measure requirements clearly defined?	Pressures clearly defined	Reference to CAP financing?	Can the measures be linked to one or more of the CAP indicators?	Type of costs covered
		<p><i>maintain the landscape, including the conservation of its historical features.</i></p> <p>One of these groups of measures also falls under <i>Actions to mitigate climate change, to adapt to climate change and to increase renewable energy use;</i></p> <p>One of the groups of measures falls under <i>Investments in non-tangible assets; research and experimental production...</i></p>				<p>Additionally, one measure under measure group 1 refers to Pillar I of the Common Agricultural Policy</p>		

Summary

In the draft PAF, the measures are not detailed beyond the title of each measure. However, these titles are quite specific and on this basis the measures that are potentially relevant for agriculture have been identified. Nevertheless, there are instances where it was difficult to ascertain solely from the title whether a certain measure is relevant or not for the CAP, as seen in the measure for invasive species noted above.

Overall objectives and pressures are provided at the level of the groups of measures, i.e. for the broad habitat categories addressed such as grasslands.

For most measures in the PAF, a financing source is indicated. These are generally the NPRD (National Rural Development Programme), the OPLI (Operational Programme Large Infrastructure - ESIF), national funds or other funding sources. In two instances, the PAF refers to the 'Future Strategic Agricultural Plan' (it is assumed that this is the CAP Strategic Plan) and in one case to Pillar I of the Common Agricultural Policy (presumably for 2020-2027 as this is the time period of the PAF). In some cases, the PAF refers to 'European Funds' without further description.

Assessment

In the Romanian PAF, indicators are provided for all individual measures listed in this study. All groups of measures, apart from Measure group 5 on freshwater habitats, contain indicators that can be linked to CAP indicators. However, it should be noted that these indicators are intended for measures whose main aim is to create and maintain habitats favourable for biodiversity or to maintain the landscape. As such, they are not identical to CAP indicators. Nevertheless, the following indicators in the CAP proposal appear relevant for the measures identified:

- Impact indicators
 - Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends
- Result indicators
 - Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration
 - Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows
 - Preserving habitats and species: Share of agricultural land under management commitments supporting biodiversity conservation or restoration
- Output indicators
 - Number of farmers trained/given advice

At least some of the measures are identified for CAP financing. Due to the lack of further information provided in the PAF, it is not possible at this stage to assess whether other measures can be financed by the CAP.

Natura 2000 plans

Introduction

A total of 15 groups of measures relevant for agriculture were identified in the five Romanian Natura 2000 sites management plans assessed. In all five plans, are well described with sufficient amount of details provided. All measures identified provide information on their duration, requirements and beneficiaries.

In all five management plans, there are overviews of the objectives, pressures and actions to be taken. (Pressures commonly found in the plans assessed include intensive pesticides and intensive fertilizer use, intensive grazing, water drainage, land abandonment, invasive species and habitat loss and degradation.) The descriptions of the measures themselves, however, do not explicitly link them to pressures, objectives or impacts. Likewise, objectives are not directly linked to measures. The most common objectives refer to maintaining or improving the conservation status of the species, birds and habitats of community importance as well as management of invasive species and supporting local communities in meeting their obligations under the management plan.

All measures assessed can be linked to impact indicators and some also to output indicators identified in the CAP proposals.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures (and key types)</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>	<i>Yes/ No / Some measures</i>
1.ROSPA0014 Cermeiului Plain and related protected	3 groups of measures	Rules on grassland, rules for agricultural nutrients and chemicals and other related agricultural measures	Yes	Yes. Farmers, environmental agencies, and land managers.	Yes. 5 years min.	Yes	No	Yes (impact indicators for 2 of the three groups of measures) ²¹⁹

²¹⁹ The following indicators were identified:

- Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends (1 measure)
- Enhanced provision of ecosystem services: share of UAA covered with landscape features (2 measures)

For one measure on agricultural nutrients and chemicals, an impact indicator was not identified

