

NATURA IMPACT STATEMENT
OF DRAFT COMMON
AGRICULTURAL POLICY
STRATEGIC PLAN 2023-2027

Department of Agriculture, Food and the Marine

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1.0 INTRODUCTION

Doherty Environmental Consultants (DEC) Ltd have been appointed by the Department of Agriculture, Food, and Marine (DAFM) to undertake a Natura Impact Statement (NIS) of the Strategic Plan of the Common Agricultural Policy for Ireland (hereon referred to as the CAP Strategic Plan), 2023-2027. This NIS has been completed with respect to the requirements outlined in Article 6(3) of the EU Habitats Directive and Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011.

The Appropriate Assessment Process was introduced under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) transposed into Irish domestic law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended in 2013. These Regulations also transpose Council Directive 79/409/EEC of 2 April 1979 on the Conservation of Wild Birds (the Birds Directive). The obligation to undertake an AA derives specifically from Article 6(3) and 6(4) of the Habitats Directive and both involve a sequence of steps and tests. Article 6(3) pertains to the strict protection of sites, stating,

Any plan or project not directly connected with or necessary to the management of the [European] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances and states,

If, in spite of a negative assessment of the implications for the [European] site and in the absence of alternative solutions, a plan or project must nevertheless be carried for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 200 is protected. It shall inform the Commission of the compensatory measures adopted.

Similarly, Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 sets out the requirements for undertaking an AA. Each phase of the four-stage assessment precedes and provides a basis for the next phase, and therefore requires careful documentation to ensure full traceability and transparency of decisions made.

The purpose of the AA is to protect sites designated as Special Areas of Conservation (SACs; under the Habitats Directive) and Special Protection Areas (SPAs; under the Birds Directive), collectively known as Natura 2000 Sites. An AA is not a prohibition on land use activities but involves an examination of the implications land use activities that may arise as a result of a plan or project for European Sites, their qualifying features and their conservation objectives. Once the screening stage has determined that an AA is required, the proponent of the plan or project prepares and submits information that is necessary for the competent authority to complete its Appropriate Assessment. This information is provided in the form of a Natura Impact Statement. For the purposes of the CAP Strategic Plan DAFM represent both the proponent of the plan and the competent authority with responsibility for Appropriate Assessment. The need to apply the precautionary principle in making any key decisions in relation to Appropriate Assessment of the plan has been confirmed by European Court of Justice case law. With reference to the assessment steps required under Article 6(3) of the Habitats Directive, as described in Section 2 below, an initial screening for Appropriate Assessment of the CAP Strategic Plan was completed the results of which were described in a Screening Report for Appropriate Assessment, which is provided as Appendix C to this Natura Impact Statement.

The Screening Report for Appropriate Assessment concluded, in view of best scientific knowledge and the conservation objectives of the European Sites that, in the absence of appropriate mitigation, it could not be ruled out at the screening stage that the CAP Strategic Plan would not result in significant adverse effects to European Sites. The conclusion of the Screening Report was informed by a highly precautionary approach and adopted a worst-case scenario. Such an approach was adopted to ensure consistency with the extremely low threshold for triggering likely significant effects as determined in both European and Irish case law. On the basis of that conclusion, it has been determined that Appropriate Assessment is required in order to assess the implications of the plan for European Sites.

This Natura Impact Statement has been carried out for the DAFM to assist them in completing their Appropriate Assessment. This Natura Impact Statement presents the findings of an

evaluation that has examined the potential for the CAP Strategic Plan to result in significant adverse effects to European Sites, their qualifying features of interest and their conservation objectives.

1.1 PURPOSE OF THIS NATURA IMPACT STATEMENT

The overall purpose of the Appropriate Assessment process is to ensure that the CAP Strategic Plan does not result in any adverse effects on the integrity of any European Site in view of its conservation objectives. This NIS has been prepared to inform the AA process having regard to the legislative requirements of EU and national law as outlined previously. The responsibility of carrying out the AA lies with DAFM. The NIS will inform the AA determination made by DAFM at the time of the adoption of the CAP Strategic Plan. The AA determination will be published alongside the adopted CAP SP.

2.0 METHOD

This NIS has been undertaken in accordance with National and European guidance documents: Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities (DEHLG 2010) and Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats directive 92/43/EEC. The following guidance documents were also of relevance during this the preparation of this NIS:

- A guide for competent authorities. Environment and Heritage Service, Sept 2002. Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2010). DEHLG.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EED. European Commission (2021).
- Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats directive 92/43/EEC. European Commission (2018).
- Communication from the Commission on the precautionary principle. European Commission (2000).

The EC (2001) guidelines outline the stages involved in undertaking an assessment of a plan under Article 6(3) and 6(4) of the Habitats Directive. The assessment process comprises the four stages outlined below. Stage 1 to 3 form part of the Article 6(3) process, while Stage 4 forms part of the Article 6(4) process. This NIS presents the findings of an assessment for Stage 2 of this assessment process.

- Stage 1 – Screening: This stage defines the proposed plan, establishes whether the proposed plan is necessary for the conservation management of the Natura 2000 site and assesses the likelihood of the plan to have a significant effect, alone or in combination with other plans or projects, upon a Natura 2000 site.

- Stage 2 – Appropriate Assessment: If a plan or project is likely to have a significant effect an Appropriate Assessment must be undertaken. In this stage, the impact of the plan or project on the Conservation Objectives of the Natura 2000 site is assessed. The outcome of this assessment will establish whether the plan will have an adverse effect on the integrity of the Natura 2000 site.
- Stage 3 – Assessment of Alternative Solutions: If it is concluded that, subsequent to the implementation of mitigation measures, a plan has an adverse impact upon the integrity of a Natura 2000 site it must be objectively concluded that no alternative solutions exist before the plan can proceed.
- Stage 4 – Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project an assessment of compensatory measures that will effectively offset the damage to the European Site(s) will be necessary.

2.1 APPROACH TO ASSESSMENT

An initial high-level screening for Appropriate Assessment of the CAP was completed to identify the need for Appropriate Assessment. The screening was completed in advance of the provision of the draft CAP Strategic Plan but was based on the broad parameters of the Strategic Plan and the likely land use interventions that are to be supported by the forthcoming CAP. A broad review of agricultural activities and their interactions with Annex 1 habitat and Annex 2 species occurring in Ireland and Northern Ireland was completed. The potential for transboundary effects to European Sites (Natura 2000 Site) in Northern Ireland was identified during the screening assessment. The primary source material relied upon for this review was the NPWS reporting (NPWS, 2019a, 2019b) completed under Article 17 of the EU Habitats Directive. This documentation was published in 2019 and provides a overview of the threats and pressures affecting the favourable conservation condition of Annex 1 habitat and Annex 2 species in Ireland. The Joint Nature Conservation Committee (JNCC) provides similar reporting for Northern Ireland and these were also reviewed during the screening review. Where the reporting on agricultural related threats and pressures to Annex 1 habitat or Annex 2 species was limited in the Article 17 reporting, other sources were consulted during the review process. These include other NPWS publications such as Irish Wildlife Manuals for specific species (e.g white-clawed crayfish, marsh saxifrage etc.) and habitats (e.g. dunes, saltmarsh etc.) and

national habitat survey reporting (e.g. National Survey of Upland Habitats; National Survey of Semi-national Woodland Habitats etc.).

Reporting prepared by Ireland under Article 12 of the EU Birds Directive was relied upon for identifying the interactions between agricultural activity and the status of special conservation interest bird populations supported by the SPA network in Ireland. It was found during this review that there was less detailed information expanding on the nature of agricultural threats and pressures to these bird populations when compared with the Article 17 reporting for Annex 1 habitat and Annex 2 species. As such, additional information relating to the threats and pressures to SPA bird populations was gleaned from a review of the SPA site-specific Natura 2000 Data Return Forms. Any agricultural related threats and pressures documented in the SPA Data Return Forms were identified and collated. In addition to this Irish Wildlife Manuals 44 (Suddaby et al., 2010); 106; (Lewis et al., 2019); 114 (Cummins et al., 2019); 115 (Lesley et al. 2019), were also reviewed. Other species baseline reporting was also reviewed such as Cummins et al. (2010); Ruddock et al. (2016)

The above sources were reviewed to identify reported interactions, threats and/or pressures between agricultural activity and the conservation status of Annex 1 habitats, Annex 2 species and SPA bird populations. The results of this review and the identification of such interactions formed the basis of the screening.

Once the draft CAP Strategic Plan was made available for evaluation, the Natura Impact Statement assessment was completed over a series of steps. The first step involved a review of the Strategic Plan and an identification of the Strategic Plan contents that do not relate to land use activities or will not result in land use interventions. Once identified these sections of the CAP Strategic Plan were not considered further and were excluded from detailed impact assessment as they were not considered to have potential to result in land use effects and significant adverse effects to European Sites and their features of interest.

The next step involved a detailed consideration of the sections of the draft CAP Strategic Plan that were identified as having the potential to result in land use effects. The individual interventions in these sections were reviewed and those that were not deemed to have the potential to result in land use effects were identified and were not considered further. The assessment then focused on the interventions of the CAP Strategic Plan that were identified as having the potential to result in land use effects. The evaluation of these interventions was

completed by examining their potential to result in positive or adverse effects to Annex 1 habitats, Annex 2 species and SPA bird populations.

To facilitate this evaluation the receptors of the plan interventions i.e. the Annex 1 habitats, Annex 2 species and SPA bird populations were grouped according to their ecological requirements and/or the documented agricultural threats and pressures that have been identified as having an impact of their conservation status. Various habitats and species share common ecological requirements that underpin their status and are also susceptible to similar agricultural threat and pressures. By adopting this approach habitats, species and bird populations were categorised according to broad groups and an assessment of the interventions was provided based on the broad group. The habitat grouping broadly follow the Annex 1 habitat groupings and Annex 2 species grouping that are set out in Annex 1 of the EU Habitats Directive but have been amended based on agricultural threats and pressures. For instance there are eight Annex 1 dune habitats occurring in Ireland and the impacts of the interventions were examined against this dune group. Other bespoke grouping were established, such as peatlands and heathlands group that comprises all peatland and heathland Annex 1 habitats, as broad overlap of the agricultural threats and pressures to these various Annex 1 peatland and heathland habitats in Ireland were identified. Similarly some features of interest were assessed in isolated due to the nature of the agricultural related threats and pressures affecting them.

Annex 1 bird populations for which SPAs are designed were assessed under the following broad groupings: coastal birds; raptors; breeding waterbirds; and wintering waterbirds.

The agricultural impacts that could be triggered by the CAP Strategic Plan interventions for the Annex 1 habitat, Annex 2 species, SPA bird populations were assessed in specific impact assessment tables and targeted mitigation measures are recommended. The targeted mitigation measures are summarised in Section 7 of this Natura Impact Statement. In addition to the mitigation measures provided in each of the habitat/species grouping impact assessment tables, high level, overarching mitigation measures are also outlined in Section 7 of this Natura Impact Statement.

2.2 CONSULTATIONS

Consultations during the SEA and Appropriate Assessment process of the CAP Strategic Plan were completed. Consultations are a mandatory requirement under the SEA process and SEA

scoping consultations were undertaken prior to the drafting of the CAP Strategic Plan. During the SEA scoping consultations the opportunity was taken to consult with stakeholders with respect to both the SEA and the Appropriate Assessment process.

In addition to the formal SEA scoping consultations, SEA and Appropriate Assessment scoping workshops were held with the CAP Steering Group as well as a Scoping Workshop with the CAP Consultative Committee. Feedback and submissions relating to the SEA and Appropriate Assessment were varied, however a number of consistent themes were identified. Significant environmental issues and recommendations have all been responded to and were considered through the plan preparation and the SEA and Appropriate Assessment process as appropriate. A summary of the SEA and Appropriate Assessment submissions raised during consultations are provided in Table 2.1 below.

Table 2.1: Summary of Submissions Received During SEA & AA Consultations

Consultee	Summary of Points Raised
EPA	<p>The CAP SP needs to convey a strong message that the agricultural sector will demonstrate ownership and lead actions to achieve national and European targets.</p> <p>The plan should recognise that there is a role applying the principle of the ‘right measure in the right place’ during implementation and look to introduce environmental measures with multiple benefits.</p> <p>The relevant environmental objectives, and policy commitments of the National Planning Framework, National Climate Action Plan, National Biodiversity Action Plan and the National River Basin Management Plan should be aligned with and considered in the CAP SP.</p> <p>Where specific measures will be implemented directly via the Plan, further detail should be provided in the Environmental Report and Plan on the relevant environmental assessments to be carried out at the project stage and relevant mitigation measures to be applied, as appropriate.</p>

Consultee	Summary of Points Raised
	<p>All recommendations from the SEA and AA processes should be integrated in the Plan, with the inclusion of summary tables outlining the key findings of the SEA and linking the significant environmental effects identified to the proposed mitigation measures, monitoring programme and Plan policies/measures.</p> <p>Include a commitment to implementing the proposed environmental monitoring, programme and associated reporting, with a separate section on ‘Monitoring, Review and Reporting’, provisions for monitoring and reporting on the implementation of the Plan with periodic reviews. Plan-related implementation reports should be published annually or biennially.</p> <p>Include schematics in the Plan and SEA Environmental Report showing the links and key inter-relationships with other relevant national, regional, sectoral and environmental plans.</p> <p>Identify any key relevant significant data and knowledge gaps, include commitments to address these on a priority basis during the implementation phase of the Plan.</p> <p>The Plan should align with national commitments on climate change mitigation and adaptation, take account of the current actions laid out in the Interim Climate Actions 2021 to meet Ireland’s climate ambition.</p>

Consultee	Summary of Points Raised
	<p>Consider establishing an implementation group for the CAP Strategic Plan, to take account of any new information that becomes available and how best to utilise the data to meet the objectives of the plan.</p> <p>The impact of agricultural activities at the granular level should be acknowledged and the right for quality of life in potentially affected communities – e.g. households, non-farming rural communities, village and small-town urban dwellers, that can be affected by effects such as odour, water pollution, drinking water contamination. Explore the correlation of these aspects with intensification at the local level if the aggregated effect at national level is to be understood and used in the strategic environmental assessment</p> <p>Consider carrying out further transboundary consultation beyond Northern Ireland, particularly for farm hazardous waste disposal.</p> <p>The cumulative impacts of ammonia and other agricultural pollutants on nearby Natura 2000 sites need to be better understood and considered, as it is important in the context of ensuring environmental sustainability. The concentration of intensive agricultural sites in combination with other farming activities has the potential to impact on the critical level and loads for sensitive species at Natura 2000 sites.</p>
NPWS	Land eligibility rules rendering natural/semi-natural areas negative in terms of CAP support. Needs reform to avoid undermining the objectives of the CAP.

Consultee	Summary of Points Raised
	<p>The current forestry programme does not align with the CAP SP objectives as it incentivises afforestation of high nature value less intensive farmland with non-native conifers. Consider how further afforestation will affect what is sought to be achieved from the CAP.</p> <p>Ensure that different AECM schemes work together than in competition.</p> <p>(AA) Individual actions associated with the AECM will need to be assessed at a farm plan scale as well as at the macro scale (see approach suggested by Farming for Nature Technical Group).</p> <p>Consider Site Specific Conservation Objectives (SSCOs) at field/farm scale for Natura 2000 sites. DAFM will need to place the infrastructure with the support of ecologists.</p> <p>Schemes need to be adaptable and capable of identifying and encouraging the ecological potential of individual farms rather than generic schemes.</p>

Consultee	Summary of Points Raised
	<p>Other datasets: National Biodiversity Data Centre, Irish Hen Harrier Winter Survey.</p> <p>A more sustainable culture is needed where farmers can be viewed as custodians of the landscape / environment over only as food producers.</p> <p>Environmental objectives relating to water: flood mitigation works with appropriate and holistic input can cause biodiversity loss, and it is important that the objectives state that flooding is a natural and essential factor in the maintenance of important ecosystems including Natura 2000 Sites, and minimising flood exposures could be ecologically damaging.</p> <p>SEA process needs to address the integration of the various objectives, as nature, climate, water, landscape, soil and human health and wellbeing are at odds with each other.</p> <p>Consider that GLAS isn't working for nature as it was intended to – refer to the European Court of Auditors/ADAS reviews.</p> <p>Article 10 of the Habitats Directive provides that Member States encourage the features of the landscape (rivers and banks, hedgerows, small wetlands and woodlands) which are of major importance for wild fauna and flora for functions such as migration, dispersal and genetic exchange.</p> <p>A landscape approach is required in designing and applying CAP measures and the measures need to be considered in combination.</p>

Consultee	Summary of Points Raised
	<p>Catchments are not always the most appropriate approach in terms of consideration of impacts, e.g. ammonia deposition.</p>
<p>An Taisce</p>	<p>The SEA of the CSP should take account of the alignment of the new CAP SP with the specific objectives of the EU Biodiversity Strategy and the Farm to Fork Strategy.</p> <p>The increasing numbers of animals in agriculture pose significant risks to the environment. The methane emissions and nitrogen losses from dairy cows were underestimated by the use of outdated methane and nitrogen values. EPA data show a substantial rise in methane and nitrogen emissions relative to the per cow and milk yield trend lines, indicating that milk production is being prioritised despite increased GHG emissions and nitrogen pollution per litre of milk.</p> <p>The quality of nearly half of Irish water bodies are below ‘Good Status’. All of these waterbodies are subject to basic regulation and as such these trends indicate the ongoing failure of Good Agricultural Practice (GAP). A pathway-receptor model should be implemented to address nutrient run-off, with consideration of nutrient source pressures and transfer pathways that are influenced by several factors such as soil type and geology.</p> <p>The SEA process in Ireland requires more evidence of proactive implementation of recommendations and mitigation measures. In many of the cases examined, monitoring has relied on general data (e.g. as provided by the EPA) and has not been adequate.</p>

Consultee	Summary of Points Raised
	<p>Habitat loss, loss of flowering plants, pesticide use, and change in farming practices are the leading causes of declines in countryside bird numbers and pollinators.</p> <p>Human health in terms of the current Irish diet should be addressed in the SEA for the CAP Strategic Plan. Attention should be given to the promotion of sustainable food consumption and facilitating the shift to healthy, sustainable diets.</p> <p>Ammonia air pollution is one of the most deadly forms of air pollution, and research is required on the health exposure of workers in agricultural facilities with high levels of ammonia air pollution.</p>
<p>Keep Ireland Open</p>	<p>Agricultural policies structured under the CAP, in combination with conservative agrarian attitudes are affecting access to nature. The enjoyment of native land should not be hampered by stand-alone, farmer-only CAP, but is supported by grant-aids by the EU under the Targeted Agriculture Modernisation Scheme, e.g. putting up barbed-wire sheep fencing.</p> <p>Taxes from EU citizens are redistributed to the European Agriculture Guarantee Fund and the European Agricultural Fund for Rural Development, therefore citizens have a vested interest in how the money is spent and what environmental benefits will accrue.</p>

Consultee	Summary of Points Raised
	<p>Payments from the EU into Ireland for agriculture, rural development and environment must be made conditional upon relevant and appropriate domestic legislation being enacted. This legislation must be designated so as it make it clear that programmes funded under the CAP will not be oppressive against and injurious to either the private citizen or the natural environment.</p> <p>Scrutinise all plans and programmes that fund farming operations and how these affect ordinary public in their right to enjoy the land they pay for.</p> <p>There is a need for RSM to inform itself on access legislation that exist in other member states which confer legal rights on the public to access the natural environment and protect the tracks, paths and minor roads from interference.</p> <p>The EU must advise Ireland on drawing up and enacting comprehensive legislation that recognises a right sharing of the countryside. Without proper definition and targeting of the CAP, it will continue to deliver public money through undirected and unquestioning Department of Agriculture to a small minority of people.</p>
BirdWatch Ireland	Include the decline of bird species associated with farmland, upland and associated waterbirds, and consider whether the draft CAP SP will reverse the decline of farmland and upland birds.

Consultee	Summary of Points Raised
	<p>Include under SEOs for water: ‘will the draft CAP SP reverse the declines in water quality?’; for climate change: ‘will the draft CAP SP cut greenhouse gas emissions from agriculture to meet the Paris Agreement?’</p> <p>Account for Ireland’s continued failure to comply with the rulings of the European Court of Justice in the Bird’s Case (C-418/04), with the fourth ruling requiring that Ireland take a coherent approach to protecting the needs of important Irish and European birds. As part of compliance with this ruling, Ireland must include agri-environmental schemes that are ambitious in the goal and resourcing to halt and reverse the losses of farmland and upland birds.</p> <p>Commonage Management Plans do not contain references to the Conservation Objectives of Natura 2000 sites despite having to be based on the requirements of the conservation interests of the sites. Consultants must reflect this in their assessment of impacts in the AA. 85% of Ireland’s EU protected habitats have ‘bad’ or ‘inadequate’ conservation status.</p> <p>Review of planning applications for farm developments indicates that the AA screening procedure within local authorities is not in line with best practice. Many farm buildings applications are screened out for AA without adequate ecological assessment.</p> <p>Hedgerows are declining due to high EIA thresholds.</p>

Consultee	Summary of Points Raised
	<p>Water quality has declined with no improvement in the status of EU protected habitats during the period of the RDP 2014-2020 with agriculture being the most significant pressure.</p> <p>Both the SEA and the AA of the CAP SP must carefully assess the impacts of the measures on status of Red and Amber listed birds which are an on a tipping point. Significant investments are required for targeted results-based agri-environment measures which effectively halt the continued declines in farmland and upland birds in particular.</p>
<p>Irish Organic Association</p>	<p>Prioritise and form a hierarchy of relevant EU, national legislation and accompanying plans and programmes to assess the relationships of key environmental and climate policies against the objectives set out in the CAP SP.</p> <p>Demonstrate how specific national indicators will inform the baseline with clear links made to the CAP’s Performance Monition and Evaluation Framework and national monitoring systems in combination with identification of data gaps and mitigation with proxy indicators.</p> <p>Baseline data should be guided by the national reference values for the quantified Green Deals set out in the European Commission’s CSP Recommendations to Member States. E.g. the SEA should account for current area of Irish farmland under organic production and the proposed target to 2030 in the Ag Climatise Roadmap (Action 9) with regards to the current EU share for organic farmland and the 25% EGD target.</p>

Consultee	Summary of Points Raised
	<p>SEA objectives need to be formulated against EU and national objectives with targets relevant to the agri-food sector in a transparent and result-orientated way in which the CSP's targets can be tested.</p> <p>Greater emphasis should be placed on the European Commission's Recommendations for the Irish CSP published in December 2020.</p> <p>The SEA for the CSP needs to have a more structured and transparent overview of the relationship and specific overlaps between the upcoming Agri Food Strategy 2030 and the CSP, including identification of mitigating actions that need to be put in place to ensure environmental performance and the promotion of sustainable development across the agri-food sector.</p>
Irish Water	<p>Water resource planning process should incorporate all information on significant pressures in relation to abstractions upon availability of regional water resources plans to ensure alignment with the requirements of the third cycle RMBP.</p> <p>Drinking Water Safety Plans have identified a range of risks associated with agriculture within Irish catchments, including biological contamination, chemical (dangerous substances) contamination, nitrates/phosphates contamination, and contamination from livestock accessing water bodies.</p>

Consultee	Summary of Points Raised
	<p>Table 4 ‘Datasets for the SEA Environmental Report’: drinking water abstraction boundaries should be included and WFD Drinking Water protected areas.</p> <p>Table 5 ‘Draft Strategic Environmental Objectives and subheadings’ as a sub-objective under Water Resources should be included: ‘Protect and improve drinking water resources as required under the Water Framework Directive and recast Drinking Water Directive’.</p>
<p>Geological Survey Ireland</p>	<p>Consider inclusion of UNESCO global geoparks and IUCN Guidelines for geoconservation in protection and conservation areas.</p> <p>Under ‘National’, consider inclusion of ‘Policy Statement of Mineral Exploration and Mining’ and the ‘Roadmap for a Policy and Regulatory Framework for geothermal Energy in Ireland’ (DECC).</p> <p>Under ‘Regional’, consider the inclusion of three UNESCO Global Geopark Programmes (Copper Coast, Burren and Cliffs of Moher, and Marble Arch Caves), and aspiring geopark project (Joyce Country and Western Lake).</p> <p>Data gaps for landscape, air quality emissions and greenhouse gas emissions. GSI’s county geological heritage audits presents an nearly comprehensive national dataset at a catchment level.</p>

Consultee	Summary of Points Raised
	<p>Consider inclusion of geohazards such as landslides and potential impacts of soils and geology to geoheritage as it underpins biodiversity, scientific knowledge and potential education and tourism values. Geohazards should be referenced in Cultural Heritage to highlight loss of landscape features, local landscape enhancement and cultural geo-tourism.</p> <p>The SEA should consider any potential impacts on specific groundwater abstractions and on groundwater resources in general.</p> <p>Several other GSI datasets might be relevant to the SEA under the headings water, climatic factors, cultural heritage and material assets.</p>
DAERA	<p>The SEA should contain a clear statement indicating the opinion whether or not the implementation of the CAP SP will have a likely significant effect on Northern Ireland in combination with any identified measures anticipated to prevent, reduce and offset any significant adverse effects on the environment.</p> <p>Species and habitats to given special consideration: migratory/mobile species such as salmon, within the Lough Melvin Special Area of Conservation, Marsh Fritillary butterfly in the Ross Are of Special Scientific Interest, bats and birds, cross-border peatlands, river basins, European sites in Northern Ireland, adjacent to or with pathways to the Republic of Ireland and other landscape types.</p>

Consultee	Summary of Points Raised
	<p>Potential effects could extend to the shared marine environment of the sea loughs, Lough Foyle and Carlingford Lough, and the SEA should explicitly reflect on transboundary effects within the marine environment. The SEOs and subheadings could specifically reference the marine aspects.</p> <p>Any potential funding schemes relating to land management and the use of pesticides have the potential to impact on watercourses flowing through the Republic of Ireland to Northern Ireland within DAERA’s jurisdiction. Schemes should consider the promotion of re-naturalisation of these watercourses to impact the catchment as a whole.</p> <p>Consider referencing of the potential loss of traditional farm buildings and use of the key term ‘conservation. Upskilling and maintenance of traditional farm buildings, traditional crafts could be a potential positive outcome to consider.</p> <p>Consider inclusion of regional strategic policies as relevant to the assessment. The Regional Development Strategy 2035 (RG.11) provides guidance for the application of spatial development approaches including in relation to the historic environment.</p>
<p>Inland Fisheries Ireland</p>	<p>Consider and make reference throughout to sustainability and should make provision for aquatic biological diversity, fisheries resource and stakeholder interests. The CAP SP should recognise the protection of aquatic habitats requires the protection of water quality in addition to the protection and maintenance of physical habitat, hydrological process, regimes and broader biological diversity.</p>

Consultee	Summary of Points Raised
	<p>Prioritise the maintenance and restoration of ecological status in all status waters with emphasis on high quality Q5 sites and systems that show worrying deteriorations in quality, with the application of the precautionary principle where developments and effects are not fully understood.</p> <p>Encourage enhanced interaction and cooperation between all agencies with an interest in environmental management.</p> <p>Intensification of conventional farming practices can pose an unacceptable risk to natural habitats. A reduction in the water quality can lead to reduced dissolved oxygen levels, eutrophication, suboptimal fish numbers.</p>
DAFM	<p>The programme for the Government includes commitments to reducing the use of inorganic nitrogen fertilisers, collaborating with farmers to protect and deliver improvements in water quality and seeking reforms to the CAP to reward farmers for doing so.</p> <p>Loading of phosphorus and nitrogen to the marine environment have been on the rise since 2014 despite long-term reductions with 16% of Ireland's estuarine and coastal waters classified as eutrophic and potentially eutrophic.</p> <p>Worth including the Common Fisheries Policy as an international policy of note under Annex A, as it includes conservation of marine biological resources and the management of fisheries specifically targeting them.</p>

Consultee	Summary of Points Raised
Irish Creamery Milk Suppliers Association	<p>ICMSA believes that there are other reports that should be considered to inform on current farming practices, such as the farm economic reports and National Farm Surveys from Teagasc and FAPRI Ireland projections. Consider inclusion of impacts of Brexit on agriculture, rural economy and North/South cooperation. Look at the three pillars of sustainability and their interactions.</p> <p>Focus on some of the potential positive impacts of agriculture on issues such as potential benefits of renewable energies in the bioeconomy and potential for the rural economy. Consider economic and social impact on possible environmental measures under the CSP.</p> <p>Farmers should be rewarded for current features and biodiversity already present on their farms to encourage maintenance. Achieving marginal gains in all three pillars of sustainability will be a good stepping stone.</p> <p>Objectives and measures relating to environmental sustainability should be of minimal cost to the farmer and actions impacting their income should be compensated.</p> <p>The focus on environmental side of things and overlooking the economic and social aspects undercuts the overall sustainability of the policies and objectives.</p>

Consultee	Summary of Points Raised
	<p>Investigate the economic impacts of achieving climate neutrality targets. Forcing farmers to change their existing systems and turning unviable could permanently damage the rural economy and the credibility of the policy.</p>
<p>Irish Farmer's Association</p>	<p>CAP objectives are part of the regulatory context in which they are designed – including viable farm incomes, increased competitiveness, improvement in the position of farmers in the value chain, attractiveness for young farmers, facilitation of business development in rural areas and the promotion of employment, growth, social inclusion and local development. These issues need to be dealt with appropriately.</p> <p>Include assessment of existing carbon sequestration and other environmental public goods by farmers. Prioritise the carbon sequestration measurement exercise (by the Department of Agriculture) and make it an intrinsic part of the SEA Scoping Report.</p> <p>‘Carbon farming’ as a concept under the Climate Pact to promote a new business model to provide farmers with income and assist other sectors decarbonise the food chain.</p> <p>The onus of GHG reductions on Irish farmers: measure the carbon storage in the permanent grasslands, hedgerows, trees, wetlands and riparian edges currently present on farmlands, and credit this to farmers.</p>

Consultee	Summary of Points Raised
	<p>Voluntary participation in programmes such as ASSAP, IFA’s Smart Farming, EIP Schemes, and Origin Green Sustainability Assurance should see farmers benefitting from their engagement by accounting for their performance in this area.</p> <p>Recognise limitations of available data.</p> <p>Account for the regulatory divergence with Northern Ireland after Brexit and prevent disadvantage of RoI farmers in relevant areas.</p> <p>Consider on-farm generation of renewable energy through anaerobic digestion, growing biomass, wind or solar. Ensure that farmers are supported by national policy to use their land to generate renewable energy and produce food and public environmental goods. Use non-CAP funds (e.g. SEAI funding) to address this.</p> <p>IFA recommends a critical review of the list of legislation, plans and programmes in Annex A.</p>
Macra na Feirme	CAP programmes have failed to consider the impact of various interventions and mitigate where there are elements of CAP restricting land access, disincentivising succession and placing unnecessary barriers to entry into schemes for young farmers and new entrants.

Consultee	Summary of Points Raised
	<p>The Macra na Feirme Land Mobility Service Report 2019, Consider inclusion of the Teagasc National Farm Survey 2019 and the EU Commission working document ‘Evaluation of the impact of the CAP on generational renewal, local development and jobs in rural areas {SWD(2021) 79 final}’</p> <p>Reference Generational Renewal and include gendered dimensions, i.e. women in the farm workforce as a necessary part of generational renewal, as it is vital to the future of rural areas.</p> <p>Under PHH, strengthen and specify wording to ‘Increase the number of young farmers in ownership of farms’ and add ‘Increase in the number of young managers?’ and ‘Increase the number of farm partnerships?’.</p> <p>The impact of land accessibility on the intensification of farming as a result of the loss of farmland managed by CAP interventions must be considered in any assessment.</p>
Individual 1	Consider the environmental impacts of animal agriculture, including the possible future endemics from zoonotic transmissions.