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
natural areas (2016)								
2.ROSPA0019 Cheile Dobrogei, ROSCI0215 Jurassic reefs Cheia, 2.362 Nature reserve Jurassic reefs Cheia, 2.356 Nature reserve La Adam Cave, 2.357 Nature reserve Gura Dobrogei cave, B.2 Nature reserve Gura Dobrogei (2016)	3 groups of measures	Rules to limit/regulate the use of pastures, avoidance of the destruction or conversion of pastures, rules regulating the use of chemicals, rules to avoid burning of agricultural land, sustainable farming practices requirements	Yes	Yes. Farmers, environmental agencies, research organisations, NGOs, and local authorities	Yes. 5 years min.	Yes	No	Yes (impact indicators) ²²⁰
3.ROSCI0295 Hills of East Cluj and of the	1 group of measures	Rules on biodiversity management	Yes	Yes. Farmers, environmental agencies,	Yes. 5 years min.	Yes	No	Yes ²²¹

²²⁰ The following indicators were identified:

- Increasing farmland bird populations: Farmland Bird Index (1 of 3 measures)
- Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends (all 3 measures)

²²¹ The following indicators were identified:

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
Natural Reserves VII.6. the meadows of Cluj "La Copârșeie" and VII.7. the meadows of Cluj "La Craiu" (2016)				research organisations, NGOs, and local authorities				
4.ROSPA0099 Hârtibaciului Plateau, ROSCI0227 Sighișoara-Târnavă Mare, ROSCI0144 Gorona and oak forest on	4 groups of measures	Rules on grassland management, specific rules on species conservation, rules on landscape preservation/management, management of natural	Yes	Yes. Farmers, landowners, and environmental agencies. In addition, one measure mentions hunting	Yes. 5 years min.	Yes	No	Yes ²²²

Impact: Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends

Result: Supporting Natura 2000: Area in Natura 2000 sites under commitments for protection, maintenance and restoration; and Preserving landscape features: Share of agriculture land under commitments for managing landscape features, including hedgerows; and Preserving habitats and species: Share of agricultural land under management commitments supporting biodiversity conservation or restoration

Output: Number of ha receiving support under Natura 2000 or the Water Framework Directive

²²² The following potential indicators were identified:

- Impact
- Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends (2 measures)
 - Enhanced provision of ecosystem services: share of UAA covered with landscape features (2 measures)
- Output
- Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements (1 measure)
 - Number of supported non-productive investments (1 measure)
 - Number of farmers trained/given advice (1 measure)

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
Purcărețului Hill, ROSCI0143 Gorona and oak forest from Dosul Fănaț, ROSCI034 Hibibiu-ROSIB03 -Est, ROSCI0304 South-West Hârtibaciu, Natural Reserve "Secular oak trees from Breite Sigh municipality (2016)		resources and local communities		administrations and associations as well as local authorities (Farmer support measures).				
5.ROSCI0214 Râul Tur, special avifaunistic	3 groups of measures	Rules on management of grassland habitats and species, rules related to accessible water regulation	Yes	Yes. Farmers, landowners, environmental agencies,	Yes	Yes. 5 years min.	Yes – only 1 measure group (on invasive	Yes - impact and output indicators ²²³

²²³ The indicators from the CAP proposal were identified as potentially relevant:

- Impact
- Increasing farmland bird populations: Farmland Bird Index (1 measure)
 - Enhanced biodiversity protection: Percentage of species and habitats of Community interest related to agriculture with stable or increasing trends (2 measures)
 - Enhanced provision of ecosystem services: share of UAA covered with landscape features (1 measure)
- Output
- Number of ha receiving support under Natura 2000 or the Water Framework Directive (1 measure)

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions	Objective of measures clearly defined?	Types of beneficiaries identified	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
protection area ROSPA0068 Lunca inferioară a Turului, protected natural area of national interest VII.10 Tur River and the natural reserve of county interest Noroieni (2016)		for livestock, management of invasive species		NGOs. One measure also mentions research organisations (Management of invasive species)			species), which refers to Natura 2000 payments	

None of the assessed 5 plans specifically mention whether the measures are of voluntary or mandatory nature. In three of the five plans²²⁴, some of the measures assessed appear to be mandatory due to the way they are phrased – for example, the measures refer to targets to be achieved and do not mention agreements to be reached with farmers. Due to the lack of information, however, but it was not possible to make a final determination whether any of the measures are voluntary or mandatory. One measure in one plan (on support for farmers) appears to be of voluntary nature although this is also not explicitly stated²²⁵.

Generally, all measures can be linked to some of the relevant SMRs and GAECs; however, the plans do not provide a direct reference to cross-compliance. The only exception is a measure on landscape features²²⁶ 5.10 in the plan for ROSPA0019 Cheile Dobrogei and related sites.