Consultee	Summary of Points Raised
	<p>The Plan combined with the basis of the Lancet report (<i>Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems, Volume 393, Issue 10170, P447-492 (2 February 2019)</i>) and the EPA State of Ireland’s Environment Report (2020) can act as a gateway to facilitating a shift towards a plant-based diet over a meat/dairy heavy diet.</p> <p>Factor in the ethical and moral implications of the CAP Strategic Plan, with respect to animal rights and welfare.</p>
<p>Individual 2 (Member of animal rights/enviro nmental activism group)</p>	<p>Move away from animal agriculture to improve water quality and reduce zoonotic risks. Animal-based diets are unhealthy and the CAP needs to develop a farming and food production model based on human health encouraging cheaper, plant-based foods. Animal agriculture is also inefficient and taxing on the environment and cannot meet the requirements to quell world hunger.</p> <p>Focus on forestry and a shift to growing hemp over other crops for paper production.</p> <p>Incentivising eco-friendly agriculture by switching from animal-oriented farming systems to plant-based agriculture. Maintaining the vegetation on farmlands will slow the loss of pollinators.</p>

Consultee	Summary of Points Raised
<p>Member of public 1</p>	<p>Acknowledge and consider the data gaps for baseline information. Table 5 Draft Strategic Environmental Objectives and subheadings: Will this draft CAP Strategic Plan resolve the issue of ongoing habitat loss on <i>all</i> farmland and not just designated sites? This will require a critical examination of how agricultural supports are organised.</p> <p>The SEA must genuinely shape the outcomes of the SP. Ireland being a sustainable food producer does not align with the findings of objective assessments of environmental indicators.</p>
<p>Member of public 2 (Animal Rebellion)</p>	<p>Stop subsidies of animal agricultural and use the funds to transition to a plant-based agroeconomy.</p> <p>Re-establish forests on former pastureland and cropland.</p>
<p>Member of public 3 (Animal Rebellion)</p>	<p>Stop subsidies of animal agricultural and use the funds to transition to a plant-based agroeconomy.</p> <p>Re-establish forests on former pastureland and cropland.</p>

Consultee	Summary of Points Raised
Member of public (National Animals Rights Association)	The need to transition from animal-based agriculture to plant-based systems. Animal agriculture needs to be eliminated completely.
Member of public 4	The need to transition from animal-based agriculture to plant-based systems. Targets and guidelines are not stringent enough – should not be a box-ticking exercise as it is about the survival of future generations.
Agricultural Advisor	Conduct an evaluation to ensure the most important influencers in behaviour of farmers are included in any proposed strategy To meet sectoral targets, there should be inclusion on incentives to assist farmers to adapt their farming methods.

Consultee	Summary of Points Raised
	<p>A National Whole Farm Approach/Baseline Evaluations Programme must commence to protect national interests and the agricultural sector. Without one, there are significant challenges and potential cuts which will affect farmers and future generations. The scoping exercise should acknowledge ACA's contributions and assess weakness and present meaning solutions to mitigate such threats.</p>
<p>Agricultural Advisor</p>	<p>Animal welfare, proper land management to grow enough food</p> <p>Focus on farmer welfare, care of animals and under-utilisation of farmland</p>
<p>Member of Public 6</p>	<p>Consider hedgerows, bees and wildflower areas.</p> <p>More conservation.</p> <p>Small farmers need more assistance.</p>

3.0 THE CAP STRATEGIC PLAN

3.1 OVERVIEW OF THE CAP STRATEGIC PLAN

This section provides an overview of the CAP Strategic Plan 2023-2027. An overview of the plan as presented in *Section 1 Strategic Statement* is presented below and is accompanied by a summary of the relevant sections of the plan that are identified for inclusion in the environmental assessments. The core legislative proposals were published by the EU Commission in June 2018, of which draft Regulation (COM 2018) 392¹ sets out the principal proposals for mainstream CAP financial support of agriculture, farming and rural development. After extensive negotiations, the European Parliament, the Council of the EU and the European Commission reached a political agreement in July 2021. The formal approval of the necessary legislation by the European Parliament and the Council is expected before the end of 2021.

The draft Regulation establishes that for the period to 2027, “*support from the European Agricultural Guarantee Fund (EAGF) and European Agricultural Fund for Rural Development (EAFRD) shall aim to further improve the sustainable development of farming, food and rural areas and shall contribute to achieving the following general objectives*”.

The strategic statement for the CAP Strategic Plan sets out the main expected achievements and interventions of the plan. The strategic aim of the plan is for it to underpin the sustainable development of Ireland’s farming and food sector by supporting viable farm incomes and enhancing competitiveness, by strengthening the socio-economic fabric of rural areas, and by contributing to the achievement of environmental and climate objectives at national and EU levels.

¹ [EUR-Lex - 52018PC0392 - EN - EUR-Lex \(europa.eu\)](#)

A total budget of 9.8 billion will be provided for under CAP, with supports provided for: via the European Agricultural Guarantee Fund (EAGF) for Pillar I measures: via the European Union via the European Agricultural Fund for Rural Development (EAFRD) and by the national Exchequer for Pillar II measures.

Supports will be based on direct payments and the implementation of the CAP Strategic Plan's green architecture. The mechanism for the delivery of direct payments will be the Basic Income Support for Sustainability (BISS) under Pillar I. This payment is designed to provide a direct income support to Irish farmers to underpin their continued sustainability and viability and to support farmers in their continued delivery of a secure food supply.

The green architecture of the CAP Strategic Plan establishes the mechanisms for the delivery of support that aims to align the continued delivery of a secure food supply with the environmental and climate action ambitions. The green architecture will operate across both pillars of CAP funding and will be implemented by three core elements, namely Conditionality; Pillar I Eco-schemes; and Pillar II climate/environment and animal welfare related interventions.

Conditionality sets the sets the base line requirements for farmers in receipt of CAP Payments. Consisting of Statutory Management Requirements (SMRs) and standards for the maintenance of land in Good Agricultural and Environmental Condition (GAECs), Ireland proposes to implement a system of enhanced conditionality through the CSP.

Pillar I eco-schemes is a voluntary scheme that will strengthen the environment and climate outcomes achieved by Pillar 1 payments, by building on baseline improvements achieved through conditionality. Regulations require at least 25% of the Pillar I CAP budget to be devoted to Eco-Schemes. Ireland proposes to introduce an Eco-Scheme "for all farmers" with the objective being to maximise farmer participation to achieve climate and environmental improvements across all farmed lands.

Pillar II interventions represent voluntary environmentally-focussed interventions that aim to deliver significant long-term environmental improvement through participation

by a significant number of farmers, with each making a strong improvement on their farm. This broad range of interventions will build on, and complement, achievements under Conditionality and Eco-Schemes.

Figure 3.1: CAP General, Specific and Cross Cutting Objectives

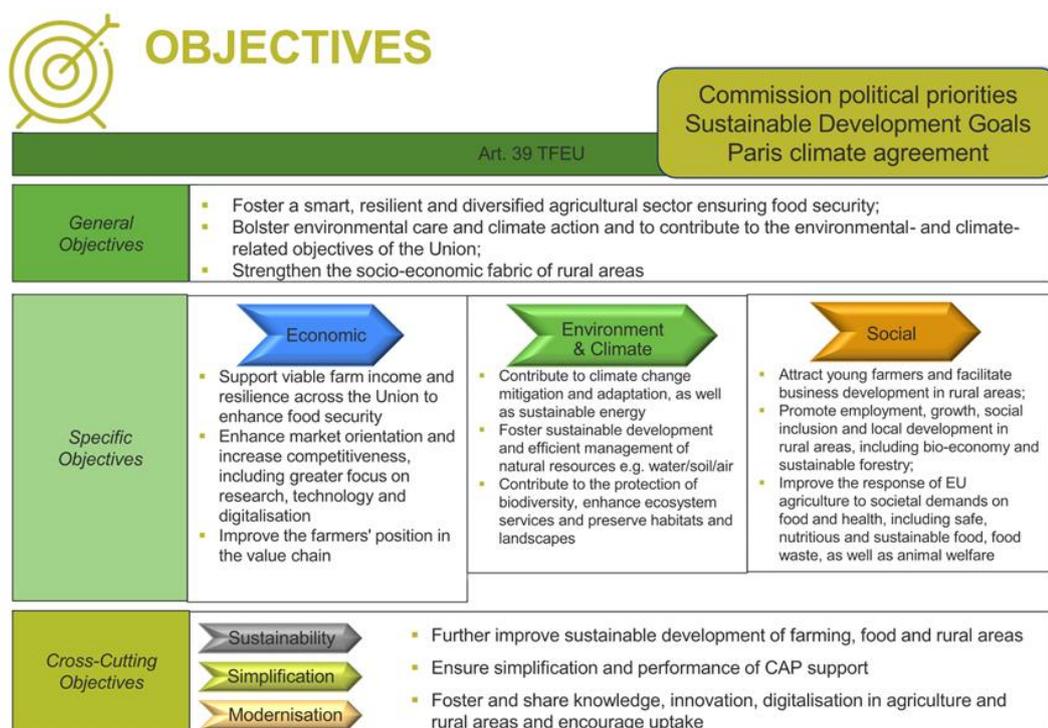


Table 3.1: Overview of Contents of CAP Strategic Plan 2023-2027

CAP Strategic Plan Section	Outline	Included in Natura Impact Statement
Section 1 Strategic Statement	<i>This section presents an overview of Ireland’s CAP strategic plan outlining what the CAP will do. It focuses on the main expected achievements and interventions (including relevant elements of the green architecture) in light of the identified needs, and summarise key choices on financial allocation. The statement</i>	<i>No, this is context for the CAP SP.</i>

CAP Strategic Plan Section	Outline	Included in Natura Impact Statement
	<i>should allow a non-specialist audience to understand the reasoning behind and links between the choices made by Ireland.</i>	
Section 2. Assessment of Needs and Intervention Strategy	<i>This Needs Assessment, undertaken as part of the development of Ireland’s CAP Strategic Plan 2023-2027 (CSP), aims to identify and prioritise the high-level needs of the Irish agri-food sector. The assessment is based on the evidence provided in Ireland’s SWOT Analysis, feedback provided by stakeholders, and the recommendations provided by the European Commission with regards Ireland’s CSP. Where a need will not be addressed by the CAP, this has been identified and alternative means of addressing the need (outside of the CAP budget) are included – this is also provided in Section 2.1</i>	<i>No, this has provided background information.</i>
Section 3 Consistency of the Strategy	<i>For each topic, this section provides an overview of synergies and complementarities emerging from a combination of interventions and conditions set in the CAP Strategic Plan</i>	<i>No</i>
Section 4: Elements common to several interventions	<i>Summary of on-farm practice/obligation; Territorial scope; Type of farmers concerned; Explanation of the contribution to achieve the main objective of the Good Agricultural and Environmental Conditions (GAEC) standard</i>	<i>Yes, conditionality through the GAECs has been commented upon and assessed in the SEA and Natura Impact Statement</i>
5.1 Direct Payments Interventions	<i>Basic income support for sustainability (BISS) Complementary income support for young farmers (CIS-YF) Complementary redistributive income support for sustainability (CRISS) Ecoscheme</i>	<i>Yes, landuse effects</i>
5.2 Sectoral Interventions	<i>Sectoral intervention for the apiculture sector Protein Aid Sectoral intervention in the fruit and vegetable sector</i>	<i>Yes</i>
5.3 Rural Development Interventions	<i>Agri Environment Climate Measures (AECM) : General and Co-operation Measures Non-productive investments associated with agri-environment climate measure (name to inserted)</i>	<i>Yes, landuse effects</i>

CAP Strategic Plan Section	Outline	Included in Natura Impact Statement
	<p><i>AECM Training</i></p> <p><i>On Farm Capital Investment Scheme (CIS)</i></p> <p><i>Collaborative Farming Grant</i></p> <p><i>Continued Professional Development for Advisors</i></p> <p><i>Dairy Beef Welfare Scheme</i></p> <p><i>European Innovation Partnerships</i></p> <p><i>Area of Natural Constraints</i></p> <p><i>Producer Organisations in the beef and sheep sectors</i></p> <p><i>Knowledge Transfer</i></p> <p><i>LEADER, referred to as community-led-local development in Article 25 of Regulation (EU)[CPR]</i></p> <p><i>Organic Farming Scheme</i></p> <p><i>Sheep Improvement Scheme</i></p> <p><i>Straw Incorporation Measure</i></p> <p><i>Suckler Carbon Efficiency Scheme</i></p> <p><i>Training to implement Suckler Carbon Efficiency Scheme</i></p>	
Section 6	<i>Targets and Financial Plans</i>	<i>No, where relevant this information has been used to inform the SEA Monitoring</i>
Section 7	<i>Governance systems and coordination systems</i>	<i>No</i>
Section 8	<i>Modernisation and simplification</i>	<i>No</i>
Annexes	<i>Include SEA and Natura Impact Statement</i>	

3.2 RESPONSIBLE AUTHORITY FOR THE CAP STRATEGIC PLAN

The competent authority for the preparation of the Draft CAP Strategic Plan 2023-2027 is the Department of Agriculture, Food and Marine.

3.3 AREA COVERED BY THE PLAN

The plan area covers the whole of the Republic of Ireland and is national in scale. Agricultural land use is the dominant land use in the country, covering 67.6% of the national land cover. Given the shared border with Northern Ireland, there are shared environmental resources including sea loughs, rivers, lakes, landscapes and ecological corridors.

4.0 BASELINE CONTEXT

4.1 EUROPEAN SITES CONSIDERED

In Ireland, sites within the Natura 2000 Network are referred to as European Sites and comprise SAC and SPA. SACs are concerned with the protection of specific Qualifying interests (QI) and SPAs are concerned with the protection of specific Special Conservation Interests (SCI). throughout this report qualifying features of interest and special conservation interests are referred to jointly as features of interest.

In identifying the Zone of Influence of the CAP Strategic Plan, a number of considerations were taken into account, notably the national and strategic nature of the Plan; the list of European Sites and their features of interest; and baseline information describing the effects of agricultural activity on European Sites and their features of interest. Given the national plan scale of the CAP Strategic Plan all the European Sites within Ireland were considered. In recognition of the potential for transboundary effects results from the CAP Strategic Plan all European Sites/Natura 2000 Sites in Northern Ireland were also included for as part of the examination of the Plan.

In Ireland, there are 439 SACs which are designated for one or more of 59 habitat types (Annex I of the Directive), 16 of which are designated as ‘priority’ habitats, owing to their ecological vulnerability, and 26 species (Annex II of the Directive), of which one or more are included as qualifying interests. These are mostly inshore but a small number of reef sites lie far offshore. In addition to the marine mammals listed on Annex II of the Habitats Directive, there are further 22 cetacean species and the leatherback turtle listed on Annex IV. These species require strict protection and, like species on Annex II, require monitoring. There are 58 SAC designated in Northern Ireland.

Through the Birds Directive, SPAs are designated for the protection of endangered species of wild birds including listed rare and vulnerable species, regularly occurring migratory species, as well as wetland habitats that support such species. Currently there are 165 SPAs designated within Ireland and 16 SPAs designated in Northern Ireland.

4.1.1 All-Island European Site Network

Table 4.1 lists the number of SACs and SPAs occurring in the Republic of Ireland and Northern Ireland and the number of Annex 1 habitats and Annex 2 species listed as qualifying interests of these SACs and the number of bird species listed as special conservation interests for these SPAs. Figure 4.1 and 4.2 shows the distribution of SACs and SPAs occurring on the island of Ireland.

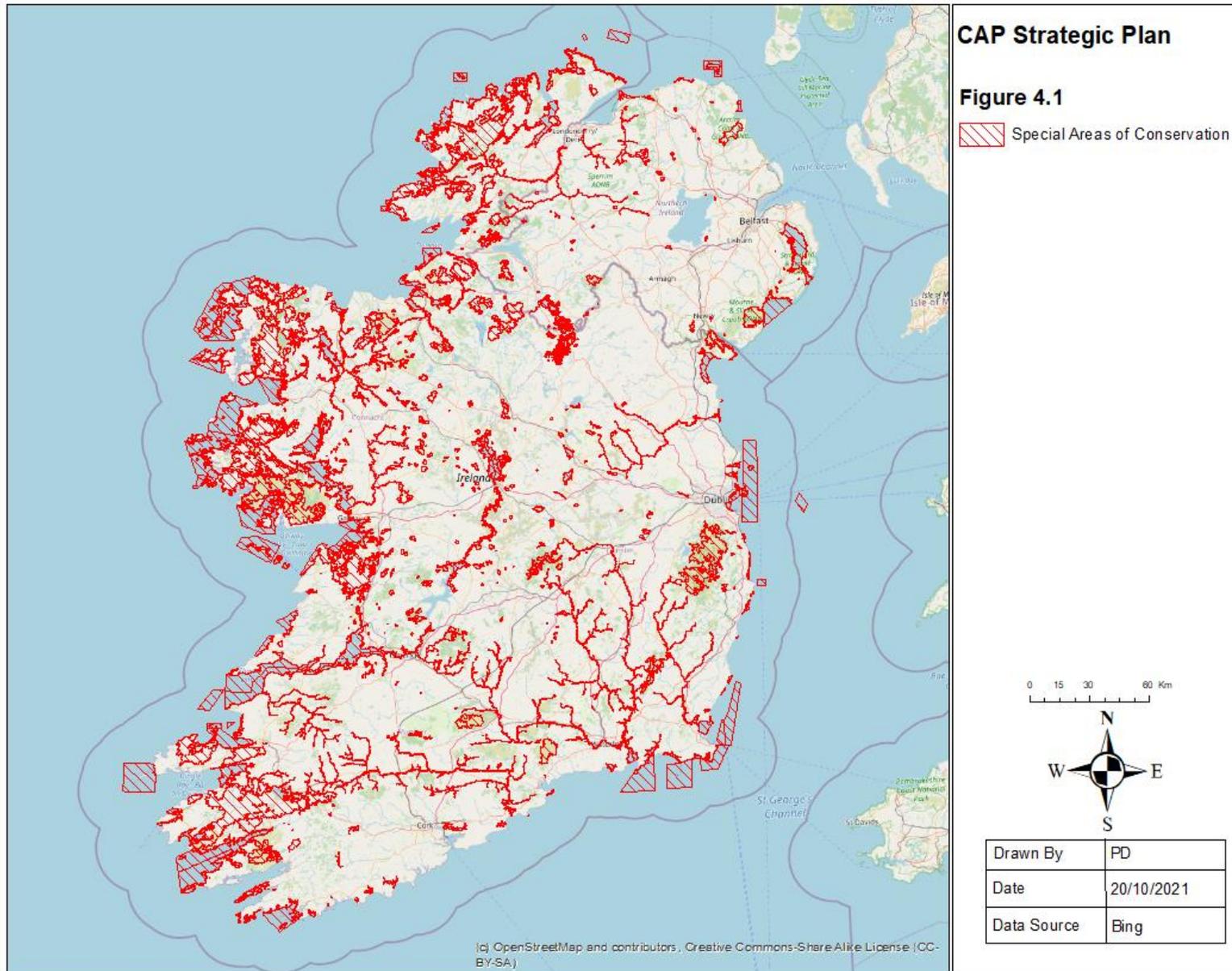
Table 4.1: European Sites, Annex 1 Habitats & Annex 2 Species

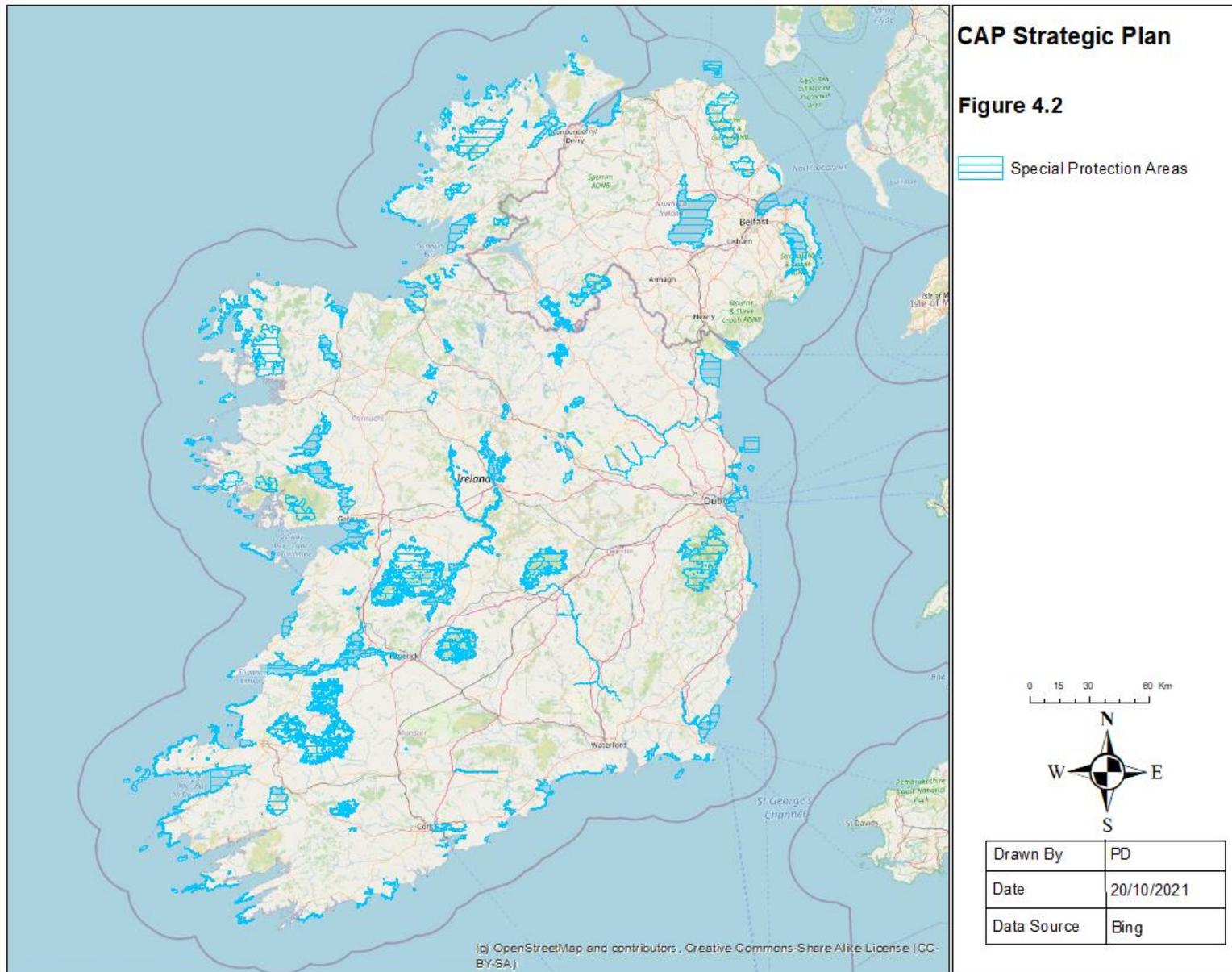
Republic of Ireland	Northern Ireland
433 SACs + 6 offshore SACs	58 SACs
165 SPAs	16 SPAs
59 Annex 1 Habitats, of which 16 are Priority Annex 1 Habitats	49 Annex 1 Habitats
25 Annex 2 Species	14 Annex 2 species

4.2 CONSERVATION OBJECTIVES FOR EUROPEAN SITE

Site-specific conservation objectives (SSCO) aim to define favourable conservation condition for a particular habitat or species at the European Site level. Maintaining habitats and species in a favourable conservation condition contributes to the wider objective to maintain those most vulnerable habitats and species at favourable status throughout their range within the Natura 2000 network.

At an individual site level, SSCO specify whether the objective is to maintain and/or to restore favourable conservation condition of the habitat or species, and they set out attributes and





targets that define the objectives. It is the aim of the NPWS to produce SSCO for all European sites in due course. Qualifying features of interest and special conservation interests are annexed habitats and annexed species of community interest for which an SAC or SPA has been designated. The SSCO for European Sites are set out to ensure that the features of interest of that site are maintained or restored to a favourable conservation condition / conservation status.

A full listing of the site-specific conservation objectives and qualifying features of interest and special conservation interests that each European Site is designated for, as well as the attributes and targets to maintain or restore them to a favourable conservation condition are available from the NPWS website www.npws.ie. It is noted that the existing conservation condition of some habitats and species is unfavourable at present for various reasons that include land use effects relating to agricultural activities. Further details on the existing threats and pressures to these features of interest arising from agricultural activity is provide in the subsequent section below.

4.3 CURRENT CONSERVATION STATUS OF FEATURES OF INTEREST

The current conservation status of features of interest of European Sites in Ireland is listed on Table 4.2 and 4.3 below.

Table 4.2: Current Conservation status of Annex 1 Habitat

Habitat	Conservation status
Sandbanks	Stable
Estuaries	Deteriorating
Tidal mudflats and sandflats	Deteriorating
Coastal lagoons	Deteriorating
Large shallow inlets and bays	Deteriorating
Reefs	Stable
Submarine structures made by leaking gases	Stable
Annual vegetation of drift lines	Deteriorating
Perennial vegetation of stony banks	Stable
Vegetated sea cliffs of the Atlantic and Baltic coasts	Stable
<i>Salicornia</i> and other annuals colonising mud and sand	Stable
Atlantic salt meadows	Deteriorating
Mediterranean salt meadows	Deteriorating

Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)	Deteriorating
Embryonic shifting dunes	Stable
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Stable
Fixed coastal dunes with herbaceous vegetation	Deteriorating
Decalcified fixed dunes with <i>Empetrum nigrum</i>	Stable
Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)	Stable
Dunes with <i>Salix repens</i> ssp. <i>Argentea</i> (<i>Salicion arenariae</i>)	Stable
Humid dune slacks	Deteriorating
Machairs	Stable
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorellatalia uniflorae</i>)	Stable
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i>	Deteriorating
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	Deteriorating
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> -type vegetation	Stable
Natural dystrophic lakes and ponds	Stable
Turloughs	Stable
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	Deteriorating
Rivers with muddy banks with <i>Chenopodion rubri</i> p.p. and <i>Bidention</i> p.p. vegetation	Stable
Northern Atlantic wet heaths with <i>Erica tetralix</i>	Deteriorating
European dry heaths	Stable
Alpine and Boreal heaths	Improving
<i>Juniperus communis</i> formations on heaths or calcereous grasslands	Stable
Calaminarian grasslands of the <i>Violetalia calaminariae</i>	Deteriorating
Semi-natural dry grasslands and scrubland facies on calcereous substrates (<i>Festuco-Brometalia</i>) (*important orchid sites)	Deteriorating
Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*	Stable
<i>Molinia</i> meadows on calcereous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	Deteriorating
	Deteriorating

Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	
Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	Deteriorating
Active raised bogs	Deteriorating
Degraded raised bogs still capable of natural regeneration	Deteriorating
Blanket bogs (*if active bog)	Deteriorating
Transition mires	Stable
Depressions on peat substrates of the <i>Rhynchosporion</i>	Deteriorating
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> *	Stable
Petrifying springs with tufa formation (<i>Cratoneurion</i>)*	Deteriorating
Calcereous and clacshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	Stable
Submerged or partially submerged sea caves	Stable
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	Deteriorating

Table 4.3: Current Conservation status of Annex 2 Species

Habitat/Species	Conservation status
Killarney fern (<i>Vandenboschia speciosa</i>)	Stable
Marsh saxifrage (<i>Saxifraga hirculus</i>)	Stable
Slender naiad (<i>Najas flexilis</i>)	Deteriorating
Slender Green Feather-moss (<i>Hamatocaulis vernicosus</i>)	Stable
Petalwort (<i>Petalophyllum ralfsii</i>)	Stable
Geyer's whorl snail (<i>Vertigo geyeri</i>)	Deteriorating
Narrow-mouthed whorl snail (<i>Vertigo angustior</i>)	Deteriorating
Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>)	Deteriorating
Kerry slug (<i>Geomalacus maculosus</i>)	Deteriorating
Freshwater pearl mussel (<i>Margaritifera margaritifera</i>) & (<i>Margaritifera margaritifera durrovensis</i>)	Deteriorating
White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	Improving
Marsh Fritillary (<i>Euphydryas aurinia</i>)	Stable
Sea Lamprey (<i>Petromyzon marinus</i>)	Stable
Brook Lamprey (<i>Lampetra planeri</i>)	N/A
River Lamprey (<i>Lampetra fluviatilis</i>)	Stable
Killarney Shad (<i>Alosa killarnensis</i>)	Stable

Twaite Shad (<i>Alosa fallax</i>)	Deteriorating
Atlantic Salmon (<i>Salmo salar</i>)	Improving
Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)	Improving
Otter (<i>Lutra lutra</i>)	Stable
Grey Seal (<i>Halichoerus grypus</i>)	Stable
Harbour seal (<i>Phoca vitulina</i>)	Stable
Bottlenose Dolphin (<i>Tursiops truncatus</i>)	Stable
Harbour Porpoise (<i>Phocoena phocoena</i>)	Stable

Table 4.4: Conservation Status of Special Conservation Interest Annex 1 Bird Species

Species Name	Conservation Status
Waterbirds	
Red-throated Diver (<i>Gavia stellata</i>)	Amber
Black-throated Diver (<i>Gavia arctica</i>)	Amber
Great Northern Diver (<i>Gavia immer</i>)	Amber
Storm Petrel (<i>Hydrobates pelagicus</i>)	Amber
Leach's Petrel (<i>Oceanodroma leucorhoa</i>)	Red
Bewick's Swan (<i>Cygnus columbianus bewickii</i>)	Red
Whooper Swan (<i>Cygnus Cygnus</i>)	Amber
Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>)	Amber
Barnacle Goose (<i>Branta leucopsis</i>)	Amber
Pochard (<i>Aythya farina</i>)	Red
Common Scoter (<i>Melanitta nigra</i>)	Red
Goldeneye (<i>Bucephala clangula</i>)	Red
Corncrake (<i>Crex crex</i>)	Red
Golden Plover (<i>Pluvialis apricaria</i>)	Red
Curlew (<i>Numenius arquata</i>)	Red
Dunlin (<i>Calidris alpina schinzii</i>)	Red
Kingfisher (<i>Alcedo atthis</i>)	Amber
Raptors	
Hen Harrier (<i>Circus cyaneus</i>)	Amber
Merlin (<i>Falco columbarius</i>)	Amber
Peregrine (<i>Falco peregrinus</i>)	Green
Coastal Birds	
Sandwich Tern (<i>Sterna sandvicensis</i>)	Amber
Roseate Tern (<i>Sterna dougallii</i>)	Amber
Common Tern (<i>Sterna hirundo</i>)	Amber

Arctic Tern (<i>Sterna paradisaea</i>)	Amber
Little Tern (<i>Sterna albifrons</i>)	Amber
Chough (<i>Pyrrhocorax pyrrhocorax</i>)	Amber

4.4 AGRICULTURAL RELATED THREATS AND PRESSURES TO EUROPEAN SITES

4.4.1 Overview

The Republic of Ireland has 59 habitats that are listed in the Annex I of the Habitats Directive. Of these, 16 are deemed to be priority habitats at a European level, including limestone pavements, machair, turloughs and active peatland habitats. Peat bogs cover approximately 13.7% of land, the majority of which are located in the south-west, west and north of the country. There are important habitats which support breeding populations of Manx shearwater (*Puffinus puffinus*) and Storm petrel (*Hydrobates pelagicus*). Coastal areas provide important habitats for Chough (*Pyrrhocorax pyrrhocorax*) and Breeding dunlin (*Calidris alpina*). Additionally, Ireland hosts several rare, protected and/or threatened plant and animal species, many listed in Annex II of the EU Habitats Directive and EU Birds Directive, including Otter (*Lutra lutra*), Freshwater Pearl Mussel (*Margaritifera margaritifera*), and Atlantic salmon (*Salmo salar*).