²²⁴ The plans for: ROSCI0214 Râul Tur and ROSPA0068 Lunca inferioară a Turului; ROSPA0099 Hârtibaciului Plateau and related sites; ROSPA0019 Cheile Dobrogei and related sites. For the other two plans – ROSPA0014 Cermeiului Plain and ROSCI0295 Hills of East Cluj – it is not clear if measures are voluntary or mandatory.

²²⁵ This is a measure in the plan for ROSPA0099 Hârtibaciului Plateau and other sites that includes a reference to agri-environmental measures.

²²⁶ Specifically, measure 5.10 calls for Maintaining and / or restoring tree alignments to ensure nesting conditions for Lanius minor, Coracias garrulus species, and it refers to GAEC 9. However, no indication is provided whether the measure goes beyond this GAEC.

Generally, in relation to funding, the only information pertaining to the source of financing for the measures is a paragraph indicating that the financial resources necessary for the implementation of the envisaged actions will be obtained from projects financed from national and Community programs. No details are provided on the funding sources and no reference is made to possible CAP funding in the plans assessed. The only direct reference is made under measure 3 in plan 5 on invasive species referring to Natura 2000 payments, assumed to be payments under EAFRD²²⁷.

Assessment

In conclusion, although detailed measures in all Natura 2000 plans are provided – including information on objectives, duration and beneficiaries – and there is a potentially important role for CAP funding, it is difficult to ascertain whether the CAP could indeed be used. This is primarily due to the fact that it is not clear whether the measures are voluntary or mandatory and whether they go beyond relevant GAECs or SMRs as required by the CAP proposal.

Thus, the information available in the management plans was not sufficient to provide a definitive answer if the actions can be funded by CAP. The interviews carried out indicated that the late approval of management plans for many Natura 2000 sites was an obstacle to providing CAP financing in the 2014-2020 period. The interviews also confirmed a point highlighted in Romania's draft PAF, that there has been a lack of capacity to develop site management plans (and to ensure that their measures can be linked with the CAP).

²²⁷ It can be noted, however, that as indicated in section 2.3.1 above on the PAF, Romania's RDP 2014-2020 did not provide for Natura 2000 payments.

5.11. Sweden

5.11.1. Air Quality

The national air pollution control programme (NAPCP) of Sweden and its Annex 1 (“Bilaga 1 – Aktuella åtgärder”) includes five measures on reducing NH₃ emissions from the sector agriculture. Two of the three measures related to NH₃ in the NAPCP (and three of five in Bilaga 1) are technical measures related to manure application to arable land and grassland (band spreading, fast incorporation of manure). Improved covers of manure storage facilities is a technical measure related to livestock production.

No. of voluntary measures identified for agriculture	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries clearly defined?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
4	Ammonia emissions	<ul style="list-style-type: none"> - band spreader for slurry - Incorporation of manure on the same day - Incorporation of manure within 4 hours same day - covering manure storages - Reduced use of crude protein in animal feed 	Yes	No	No	No	No	Yes (Indicator I.14)

The NAPCP does not provide a detailed description of how the measures will be designed and implemented. The NAPCP states that “Optional/negotiated agreements” will be used and that the Swedish Board of Agriculture (Statens jordbruksverk) will be responsible.

The NAPCP states that the start year of the implementation will be 2019, the final year of the implementation will be 2020. A review of all measures addressing NH₃ is planned for 2021. Nevertheless, for technical measures that result in one-off investments in e.g. band spreader for slurry and covers for slurry/manure storages, these investments will continue to have effects during the life-cycle of that technology or installation. In addition, the national emission reduction commitments according to Annex II of the NECD apply for any year from 2020 to 2029 and for any year from 2030. The NAPCP and its measures have to ensure the appropriate emission reductions for compliance. Therefore, if any measure is required to comply with these commitments, it has to be ensured by the Member State that it will be continuously effective throughout this period and from 2030 onwards, respectively.

Indicator “I.14 Improving air quality: Reduce ammonia emissions from agriculture” in principle describes the overall national NH₃ emissions and that of agriculture. Article 8 of the NEC Directive includes an annual reporting scheme for NH₃ emissions. This comprises submission of national inventories by NFR (Nomenclature for reporting (NFR) as provided by the LRTAP Convention) source category from 1990 to reporting year minus 2. It also requires Member States to submit an annual so called “Informative Inventory Report” and biannual projected emissions for specific future years.