Ireland's wetlands are an important resource for over 50 species of overwintering migratory birds such as Light bellied brent goose (*Branta bernicla hrota*), Black-tailed godwit (*Limosa limosa*), Whooper swan (*Cygnus cygnus*), Greenland white-fronted goose (*Anser albifrons flavirostris*) and Ringed plover (*Charadrius hiaticula*). Blanket bog and upland areas provide habitats for species like Merlin (*Falco columbarius*) and Golden plover (*Pluvialis apricaria*). Many of the waterbird species that are included as special conservation interest bird species of SPAs in Ireland are not listed on Annex 1 of the EU Birds Directive (not listed on Table 4.4 above). It is the international importance of the populations of these species occurring within SPAs that qualify them as special conservation interests and has resulted in the SPA designation.

There are 18 common farmland bird species included in the Common Farmland Bird Index (1998-2019): Kestrel, Pheasant, Stock Dove, Woodpigeon, Swallow, Pied Wagtail, Stonechat, Magpie, Jackdaw, Rook, Hooded Crow, Starling, House/Tree Sparrow, Chaffinch, Greenfinch,

Goldfinch, Linnet, Yellowhammer. These species are reliant on farmland primarily for food or nesting. Farmland birds are known to be good indicators of High Nature Value (HNV) farmland with positive correlations, having been observed between population trends for farmland birds, including both generalist and specialist species and the extent of HNV.

As the largest land use in Ireland and in the absence of heavy industry, agriculture accounts for approximately around 35% of Greenhouse Gas Emissions. Whilst the extensive grass based ruminant production and high levels of organic matter in soil (reported to be 499 Mt in mineral soils,) confer some advantages, and the EU Joint Research Centre found that Ireland's food production systems provide for some of the lowest carbon footprint profiles across the EU on a per unit basis, the key drivers in agricultural related GHG Emissions derive from the number of cattle and nitrogen fertiliser use. Agriculture emissions have increased by 12% over the past 10 years, with provisional 2020 increases driven by increased fertiliser nitrogen use (3.3 per cent), increased numbers of livestock including dairy cows (3.2 per cent), other cattle (0.6 per cent), sheep (4.8 per cent) and pigs (2.5 per cent)²

The National Ambient Air Quality Monitoring Network managed by the EPA provides data related to air pollution for public information and reporting purposes. Air quality overall is of good quality in rural areas but localised effects can be identified from local emissions from agricultural activities or the use of solid fuel heating across smaller towns and villages in Ireland. The Environmental Protection Agency (EPA, 2021) published a compliance assessment for emissions of five key air pollutants which impact air quality, health and the environment. The pollutants, which are subject to current and future emissions ceilings under the EU National Emissions Ceiling (NEC) Directive, are:

- ammonia,
- non-methane volatile organic compounds,
- sulphur dioxide,

² <https://www.epa.ie/news-releases/news-releases-2021/ireland-continues-to-be-in-non-compliance-with-the-eu-national-emissions-ceiling-directive.php> accessed 24.09.2021

- nitrogen oxides and
- fine particulate matter (PM₅).

Atmospheric nitrogen pollution, specifically in the form of ammonia (NH₃), is a substantial threat to global biodiversity. There is unequivocal evidence from reports by the EPA and others (Kelleghan et al., 2019, 2020 & 2021; EPA, 2020; Hicks et al., 2013) that agriculture in Ireland is causing pollution and damage to ecosystems and biodiversity. Agriculture is the largest significant pressure on water resources. It is clear from EPA published assessments of agriculture that change is now required in the sector to ensure – and ‘assure’ - its environmental sustainability. Systemic change is required across the sector to address the challenges and as such it is important that the objectives of the CAP strategic plan aim to implement such change and monitor its progress.

Many of the Annex 1 habitats and Annex 2 species/special conservation interest bird species afforded protection through the designation of European Sites are nitrogen-limited (Kellaghan et al., 2021). Effects of ammonia on European sites and EPA research projects on ‘critical loads’ in Ireland have highlighted the ongoing impacts of air pollutants on ecosystem quality. Different critical loads are applicable to different habitat types with certain Irish habitats such as peatlands (e.g. raised bogs, blanket bogs, transition mires etc.) heathlands and dunes and other Annex 1 calcareous habitats being particularly sensitive to nitrogen deposition (NRA, 2011; Kellaghan et al., 2020; Kellaghan et al., 2021). Air pollutants relating to agricultural activity include ammonia, nitrogen oxides, non-methane volatile organic compounds (NMVOC) and particulate matter. The emission of these pollutants have local, regional and transboundary effects. The impact of nitrogen deposition on the structure and functioning of sensitive Annex 1 habitat and Annex 2 species are wide ranging and include:

- Toxicity of gases on individual plant species;
- Eutrophication and change in vegetation communities leading to a decrease in species richness and a more homogeneous vegetation structure
- Acidification of soil and water;
- Creation of cooler and damper micro-climates for fauna;
- Reduction in the availability of prey animals; and
- Decreases in the quantity and quality of food plants for fauna (see Bobbink et al., 2012).

At the time of writing Ireland has breached its ammonia emissions target for the third consecutive year. Agriculture contributes to 99% of ammonia emissions (EPA, 2020; Kelleghan et al., 2021) and has been identified as a direct source of nutrient exceedances within European Sites (Kelleghan et al., 2021).

A research study by the EPA suggests that pig and poultry production acts as concentrated point sources of atmospheric ammonia (Kelleghan et al., 2020). It was reported that the rearing of pigs and poultry contributed to 4% and 3% respectively of atmospheric ammonia emissions in 2016. Research under the Marsh model shows a clear spatial pattern nationally in relation to risk areas for ammonia emissions. As Ireland shares a land boundary with Northern Ireland there is potential for transboundary air quality impacts to European Sites. Kelleghan et al. (2019) found that the majority of Annex 1 habitats and Annex 2 species in Ireland are sensitive to atmospheric ammonia at a low critical level of $1 \mu\text{g}/\text{m}^3$. Qualifying features of interest of SACs that have higher critical levels are primarily coastal sites on which ammonia impacts are not likely. Kelleghan et al. (2019) found that 80.7% of European Sites site are likely to exceed the critical level of $1 \mu\text{g}/\text{m}^3$ while 5.9% of European Sites are likely to exceed critical levels of $3 \mu\text{g}/\text{m}^3$. Kelleghan et al. also noted that SACs are more vulnerable to impacts from atmospheric ammonia when compared to SPAs due to the potential for direct impacts on qualifying features. They consider concentrations above a critical level of $3 \mu\text{g}/\text{m}^3$ to have potential to impact vascular plants present within a European Sites, while concentrations above a critical level $1 \mu\text{g}/\text{m}^3$ of can impact lichen and moss communities and other sensitive habitats. The effects of atmospheric nitrogen deposition are not restricted to sensitive Annex 1 habitat or species that are located downwind of sources. Jones et al. (2013) found ammonia emissions from an intensive poultry unit contributed to exceedances of critical load levels for ammonia and nitrogen within a sand dune habitat 800m and 2.8km upwind of the poultry facility. Sutton et al. (2021) described an example of a poultry unit resulting in significant adverse impacts to Moninea Bog SAC, which is designated for its role in supporting an Annex 1 raised bog habitat. Sensitive bryophyte species that are central to the peat forming function of this bog, such as Sphagnum species and Cladonia lichen were found to be largely eradicated or degraded within 200m of the SAC.

Agricultural hotspots for atmospheric nitrogen deposition are typically livestock units and particularly intensive pig and poultry units. However, the potential for negative ecological

effects on European Sites from atmospheric nitrogen deposition is not just from hotspot sources but is also derived from inorganic and organic fertiliser application.

The impacts of nitrogen deposition to European Sites and the requirement for Appropriate Assessment to examine such impacts have been the subject of legal deliberation at the European Court of Justice. These deliberations are set out in the Dutch Nitrogen Case (C293/17 & C294/17) and the results of this judgement imply that any contribution of additional ammonia or nitrogen to a European Sites require Appropriate Assessment. The implications of this judgement have been succinctly summarised by Kelleghan et al. (2021) where they explain that emissions which are even below previously identified *de minimis* values may contribute towards a European Site not achieving favourable conservation status. In this instance, the Dutch Nitrogen Case is referring to sites which have already exceeded their site-specific critical thresholds. Hence, if a site is already impacted in the eyes of the European Court of Justice, any additional contribution could be considered a significant impact under the Habitats Directive (92/43/EEC) regardless of how minute. In light of this and given that a substantial proportion of Irish European Sites are at risk to exceed critical levels, Kelleghan et al. (2021) recommended that action is required not just to adequately assess new agricultural plans and project but to assess existing practices. They highlighted the need for a strategy to be put in place to assess and manage current exceedances and conclude by highlighting the following points that are intended to improved compliance of agricultural with the Habitat Directive:

- Appropriate Assessment should be carried out for all sources of ammonia including slurry spreading, fertiliser application, cattle grazing, livestock housing etc.
- Semi-continuous national ambient modelling is required;
- Detailed source apportioned concentration and deposition models are required for at-risk European Sites; and
- Site-specific nitrogen management plans for potentially at risk European Sites.

The National Emission Ceilings Directive establishes limit values for five air pollutants to help mitigate their impact on Member State populations. AS noted above one of these air pollutants is ammonia and the agriculture sector in Ireland is responsible for 99% of ammonia emissions. Under the National Emissions Ceiling Directive, Ireland has an ammonia target of 107,500 tonnes in 2030. The EPA (2020) Air Quality report indicated that there were 119,339 tonnes of ammonia produced in 2018. Projections going forward to 2035 indicate that increased dairy

cow numbers will be a driver of the increased emissions due to their high nitrogen excretion values relative to other livestock. The current National Air Pollution Control Programme Report (DECC, 2021) states that compliance with the ammonia target under this Directive with the implementation of existing measures presents a particular challenge. DECC (2021) list additional measures that are being implemented in the agricultural sector to deliver progress in lowering emissions. These measures include:

- Reductions in the crude protein content of pig feed;
- Low emission spreading of pig slurry;
- Low emission spreading of cattle slurry;
- Introduction of clover into grass swards; and
- Inhibited urea.

DECC (2021) have stated that the inclusion of these additional measures will deliver notable improvements for emission abatement in the agricultural sector when compared to the scenario using existing measures. Notwithstanding these improvements, in the absence of further additional measures, agricultural emissions, and particularly ammonia, is predicted to exceed the emission ceilings for 2030. Further abatement measures have been developed by Teagasc through their marginal abatement cost curve (MACC) for ammonia. This includes a menu of options, that if implemented, are projected to deliver the additional cumulative abatement required to achieve compliance with the National Emissions Ceilings Directive. Examples of the measures included in the MACC, over and above those additional measures listed above, include: crude protein – dairy; liming; covered stores – pigs; covered stores – bovine; poultry manure – drying;

FoodWise 2025 has delivered the intensification and growth in production that it promised but has not provided the environmental protection objective it envisaged and the natural environment has deteriorated during the strategy period, with trends in water quality, greenhouse gases, ammonia and biodiversity all going in the wrong direction. It is also clear from the evidence that agriculture and other land management practices are key drivers of these negative trends.

The EPA report on Ireland's Environment (2020) noted that agriculture was the most significant pressure on Ireland's aquatic environment. Pesticides such as 2,6-dichlorobenzamide, mecoprop (methylchlorophenoxypropionic acid) and MCPA (2-methyl-4-chlorophenoxyacetic acid) have been widely observed in the environment. MCPA is commonly used in agriculture to control rushes in grassland, and spill overs to water bodies can harm sensitive aquatic wildlife and cause problems in drinking water supplies.

The EPA (2020) reported in 2020 that surface waters and groundwaters continue to be under pressure from human activities, particularly from nitrogen and phosphorous from agriculture and urban wastewater discharges. Nutrient levels are too high in many surface waters and groundwater in Ireland and in some areas the trends are going in the wrong direction. The EPA have reported that nitrate levels in rivers, groundwater and estuaries in the south, southeast and east of Ireland are too high and that the elevated levels in these areas are primarily attributable to agricultural activities. The following catchments in the south and southeast of Ireland have elevated nitrogen concentrations: the Maigne/Deel; Bandon; Lee; Blackwater; Suir; Nore; Barrow; Slaney; Tolka/Liffey; and the Boyne. These elevated concentrations have direct negative implications for the conservation status of European Sites and their features of interest. Each of the catchments either support SACs and/or SPAs and/or drain into coastal SACs/SPAs. EPA research (EPA Catchments Unit, 2021) has shown that for these predominantly rural catchments (with the exception of the Tolka/Liffey catchment), more than 85% of the sources of nitrogen in the catchment are from agriculture derived from chemical and organic fertiliser application. The SACs and SPAs occurring in these catchments support many pollution sensitive species such as freshwater pearl mussel, Atlantic salmon, kingfisher, otter and Annex 1 river habitats.

The EPA have published pollution impact potential (PIP) maps which indicate the potential critical source areas (CSA) are where there is a diffuse source of phosphorus and nitrate from agricultural areas, and the land is susceptible to losses of these nutrients. High phosphorus PIP areas are typically due to the presence of poorly draining soils and moderate/high livestock intensity. High nitrate PIP areas typically reflect the presence of freely draining soils and moderate/high livestock intensity. These areas are readily apparent in the freely-draining catchments of the south and south-east of Ireland; nitrogen losses from these catchments in the continue to rise, and are over double the annual losses from catchments in the west. These maps and supporting data highlight the advantages of the right measure in the right place and

agricultural activities and responses being targeted accordingly. Figure 4.3 and 4.4 present these maps that reflect both the agricultural activity combined with factors including soil drainage, topography. Prior to the preparation of the PIP maps a similar sensitivity map was prepared for the Irish Water as part of the environmental assessment of the National Wastewater Sludge Management Plan (RPS,2016). This is reproduced as Figure 4.5 below and shows the areas identified at low sensitivity to landspreading of fertiliser with respect to the distribution of European Sites. Following the results of more recent research published by the EPA (EPA Catchments Unit, 2021) the extent of the area identified at low sensitivity to landspreading on Figure 4.5 is likely to be greater, with the Munster Blackwater catchment and the Nore catchment also included within the low sensitivity area.

Current measures in place to protect waters from nutrient losses derived from agricultural activities include the Nitrates Directive, the current Nitrates Action Plan and the associated Good Agricultural Practices Regulations; and the Code of Good Practice for the Use of Biosolids in Agriculture. In addition, the NPWS list of activities requiring consent (ARCs), which are underpinned by the European Communities (Bird and Natural Habitats) Regulations include restrictions for the application of inorganic or organic fertiliser, including slurry and farmland manure. Consent under this ARC is not required for such fertiliser application on established reseeded grassland or cultivated land provided it is greater than 20m from a river, stream or floodplain; or greater than 50m from a wetland, lake, turlough or pond.

Notwithstanding these controls and their effective implementation, ongoing research and monitoring as described above, has identified persistent and in some areas increasingly negative impacts of agricultural activity to water quality. In terms of protecting the conservation status of European Sites effective nutrient management planning at the site level is critical for avoiding nutrient losses to waters. As noted elsewhere (RPS, 2016) nutrient management plans do not appear to be subject to the land use assessment process provided for under Article 6(3) of Habitats Directive and as such the sensitivity of lands to fertiliser application, pathways to European Sites and their features of interest may not be currently factored in to decision making at the nutrient management planning site level.