N.B. The NEC Directive does not require reporting of indicator “R.19 Improving air quality: Share of agricultural land under commitments to reduce ammonia emission”

5.11.2. Water Management

In total, ten national level measures related to the agriculture sector were selected for inclusion in the Swedish river basin management plans. These measures are designed to target different national authorities (specified by name, such as ‘chemical agency’ or ‘agricultural board’), as well as municipalities and county boards (not further specified but treated as a group, i.e. ‘municipalities’). The measures focus on administrative/organisational aspects such as improving advisory services within the RDP or improving the authorities’ own guidelines (both internal guidelines (e.g. aiding inspecting authorities), or external guidelines (e.g. addressing farmers)). The national level measures also include a mapping exercise to identify whether measures like buffer strips, wetlands and phosphorus ponds will have the greatest effect; improving communication between the forestry and water sector to reduce the inputs of nutrients; development of new policy instruments to enable buffer strips along lakes and streams in forested areas. The national level measures focus mostly on addressing diffuse pollution. The measure on improving farm advice guideline and providing farm advice address nutrient and pesticide pollution, as well as water abstraction. The two measures related to forests focus on water quality in general. The measure on mapping the location of measures focuses on nutrient pollution.

In addition to the measures above, each district also has technical measures for the farm level. These are referred to in annex 5 of the RBMPs and are not presented by water district, but by ‘action area’. An ‘action area’ is a much smaller geographical entity, delineated by catchments. A set of nationally defined categories (measure types) are used (such as ‘wetlands’ or ‘reducing contaminants’), and there is an overview for each ‘action area’ of how many measures have been suggested within each category, as well as information on each individual measure. 7 measure categories address agriculture pressures. Of these, 6 address nutrient pollution, 2 address also pesticide pollution in addition to nutrients, and 2 address also erosion pressures.

Plan	No. of voluntary measures	Pressures addressed	Key types of actions	Objective clearly defined?	Types of beneficiaries	Measure requirements	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or
------	---------------------------	---------------------	----------------------	----------------------------	------------------------	----------------------	---------------------------	---------------------------------	--------------------------------------

	identified for agriculture				clearly defined?	clearly defined?			more of the CAP indicators?
				Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	
Skagerrak and Kattegat and the Baltic River Basin Districts	8	Diffuse pollution of nutrients and pesticides Water abstraction	<ul style="list-style-type: none"> - Farm advice - Wetlands - Cultivation without pesticides, including organic farming - Cultivated grassland in the plains - Catch crops/Cover crops - Efficient use of fertilisers and pesticides - Buffer strips - Minimum tillage 	Yes	Yes, farmers	Some measures: the measures on buffer strips mentions types of strips but does not define width or restriction like whether fertilisation is allowed. The measure on tillage does not detail what type of reduced tilling is financed	No	Yes	Yes: - Impact indicators: improving water quality; reducing nutrient leakage; sustainable use of pesticides: Reduce risks and impacts of pesticides - Result indicators: protect water quality; Sustainable pesticide use; Share of farmers receiving support for advice/training related to environmental-climate performance - Output indicators: Number of farmers trained/given advice; Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements; Number of supported non-productive investments; Number of ha with support for organic farming

The most relevant measures for CAP support are those listed in the section on action areas. Out of the 10, only 2 (advice) can potentially be financed by the CAP, the others are mandatory measures or actions that are not eligible to be financed under the CAP. Within the action area measures, all the technical measures are

linked to CAP financing and are voluntary. One measure “efficient use of fertiliser” may not be eligible for CAP funding in the next programming period. The measure’s requirements state that in order to be eligible for the environmental funding, farmers should perform nutrient budgeting, soil analysis, produce strategies for nitrogen-phosphorous-potassium and liming, analyse liquid manure etc. Such measures may become part of enhanced conditionality under GAEC 5 in the next period.

Information on which production type or land type is targeted is not provided for any of the measures in the action areas, but due to the nature of the measures it is assumed that they target arable farming. The descriptions of the measures are succinct and provide enough detail to understand the objectives, pressures being addressed and requirements for measure implementation. As mentioned above, the types of measures included in the action areas are all linked to the CAP and - with the exception of the measure on nutrient budgeting - could be included in the environmental and climate commitments intervention under rural development or the eco-schemes.