Habitat and species declines have been linked to changing agricultural practices over recent years, particularly of traditional farmland bird species and pollinator species. This has been documented by the National Parks and Wildlife Service (NPWS), Birdwatch Ireland and the National Biodiversity centre.

The *6th National Report to the Convention on Biological Diversity* (2019) describes the decline in farmland bird species, such as the corncrake and yellowhammer, as indicative of changes in agricultural practices and a nationwide reduction in mixed farming with small-scale cereal growing, with a move instead to specialisation and livestock production. Non-Annex 1 red listed farmland species such as Curlew, Lapwing, and Snipe have little protection. The population of Curlew which is the largest wader in Ireland decreased by 96% in 2018 because of habitat destruction. According to BirdWatch Ireland, formerly abundant species, such as Skylark, Twite, and Barn Owl are also declining fast, and in some cases are now completely absent from vast swathes of land that were once firm strongholds. Eight new species are added to the Red List with the species of Corn Bunting going extinct. This is 45% increase in the number of farmland bird species on the Red List. These species include Golden plover, Dunlin, Redshank, Snipe, Kestrel, Stock dove, Whinchat and Meadow Pipit.

Following on from the overview presented above a review of published reporting specific to Annex 1 habitats, Annex 2 species and groups of bird species that represent the special conservation interests of SPA was undertaken. The published resource that has informed the review of agricultural threats and pressures to Annex 1 habitat and Annex 2 species and special conservation interest bird species groups are summarised in the following subsections and are outlined in detail in Appendix A. The threats and pressures listed below for Annex 1 habitat and Annex 2 species are based on the 2019 Article 17 Reports prepared by the NPWS. The published resources that have informed the review of agricultural threats to bird species include the 2018 Article 12 Reporting prepared by the NPWS as well as the Irish Wildlife Manual No. 106; 114 and 115.

Figure 4.3: Potential Impact Pollution Map – Nitrates: indicates higher ranking in the south and southeast as identified by EPA Catchments Unit

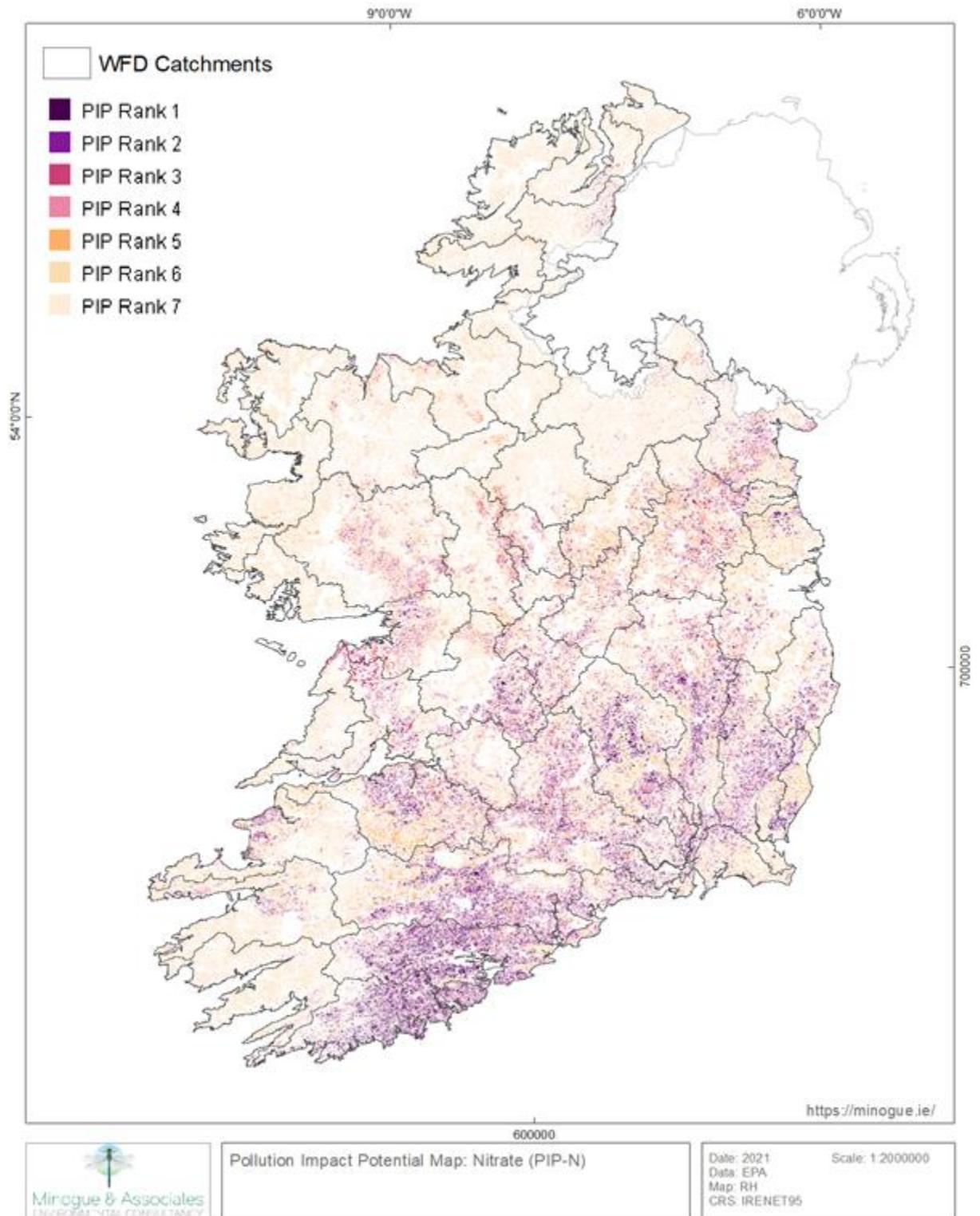


Figure 4.4: Potential Impact Pollution Map – Nitrates: indicates higher ranking on poorly drained soils

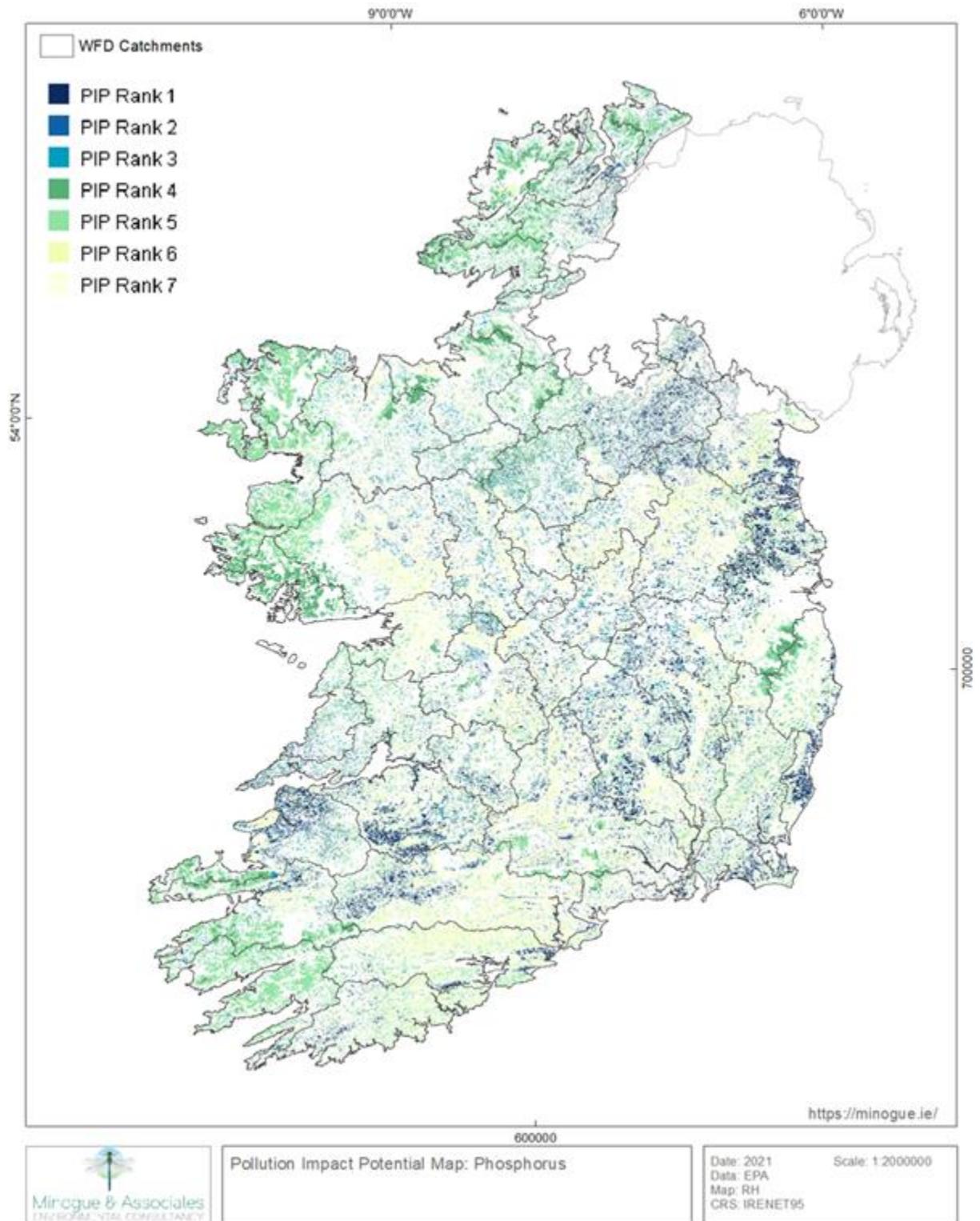
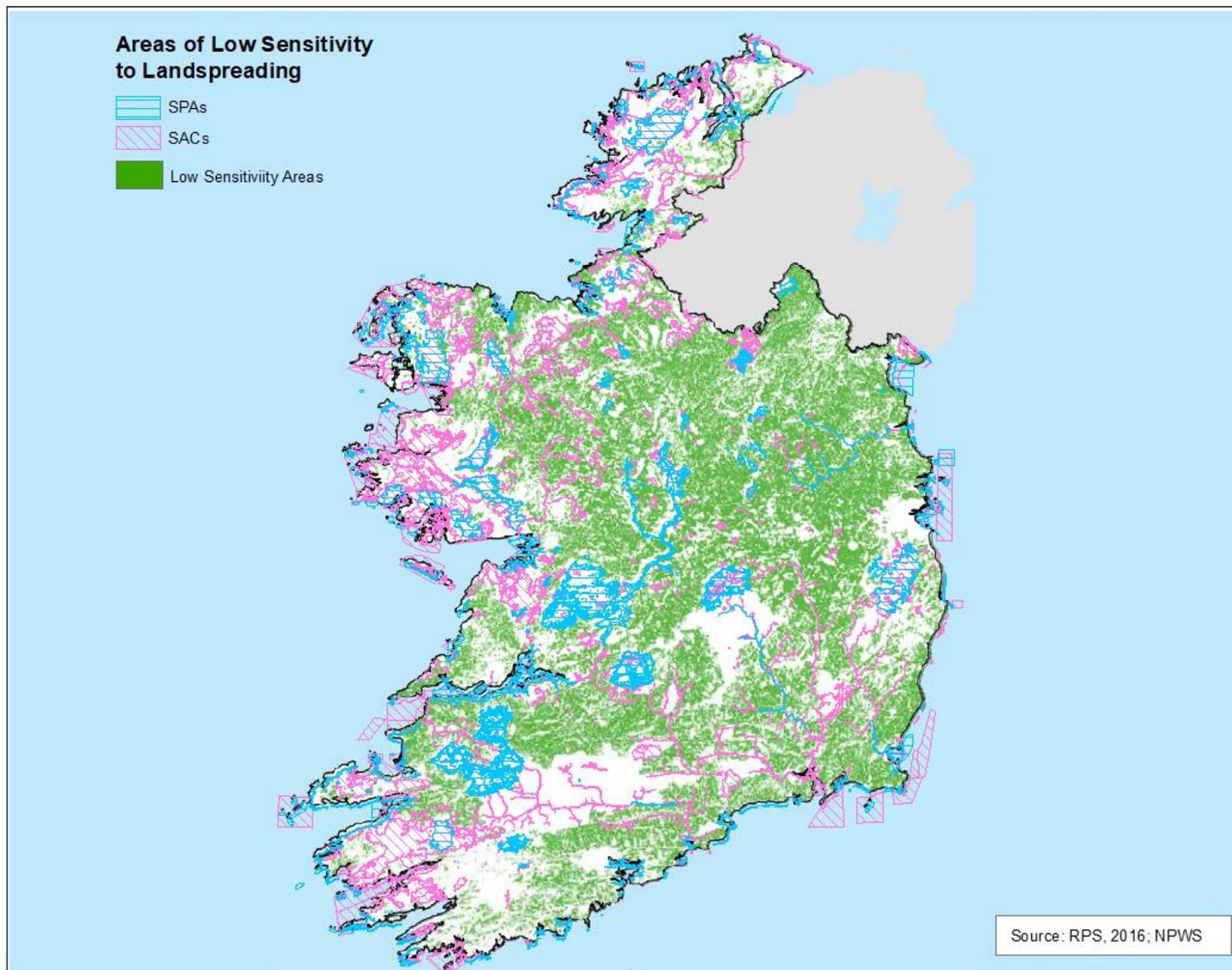


Figure 4.5: Areas of Low Sensitivity to Fertiliser Landspreading as identified by RPS Irish Water's National Wastewater Sludge Management Plan



4.4.2 Agricultural Related Threats to Annex 1 Habitats & Annex 2 Species

A summary of the agricultural-related threats and pressures to Annex 1 habitats, Annex 2 species and special conservation interest bird species is provided in Table 4.5 below. A full list of threats and pressures and the features of interest that are affected by them is provided in Appendix A.

Table 4.5: Summary List of Features of Interest affected by Agricultural-Related Threats & Pressures

Habitat	EU Pressure/Threat Code	Description
Estuaries	A28	Agricultural activities generation marine pollution
	Other Pressures/Threats	Increased sedimentation - agricultural activities particularly arable farming and ploughing have the potential to result in sediment losses to estuaries and increased sedimentation.
Tidal mudflats and sandflats	A28	Agricultural activities generation marine pollution
	Other Pressures/Threats	nutrient enrichment
Coastal lagoons	L03	Accumulation of organic material
	K04	Modification of hydrological flow
Large shallow inlets and bays	A28	Agricultural activities generation marine pollution
Salicornia and other annuals colonising mud and sand	A09	Intensive grazing or overgrazing by livestock
	Other Pressures/Threats	Species composition change from agricultural or forestry practices
	Other Pressures/Threats	Erosion
Atlantic salt meadows	A09	Intensive grazing or overgrazing by livestock
	A33	Modification of hydrological flow
	A36	Agricultural activities not referred to above
Mediterranean salt meadows	A09	Intensive grazing or overgrazing by livestock
	A33	Modification of hydrological flow

	A36	Agricultural activities not referred to above
	A10	Extensive grazing or undergrazing by livestock
Fixed coastal dunes with herbaceous vegetation	A10	Extensive grazing or undergrazing by livestock
	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
	A09	Intensive grazing or overgrazing by livestock
Decalcified fixed dunes with <i>Empetrum nigrum</i>	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
Dunes with <i>Salix repens</i> ssp. <i>Argentea</i> (<i>Salicion arenariae</i>)	A09	Intensive grazing or overgrazing by livestock
	A10	Extensive grazing or undergrazing by livestock
	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
Humid dune slacks	A19	Application of natural fertilisers on agricultural land
	A31	Drainage for use as agricultural land
Machairs	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
	A09	Intensive grazing or overgrazing by livestock
	A10	Extensive grazing or undergrazing by livestock
	A20	Application of synthetic (mineral) fertilisers on agricultural land
	A30	Active abstractions from groundwater, surface water or mixed water for agriculture
	A08	Mowing or cutting of grass

	A14	Livestock farming (in the form of supplementary feeding)
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorellatalia uniflorae</i>)	A26	Agricultural activities generating diffuse pollution to surface or ground waters
	A31	Drainage for use as agricultural land
	B27	Modification of hydrological flow
	K04	Modification of hydrological flow
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i>	K05	Physical alteration of water bodies
	A26	Agricultural activities generating diffuse pollution to surface or ground waters
	A25	agricultural activities generating point source pollution to surface or ground waters
	B23	Forestry activities generating pollution to surface or ground
	B27	Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams)
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	A26	Agricultural activities generating diffuse pollution to surface or ground waters
	A25	agricultural activities generating point source pollution to surface or ground waters
	B23	Forestry activities generating pollution to surface or ground waters
	B27	Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams)
	A31	Drainage for use as agricultural land
	Other Pressures/Threats	nutrient enrichment
	A20	Application of chemical fertilisers
	A19	Slurry spreading
	A01	Land reclamation for cultivation generating pollution
	A04	Land reclamation for grazing generating pollution
	A15	Ploughing generating pollution
	A13	re-seeding generating pollution
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition-type</i> vegetation	A25	agricultural activities generating point source pollution to surface or ground waters
	A26	Agricultural activities generating diffuse pollution to surface or ground waters

	K04	modification of hydrological flow
	K05	Physical alteration of water bodies
Natural dystrophic lakes and ponds	A26	Agricultural activities generating diffuse pollution to surface or ground waters
	B27	Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams)
	A31	Drainage for use as agricultural land
	A11	Burning of peatland
	A09	Overgrazing of peatland
	Other Pressures/Threats	nutrient enrichment
	Other Pressures/Threats	pollution with dissolved and particulate organic material and fine sediment
	Turloughs	A26
A09		Intensive grazing or overgrazing by livestock
A31		Drainage for use as agricultural land
Other Pressures/Threats		Drainage works need to be monitored and regulated
Water courses of plain to montane levels with the <i>Ranuncion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	A26	Agricultural activities generating diffuse pollution to surface or ground waters
	A25	agricultural activities generating point source pollution to surface or ground waters
	K04	Modification of hydrological flows
	K05	Physical alteration of water bodies
Rivers with muddy banks with <i>Chenopodium rubri</i> p.p. and <i>Bidention p.p.</i> vegetation	A09	Intensive grazing or overgrazing by livestock
Northern Atlantic wet heaths with <i>Erica tetralix</i>	A09	Intensive grazing or overgrazing by livestock
	A11	Burning for agriculture
	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A27	Agricultural activities generating air pollution

	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A14	Livestock farming (without grazing)
	J04	Mixed source soil pollution and solid waste (excluding discharge)
	K04	Modification of hydrological flow
European dry heaths	A09	Intensive grazing or overgrazing by livestock
	A11	Burning for agriculture
	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A36	Agricultural activities not referred to above (i.e. agricultural intensification)
Alpine and Boreal heaths	A09	Intensive grazing or overgrazing by livestock
	A27	Agricultural activities generating air pollution
	A11	Burning for agriculture
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
<i>Juniperus communis</i> formations on heaths or calcareous grasslands	None Listed (for high and medium threats/pressures)	
	A09	Intensive grazing or overgrazing by livestock
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A05	Removal of small landscape features for agricultural land parcel consolidation (in the form of juniper scrub removal)
	A11	Burning for agriculture
Calaminarian grasslands of the <i>Violetalia calaminariae</i>	A10	Extensive grazing or undergrazing by livestock

Semi-natural dry grasslands and scrubland facies on calcereous substrates (<i>Festuco-Brometalia</i>) (*important orchid sites)	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
	A10	Extensive grazing or undergrazing by livestock
	A09	Intensive grazing or overgrazing by livestock
Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*	A09	Intensive grazing or overgrazing by livestock
	A10	Extensive grazing or undergrazing by livestock
	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
<i>Molinia</i> meadows on calcereous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A10	Extensive grazing or undergrazing by livestock
	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A14	Livestock farming (without grazing)
	A31	Drainage for use as agricultural land
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	A09	Intensive grazing or overgrazing by livestock
	A31	Drainage for use as agricultural land
	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)
	A26	Agricultural activities generating diffuse pollution to surface or ground waters
	A11	Burning for agriculture
Lowland hay meadows (<i>Alopecurus</i>)	A02	Conversion from one type of agricultural land use to another (excluding drainage and burning)

<i>pratensis, Sanguisorba officinalis)</i>	A19	Application of natural fertilisers on agricultural land
	A20	Application of synthetic (mineral) fertilisers on agricultural land
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A14	Livestock farming (without grazing)
Active raised bogs	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A11	Burning for agriculture
Degraded raised bogs still capable of natural regeneration	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A11	Burning for agriculture
Blanket bogs (*if active bog)	A09	Intensive grazing or overgrazing by livestock
	A11	Burning for agriculture
	A27	Agricultural activities generating air pollution
	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	A36	Agricultural activities not referred to above (i.e. agricultural intensification)
	J04	Mixed source soil pollution and solid waste (excluding discharge)
Transition mires	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
	J01	Mixed source soil pollution to surface and ground waters
	K04	Modification of hydrological flow
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A09	Intensive grazing or overgrazing by livestock
Depressions on peat substrates of	A09	Intensive grazing or overgrazing by livestock
	A11	Burning for agriculture

the Rhynchosporion	B01	Conversion to forest from other land uses or afforestation (excluding drainage)
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>*	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A09	Intensive grazing or overgrazing by livestock
	K04	Modification of hydrological flow
	J01	Mixed source pollution to surface and ground waters
Petrifying springs with tufa formation (<i>Cratoneurion</i>)*	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A10	Extensive grazing or undergrazing by livestock
	J01	Mixed source pollution to surface and ground waters
	K04	modification of hydrological flows
Alkaline fens	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A09	Intensive grazing or overgrazing by livestock
	K04	Modification of hydrological flows
	J01	Mixed source pollution to surface and ground waters
	A26	Agricultural activities generating diffuse pollution to surface or ground waters
Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)	A09	Intensive grazing or overgrazing by livestock
	A10	Extensive grazing or undergrazing by livestock
	Other Pressures/Threats	Nitrogen enrichment
	A11	Burning for agriculture
Calcereous and calcareous screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	A09	Intensive grazing or overgrazing by livestock
Calcareous rocky slopes with chasmophytic vegetation	A09	Intensive grazing or overgrazing by livestock
	A27	Agricultural activities generating air pollution

	A11	Burning for agriculture
Siliceous rocky slopes with chasmophytic vegetation	A09	Intensive grazing or overgrazing by livestock
Limestone pavements	A01	Conversion into agricultural land
	A10	Extensive grazing or undergrazing by livestock
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	A09	Intensive grazing or overgrazing by livestock
	B09	Clear-cutting, removal of all trees
	A11	Burning for agriculture
	A05	Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc)
	I05	Plant and animal diseases, pathogens and pests
Bog woodland	A11	Burning for agriculture
	B09	Clear-cutting, removal of all trees
	A09	Intensive grazing or overgrazing by livestock
Alluvial forest with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)*	B09	Clear-cutting, removal of all trees
	I05	Plant and animal diseases, pathogens and pests
	A09	Intensive grazing or overgrazing by livestock
	B03	Replanting with or introducing non-native or non-typical species (including new species and GMOs)
	B21	Use of physical plant protection in forestry, excluding tree layer thinning
	B12	Thinning of tree layer
	B27	Modification of hydrological conditions or physical alteration of water bodies and drainage for forestry (including dams)
<i>Taxus baccata</i> woods of the British Isles*	A09	Intensive grazing or overgrazing by livestock
	I05	Plant and animal diseases, pathogens and pests

Annex 2 Species	EU Pressure/Threat Code	Description
Killarney fern (<i>Vandenboschia speciosa</i>)	A10	Extensive grazing or under grazing by livestock
	A11	Burning for agriculture
	I05	Plant and animal diseases, pathogens and pests
	Other Pressures/Threats	Not Listed
Marsh saxifrage (<i>Saxifraga hirculus</i>)	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A31	Drainage for use as agricultural land
	B27	Modification of hydrological conditions, or physical alteration of water bodies
	Other Pressures/Threats	Cattle Grazing
Slender naiad (<i>Najas flexilis</i>)	K04	Modification of hydrological flow
	K05	Physical alteration of water bodies
	A26	Agricultural activities generating diffuse pollution to surface and ground waters
	A25	Agricultural activities generating point source pollution to surface and ground waters
Slender Green Feather-moss (<i>Hamatocaulis vernicosus</i>)	A10	Extensive grazing or under grazing by livestock
	A30	Active abstractions from groundwater, surface water or mixed water for agriculture
Petalwort (<i>Petalophyllum ralfsü</i>)	A09	Intensive grazing or overgrazing by livestock
	A10	Extensive grazing or under grazing by livestock
Geyer's whorl snail (<i>Vertigo geyeri</i>)	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)
	A09	Intensive grazing or overgrazing by livestock
	A10	Extensive grazing or under grazing by livestock
	K04	Modification of hydrological flow
	Other Pressures/Threats	Cattle Grazing
	A06	Abandonment of grassland management (e.g. cessation of grazing or of mowing)

Narrow-mouthed whorl snail (<i>Vertigo angustior</i>)	A10	Extensive grazing or under grazing by livestock
Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>)	L01	Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)
	A07	Abandonment of management/use of other agricultural and agroforestry systems (except all grasslands)
	A10	Extensive grazing or under grazing by livestock
	Other Pressures/Threats	Abandonment of pastoral systems, lack of grazing
		Non-intensive mowing
Kerry slug (<i>Geomalacus maculosus</i>)	Other Pressures/Threats	Agricultural intensification
		Burning for agriculture
Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	A31	Drainage for use as agricultural land
	B27	Modification of hydrological conditions, or physical alteration of water bodies
	A26	Agricultural activities generating diffuse pollution to surface and ground waters
	C05	Peat extraction
	F33	Abstraction of ground and surface waters (including marine) for public water supply and recreational use
	A33	Bank reinforcement
	A30	Abstraction of ground and surface waters (including marine) for agriculture
	A14	Livestock farming (without grazing)
	K05	Physical alteration of water bodies (considered to be covered, along with most other agricultural pressures)
	A09	Intensive grazing or overgrazing by livestock (Over-grazing by sheep causing disturbance of peatland)
	A01	Conversion into agricultural land (excluding drainage and burning)
	A02	Conversion from one type of agricultural land use to another
	A04	Intensive and non-intensive grazing
	A05	Removal of small landscape features for agricultural land parcel consolidation

	A13	Reseeding generating pollution
	A20	Application of synthetic (mineral) fertilisers on agricultural land
	A19	Application of natural fertilisers on agricultural land
	B12	Thinning of tree layer/ tree felling
	B19	Nutrient loss during fertiliser application
White-clawed Crayfish <i>(Austropotamobius pallipes)</i>	I05	Plant and animal diseases, pathogens and pests
Marsh Fritillary <i>(Euphydryas aurinia)</i>	A01	Conversion into agricultural land (excluding drainage and burning)
	A07	Abandonment of management/use of other agricultural and agroforestry systems (except all grassland)
	A10	Extensive grazing or under grazing by livestock
	B01	Conversion to forest from other land uses or afforestation
Sea Lamprey <i>(Petromyzon marinus)</i>	A19	Application of natural fertilisers on agricultural land
	A20	Application of synthetic (mineral) fertilisers on agricultural land
	A31	Drainage for use as agricultural land
Brook Lamprey <i>(Lampetra planeri)</i>	A19	Application of natural fertilisers on agricultural land
	A20	Application of synthetic (mineral) fertilisers on agricultural land
	A31	Drainage for use as agricultural land
	B09	Clear-cutting, removal of all trees
River Lamprey <i>(Lampetra fluviatilis)</i>	A19	Application of natural fertilisers on agricultural land
	A20	Application of synthetic (mineral) fertilisers on agricultural land
	A31	Drainage for use as agricultural land
Killarney Shad <i>(Alosa killarnensis)</i>	Not listed	Not Listed
Twaite Shad <i>(Alosa fallax)</i>	A19	Application of natural fertilisers on agricultural land

	A20	Application of synthetic (mineral) fertilisers on agricultural land
Atlantic Salmon <i>(Salmo salar)</i>	A26	Agricultural activities generating diffuse pollution to surface and ground waters
	A25	Agricultural activities generating point source pollution to surface and ground waters
	K05	Physical alteration of water bodies
	J01	Mixed source pollution to surface and ground waters (limnic and terrestrial)
	G20	Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture
	L06	Interspecific relations (competitions, parasitism, pathogens)
	Lesser horseshoe bat <i>(Rhinolophus hipposideros)</i>	A05
A14		Livestock farming (without grazing) [impact of anti-helminthic dosing on dung fauna]
B09		Clear-cutting, removal of all trees
H08		Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving))
L06		Interspecific relations (competitions, parasitism, pathogens)
Other Pressures/Threats		Alterations to commuting routes (e.g. hedgerows clearances)
		Felling of foraging habitats
Otter (<i>Lutra lutra</i>)	Other Pressures/Threats	Diffuse and point-source pollution of freshwaters and coastal waters
Special Conservation Interest Bird Species	EU Pressure/Threat Code	Description
Coastal Birds	A02	Modification of cultivation practices
	A04	Grazing
	A05	Livestock farming and animal breeding without grazing
	A08	Fertilisation

Raptors	A04	Grazing
	A09	Irrigation
Breeding waterbird	A01	Cultivation
	A03	Mowing/cutting of grassland
	A04	Grazing
	A08	Fertilisation
Wintering waterbird	A04	Grazing
	A08	Fertilisation

4.4.3 Features of interest for Which Agricultural Threats & Pressures are Not Listed

The latest Article 17 reports (NPWS, 2019) do not list agricultural related pressures/threats listed for the following features of interest:

- Sandbanks
- Submarine structures made by leaking gases
- Perennial vegetation of stony banks
- Vegetated sea cliffs of the Atlantic and Baltic coasts
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
- Embryonic shifting dunes
- Caves not open to public
- Submerged or partially submerged sea caves
- Killarney shad
- Grey seal

- Harbour seal

- Bottlenose dolphin

- Harbour porpoise

Given that the CAP Strategic Plan aims to provide support for continued agricultural land use activities with a new focus on undertaking such activities in an environmentally sustainable manner and in light of the absence of existing threats or pressures from agricultural to these features of interest, they are not considered to be at risk of likely significant effects from the land use interventions of the CAP Strategic Plan. As such further detailed examination of agricultural-related threats/pressures to these features of interest is not required and they are not considered further in this Natura Impact Statement.

4.4.4 Other Agricultural-Related Threats to Non-Special Conservation Interest Bird Species

A review of Article 12 National summary of the overall population trends for the period of 2013-2018 reveals that agricultural pressures affect about 4.39% of the Annex I bird species and it is expected that the agricultural threats will account for 7.89% of bird species being impacted in near future. The number of bird species/ populations reported under agricultural pressure category was reported to be 16 with 5 bird species under high pressures. 19 bird species were reported to be affected by agricultural threats. It is important to note that the current assessment relates to the time period as per reporting under Article 12 of the Birds Directive, in that pressures relate to the six-year period 2013-2018, while future threats relate to the future two reporting periods (i.e. within 12 years following the end of the current period).