5.11.3. *Nature protection*

The assessment reviewed five Natura 2000 site management plans. A draft PAF for Sweden was not available at the time of the assessment, however.

Natura 2000 plans

Introduction

All the measures in the five Natura 2000 sites management plans identified as relevant for agriculture (6 measures in total) establish rules for grazing and mowing; in one site (Hornborga) there are additional limitations on the use of fertilisers and pesticides. Grazing and mowing is to be carried out with the objective of keeping the landscape open and thus prevent succession towards shrubland and forest. Some measures also aim to preserve or develop landscape features which are rare and/or beneficial for biodiversity (e.g. resting and breeding sites for birds). All but one measure (at the Hornborga site) are to be implemented on grasslands and address the pressures stemming from either intensive grazing or overgrowing (land abandonment): the Hornborga plan also addresses intensive fertilizers and pesticides use on the arable land.

In several plans, little detail is given as to how or by whom the measures should be implemented.

All measures can be linked to some of the CAP indicators as detailed in the table below although the plans themselves do not provide indicators, and the assessment was based on the expert judgment given the objectives and actions described for the measures assessed. None of the assessed plans refer to greening or cross-compliance or specify whether the measures are voluntary or mandatory.

Overview table

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
			Yes/ No / Some measures	Yes/ No / Some measures (and key types)	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures	Yes/ No / Some measures
Tåkern SE0230067 Management plan (2019), Conservation plan (2017)	1	Rules on grazing and mowing (grouped)	Yes	Yes forest managers, environmental agencies, farmers) ²²⁸	Yes	No	Yes ²²⁹	Yes Impact indicators - Increasing farmland bird populations; Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result indicators – Protecting forest ecosystems; Supporting Natura 2000; Preserving landscape features.

²²⁸ The conservation plan does not provide extensive detail on the beneficiaries. It states that environmental support might finance measures on arable land used for crop cultivation, which has been interpreted as applicable to farmers. Environmental agencies might be beneficiaries in the event that they are the ones carrying out the measures in certain areas, but this is not stated in the plan. (Conservation plan p19)

²²⁹ It is indicated that costs should be covered with public money (mainly coming from EU structural funds and the county board’s nature conservation budget)(P 52/73 management plan). The conservation plan states that the parts of the site which are shaped by crop cultivation (mainly habitat types 9070, 3210, 6410 and 7230) might be managed by means of EU funding directed to the farmers (‘environmental support’, presumably from the CAP since the Swedish term ‘miljöstöd’ refers to funding administered by the Agricultural Board).

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
								Preserving habitats and species; Output indicators - Number of ha receiving support under Natura 2000 or the Water Framework Directive
Hornborgasjön Conservation plan 2018, Management plan 1997	2	2. Restrictions and bans on pesticides and fertilisers 2. Rules on grazing and mowing (goal to maintain the areas as suitable resting and breeding sites for birds).	Yes	Yes, farmers, landowners and Environmental agencies	Yes	No	No	Yes result indicators - Supporting Natura 2000
Skötselplan för naturreservatet Pulken-Yngsjön i	1 (grouped)	Rules on Mowing and grazing (key goals including	Yes	Yes, farmers and Environmental agencies	Yes	No	Yes ²³⁰	Yes

²³⁰Section 9 of the management plan stipulates that costs borne by the land user (presumably costs for the afore-described agricultural activities) should be covered by applying for agri-environmental funding (=CAP).

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
<p>Kristianstads kommun"</p> <p>Management plan (20109), Conservation plan (2018)</p>		plant and fauna diversity).						<p>Impact indicators - Increasing farmland bird populations;</p> <p>Enhanced biodiversity protection; Enhanced provision of ecosystem services; result -Supporting Natura 2000; Preserving landscape features;</p> <p>Preserving habitats and species;</p> <p>output -Number of ha (agricultural) covered by environment/climate commitments going beyond mandatory requirements</p>
<p>Kvismaren Draft management plan (2019), Conservation plan (2017)</p>	1	Rules on Grazing and mowing (goal to prevent succession towards	Yes	No	Yes	No	Yes ²³¹	<p>Yes</p> <p>Impact indicators - Increasing farmland bird populations.</p>

²³¹ The conservation plan (p 4) states that the grazing/mowing of the grasslands can be funded by so called 'Environmental support' from the RDP (no further information provided).

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?
		shrubland and forest)						Enhanced biodiversity protection; Enhanced provision of ecosystem services; Result indicators - Preserving landscape features; Preserving habitats and species.
Svartåmyningen Management plan (2006), Conservation plan (2018)	1	Rules on grazing and some areas subject to mowing.	Yes	No	Yes	No	Yes ²³²	Yes Impact indicators - Increasing farmland bird populations. Enhanced provision of ecosystem services; Result indicators - Preserving landscape features; Preserving habitats and species.

²³² The conservation plan states that the management of shore/humid meadows are funded by so called 'Environmental support' (in Swedish). At the Swedish Agricultural Boards website, it says that these come from the EU RDP. In the event that the criteria for these payments are in conflict with the objectives of Natura 2000, those for Natura2000 should apply.

Plan (and date)	No. of measures identified for agriculture in the plan	Types of actions (and types of agriculture)	Objective of measures clearly defined?	Types of beneficiaries identified?	Measure requirements clearly defined?	Measure durations defined	Reference to CAP for financing?	Can the measures be linked to one or more of the CAP indicators?

The objectives, pressures and actions to be taken are described but not all plans provide comprehensive details. None of the assessed plans provide provides duration of the measures information – the plans only state that the measures are of recurring annual nature. However, there is only one plans²³³ which does not mention CAP funding, in the rest of the four assessed plans measures are directly linked to the existing CAP/RDP funding²³⁴. All measures can be attributed to SMRs (mainly SMRs 3 and 4) and GAECs (mainly 9 and 10, and some 1 and 4), but there is not sufficient information to conclude whether the measures are voluntary, or mandatory and therefore go beyond cross-compliance.

Assessment

Overall, despite the lack of information on certain elements (duration, beneficiaries), already established links to CAP funding imply that these measures could be included in future Strategic Plans. However, it is important to bear in mind that different interventions under the current CAP can mean that some measures could be funded through the RDP and others through eco-schemes. It is not possible to give conclusive statement on this, however.

²³³ Hornborgasjön

²³⁴ Kvismaren, Tåkern, Pulken, Svartåmynningen

6. ANNEX 2: QUESTIONS TO MEMBER STATES

Questions for DG ENV study on linking the planning tools emanating from EU environmental legislation and policies with funding mechanisms

1. (a) Were environmental authorities responsible for air quality and air emission issues consulted by the agriculture authority in the development of the 2014-2020 Plans?
 - a. If yes, in which aspect: SWOT analysis, assessment of needs, development of strategy, developing specific measures, discussions on budget allocation. How was the process organised?
 - b. If no, are the environmental authorities fully aware of which measures have been included in the 2014-2020 Plans? Did the authorities feel that measures were not included that they believe would have been useful? If so, which ones?
1. (b) If environmental authorities were not directly involved in the RDP planning, did the agriculture authority have an internal environmental expert in place? How were environmental measures selected and developed for the plan?
2. Did the agriculture authority assess the existing environmental planning tool for air emissions to determine which measures could be included in the RDP?
 - a. If yes, why were certain measures included and why were others not?
 - b. If not, why was such an analysis not undertaken.
3. How was the input of environmental NGOs taken into account in the development of the plan?
 - a. How was the process organised?
 - b. Did their input lead to specific measures being selected? Which ones?
 - c. Did the involvement of environmental NGOs lead to an improvement in the emphasis of water/nature/air policy in the plan?
4. Were certain air emission related measures initially selected where agriculture interest groups voiced strong opposition during the stakeholder consultation of the RDP development?
 - a. If yes, were these removed or adjusted? What were the main reasons given to the opposition?
5. What are currently the main barriers to inclusion of environmental measures in the RDPs? (wrong beneficiaries, wrong duration, wrong design, not trackable?)
6. Have environmental authorities already been approached by agricultural authorities in regards to the preparation of the CAP Strategic Plan? If yes, have they been asked to join a team to support the development of the Plans or have they been requested to provide specific input? In which areas? If not, do environmental authorities expect to be contacted or do they plan to actively contact agricultural authorities themselves?

GETTING IN TOUCH WITH THE EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by Freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696, or
- by email via: https://europa.eu/european-union/contact_en

FINDING INFORMATION ABOUT THE EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications from: <https://publications.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <http://eur-lex.europa.eu>

Open data from the EU

The EU Open Data Portal (<http://data.europa.eu/euodp/en>) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