Irish Wildlife Manual on the Status of Ireland's Watering Winterbirds³ identified agriculture as a threat to 6 species grouping namely swans, geese, ducks, wildfowl allies, waders, and gulls. Most of the farmland borders inland wetlands on which the migratory waterbirds rely upon

³ Lewis, L. J., Burke, B., Fitzgerald, N., Tierney, T. D. & Kelly, S. (2019) Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16. Irish Wildlife Manuals, No. 106. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

during winters. Since migratory swans and goose species and waders (Lapwing, Golden Plover and Curlew) rely heavily on agricultural lands, these species are therefore vulnerable to any changes in agricultural land use and management. Conversion from one type of agricultural land use to another (A02) is considered as high agricultural threat/pressure for these bird species.

A review of Irish Wildlife Manual on the Status of Ireland's Breeding Seabirds⁴ recognised intensive grazing or overgrazing by livestock (A09) as a pressure/threat affecting about 29% of the 24 species while interspecific relations (competitions, parasitism, pathogens) (L06) affecting 21% of these species.

Irish Wildlife Manual on the Status of Common and Widespread Breeding Birds⁵ identified a few agricultural pressures/threats impacting the population of common breeding birds across Ireland. The use of herbicides and insecticides on agricultural land, as well as recreational land, constitutes a low-level pressure and threat for many birds in the wider countryside by removing sources of food that can be important to help secure breeding success and overwinter survival at key times during the year. Additionally, Table 4.5 provides a summary of different agricultural pressures/threats affecting the common breeding birds as identified from these sources.

⁴ Cummins, S., Lauder, C., Lauder, A. & Tierney, T. D. (2019) **The Status of Ireland's Breeding Seabirds: Birds Directive Article 12 Reporting 2013 – 2018. Irish Wildlife Manuals, No. 114. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland**

⁵ Lewis, L. J., Coombes, D., Burke, B., O'Halloran, J., Walsh, A., Tierney, T. D. & Cummins, S. (2019) **Countryside Bird Survey: Status and trends of common and widespread breeding birds 1998-2016. Irish Wildlife Manuals, No. 115. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.**

Table 4.6: Agricultural Pressures/Threats to Other Bird Species

Pressure/ threat Code	Description	Affected bird species
A01	Conversion into agricultural land (excluding drainage and burning)	Yellowhammer and Stock Dove
A02	Conversion from one type of agricultural land use to another	Stock Dove, Linnet, Yellowhammer, Reed Bunting and Skylark
A05	Removal of small landscape features for agricultural land parcel consolidation	Blackbird, Chaffinch, Collared Dove, Dunnock, Goldfinch, Greenfinch, Linnet, Long-tailed Tit, Mistle Thrush, Robin, Song Thrush, Tree Sparrow, Whitethroat, Woodpigeon, Wren and Yellowhammer.
A06	Abandonment of grassland management	Meadow Pipit and Skylark
A09	Intensive grazing or overgrazing by livestock	Meadow Pipit and Skylark
A11	Burning for agriculture	Skylark, Meadow Pipit, Stonechat, Reed Bunting and Linnet

A13	Reseeding	Linnet and Yellowhammer
A31	Drainage for use as agricultural land	Reed Bunting and Sedge Warbler
B01	Conversion to forest from other land uses or afforestation	Meadow Pipit, Skylark and Starling
C05	Peat extraction	Meadow Pipit and Skylark
Other pressures/threats	Agricultural intensification	Kestrel
Other pressures/threats	Cessation of grazing and mowing	Starling
Other pressures/threats	Intensive mowing operations i.e., silage harvesting	Meadow Pipit and Skylark

5.0 IMPACT ASSESSMENT

5.1 ELEMENTS OF THE CAP STRATEGIC PLAN SUBJECT TO NATURA IMPACT STATEMENT EXAMINATION

Elements of the CAP Strategic Plan that have the potential to result in land use activities have been examined as part of this Natura Impact Statement. CAP Strategic Plan contains elements that are explanatory and will not result in land use activities. A review of the Strategic Plan was completed order to identify the elements that will and will not result in land use activities. Table 5.1 below lists the Sections of the Strategic Plan and identifies those sections that are subject to examination as part of this Natura Impact Statement and those that are not.

Table 5.1: Elements of the CAP Strategic Plan and Assessment Requirements

Section	Requires Natura Impact Statement Examination	Rationale
Section 1:Strategic Statement	No	Factual information setting out the context of the CAP SP and how it relates to requirements under the CAP regulations. Essentially a non-technical summary
Section 2.1 Needs Assessment	No	This Needs Assessment, undertaken as part of the development of Ireland’s CAP Strategic Plan 2023-2027 (CSP), aims to identify and prioritise the high-level needs of the Irish agri-food sector.
Section 2.1 con;td	No	This Section provides a description of existing schemes and programmes that provide support for agriculture.

Section 3: Consistency of the Strategy and complementarities.	No	
Section 3.1	No	Overview of the interventions that contribute to ensure a coherent and integrated approach to risk management
Section 3.4	No	Overview of the sector-related interventions, including coupled income support and sectoral interventions, providing a justification for targeting the sectors concerned, the list of interventions per sector, their complementarity, as well as the possible specific additional targets related to the interventions based on the sectoral types of interventions
Section 3.5	No	Interventions that contribute to Risk Management: For each topic, this section provides an overview of synergies and complementarities emerging from a combination of interventions and conditions set in the CAP Strategic Plan
3.5 Conditionality In doc number is 3.9	Yes	CSP Section 3.5 Conditionality - Summary of on-farm practice/obligation; Territorial scope; Type of farmers concerned; Explanation of the contribution to achieve the main objective of the GAEC standard

Section 3.8 Simplification	No	An explanation of how the interventions and elements common to several interventions contribute to simplification for final beneficiaries and reduce the administrative burden.
Section 3.9 Conditionality	Yes	CSP Section 3.5 Conditionality - Summary of on-farm practice/obligation; Territorial scope; Type of farmers concerned; Explanation of the contribution to achieve the main objective of the GAEC standard
Section 4.1	No	This provides basic definitions including that of Eligible Hectare- more for commentary Definitions and minimum requirements (to be further defined).
Section 4.2	No	Elements related to convergence of direct payments.
Section 4.3 Technical Assistance	No	The Department of Agriculture, Food and the Marine, as the Managing Authority, will use a proportion of the EAFRD for Technical Assistance. This funding will be used to fund a range of activities associated with the development, improved implementation, monitoring, evaluation, information and communication and networking of the CAP Strategic Plan [check against final regulatory requirements]. The use of Technical Assistance funding will provide valuable support to underpin the effective implementation

		<p>of the CAP Strategic Plan including activities relating to both the EAFRD and the EAGF.</p> <p>4.3.2 Scope and indicative planning of activities</p> <p>During the lifetime of the CAP Strategic Plan, it is expected that technical assistance from the EAFRD will fund the following activities;</p> <ul style="list-style-type: none"> ➤ the National CAP Network ➤ an Innovation Hub providing innovation support services ➤ ex-post evaluation of the RDP 2014-2022 ➤ mid-term evaluation of the CAP Strategic Plan 2023-2027 ➤ ex-ante evaluation of the successor to the CAP Strategic Plan 2023-2027 ➤ any external expertise or projects which may be required in relation to the evaluation, monitoring and data collection; ➤ Managing Authority information, publicity, translation*; ➤ expenses incurred in the operation of the National Monitoring Committee.
Section 4.4.	No- administrative	4.4.1 Summary overview and objectives of the National CAP Network, including activities to support EIP and knowledge flows within the AKIS
Section 4.5	No	This Section relates to coordination, demarcation and complementarities between EAFRD and other Union

		funds active in rural areas and will not result in land use effects
CSP Section 4.7.1	No.	This states what is not eligible under the CAP capital investment scheme. No land use implications
4.7.2 Definition of rural area & applicability	No	What is and isn't rural area defined in Ireland. Its definition is this: The Commission for the Economic Development of Rural Areas (CEDRA) defined rural Ireland as 'all areas located beyond the administrative boundaries of the five largest cities' - therefore the term 'rural areas' was used to encompass open countryside, as well as small, medium and large towns. This definition is consistent with Our Rural Future's requirement to adopt a holistic and place-based approach to rural development.
5 Interventions Pillar 1 Section 5.1 BISS, CRISS, Eco-Scheme	Yes	Potential for Land use effects
5.3 Interventions Pillar II	Yes	Landuse effects

6 Financial Plan	No	The ex-ante evaluation assesses the financial plan it is of relevance in understanding allocations to different schemes but not assessment
7 Governance Systems And Coordination Systems	No	Identification of governance bodies
7.1 identification of governance systems	No	Identification of governance systems
7.2 Monitoring and reporting systems	No	Description of the monitoring and reporting systems. Will not result in land use effects.
7.3 Description of IACS Interventions	No	Presents penalties for non-compliance such under reporting of land, late applications etc
Description of non IACS interventions	No	As above but for Non-IACS interventions
7.4 Conditionality	Helpful but not basis of assessment	Compliance with conditionality and penalties/corrective action
8.1 Modernisation	No	Showing how the CAPSP for Ireland meets modernisation requirements.

9 Evaluation	No	This is the EU Commission Evaluation of Ireland CAP plan and happens in 2022
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In summary the elements of the CAP Strategic Plan that have been identified as having potential to result in land use effects and that require assessment are:

- Section 3.9 Conditionality: SMRs and GAECs
- Section 5 Interventions: Pillar 1 & Pillar 2 Interventions

5.2 ASSESSMENT OF STATUTORY MANAGEMENT REQUIREMENTS

A total of 10 SMRs are included for in the CAP Strategic Plan. The SMRs included in the CAP Strategic Plan have been agreed at European level following the conclusion of CAP negotiations.

Table 5.2 lists the 10 SMRs outlined in the CAP Strategic Plan and provides an evaluation of predicted impact their implementation will have for European Sites.

Table 5.2: Assessment of SMR Controls to be Implemented as part of the CAP Strategic Plan

SMR	Assessment of Effect
SMR 1 – Water Framework Directive	<p>The proposed controls relevant to this SMR that will be implemented as part of the CAP Strategic Plan include:</p> <ul style="list-style-type: none"> • Abstraction register cross-checks on certain holding types may form a requirement under this standard. • The proposed controls that are specified under SMR 2 (see below for assessment).

SMR 2 – Nitrates Directive	<p>The proposed controls relevant to this SMR that will be implemented as part of the CAP Strategic Plan include:</p> <p><i>Limiting the amount of N that can be applied to land</i></p> <p>Holdings are prohibited from applying more than 170kg organic N ha yr. Derogated holdings, subject to the implementation of additional requirements outside the scope of cross compliance, may apply up to 250kg organic N ha yr</p> <p><i>Provisions for the handling and storage of livestock manure</i></p> <p>Requirements exist for the proper collection and management of organic manures produced on the holding and/ or those imported onto the holding. Minimum winter storage periods apply in respect of organic manures.</p> <p><i>Controlling when, where and how N and P is applied</i></p> <p>Periods apply where the application of nutrients to land is prohibited. In addition, no spread buffer zones are also applicable to various types of water features. The use of certain types of manure spreading equipment is prohibited, and low emission spreading equipment is mandatory for certain types of holdings.</p> <p><i>Restrictions on ploughing, and requirements to establish and maintain an arable green cover</i></p> <p>Restrictions on ploughing, and requirements to establish and maintain an arable green cover apply at certain times of the year.</p> <p><i>Requirements to maintain records in relation to nutrient management</i></p>

	<p>All holdings must maintain a record detailing the types and quantities of nutrients imported and applied on the holding, and nutrients exported off the holding. Other nutrient management related activities must also be recorded. Records must be finalised by the 31st of March of the following year.</p> <p>It is noted in the CAP Strategic Plan under the controls for SMR 2 that standard requirements applicable to the proposed SMR 2 will be subject to the review of, and amendments to, Irelands NAP and its implementing SI's.</p> <p>It is understood that the Nitrates Expert Group is currently preparing the new NAP, which will be implemented by updated Good Agricultural Practices Regulations. The RBMP Natura Impact Statement recently described the expected elements of the new NAP as follows:</p> <p>Retention of the existing controls on Nitrogen and Phosphorous from agriculture.</p> <p>Implementation of tighter controls on nitrogen and phosphorus inputs by:</p> <p>Establishment of a chemical fertiliser register for farmers</p> <p>Provision for enhanced programmes of enforcement.</p> <p>Stipulation of tighter controls on the use of chemical nitrogen fertilisers focussed on critical source areas</p> <p>Incorporation of an industry-led initiative to reduce agricultural impacts on water quality.</p> <p>As described in Section 4 of this Natura Impact Statement nutrient losses to water as a result of agricultural activity represents the most significant pressure to water quality in Ireland. The purpose of the Good Agricultural Practices Regulations that will be provided for under the new NAP will be the control of</p>
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nutrient emissions to waters. These new controls will provide the basis for future controls under this SMR.

Heretofore the implementation of the existing Good Agricultural Practices Regulations has not resulted in reductions in nutrient pollution in waters. EPA monitoring in recent years has shown that nutrient pollution trends are declining and a reason for this is the ongoing expansions of the agricultural sector. Given that the forthcoming NAP will represent the fifth NAP to be implemented in Ireland and in light of current water quality trends significantly influenced by agricultural activity, it is expected that a continuation of existing controls implemented under the current Good Agricultural Practices Regulations will not have the potential to stem nutrient losses to waters as a result of agricultural activity, with consequent adverse effects for water dependant and/or nutrient sensitive European Sites and features of interest.

As noted in the RBMP NIS “the actions arising from the new NAP have potential for significant adverse effects on European Sites; particularly mindful of nutrient loss to water from agriculture is one of the most significant pressures on water quality in Ireland. The new NAP will be subject to AA and SEA in its own right and the new NAP will be required to be cognisant of the RBMP; including the mitigations identified within this NIS for the RBMP”. In addition to this the new NAP will be required to be cognisant of the CAP Strategic Plan and the mitigation measures identified in this NIS and the SEA of the CAP Strategic Plan.

The controls under this SMR include for derogated holdings, subject to the implementation of additional requirements outside the scope of cross compliance. The recently published RBMP NIS provided the following assessment of nitrates derogations and it is considered that this assessment is also entirely applicable for the CAP Strategic Plan and the controls to be implemented under this SMR.

“In the context of nitrates derogations, it is noted that where a farm has a derogation and has an eco-hydrological pathway to a European site, there is

	<p>potential risk to the favourable conservation status objective of those European sites. The derogations will be decided as part of the NAP process. However, it is estimated that over 5,000 farms within the state would seek to avail of the derogation status, covering significant land areas. The list of farms and /or their location is not available. From a precautionary perspective it is assumed that some of these farms and their activities have eco-hydrological pathways to European sites and that some of these European sites are within the landholding. Therefore, there is significant potential for adverse effects on maintaining and achieving conservation objectives and therefore integrity of European Sites with respect to these derogations both individually and in combination with other derogations, plans and projects. Given the scale of derogations under previous cycles of the NAP, the potential for in-combination effects is significant. It will therefore be vital that any derogations which emerge from the NAP will be subject to Appropriate Assessment; which should include a robust assessment of in-combination adverse effects”.</p>
<p>SMR 3 – Birds Directive</p>	<p>The proposed controls relevant to this SMR that will be implemented as part of the CAP Strategic Plan include:</p> <ul style="list-style-type: none"> • Checks for evidence of any activities that require consent (ARC) which have been carried out or are being carried out without having the appropriate written consent in place. Written consent must be presented at inspection. • Checks for evidence of any activities inside and/or outside the protected areas likely to cause a deterioration of habitats or any disturbances affecting birds, e.g. hedge cutting during the bird nesting season.
<p>SMR 4 – Habitats Directive</p>	<p>The proposed controls relevant to this SMR that will be implemented as part of the CAP Strategic Plan include:</p> <ol style="list-style-type: none"> 1. Checks for any actions being carried out with the necessary permission within the designated lands. Written consent regarding Notifiable Actions must be seen at inspection.

	<p>2. Where permission has been granted by NPWS, checks will be carried out to see that works did not go beyond what was granted.</p> <p>The controls provided for under this SMR will implement consenting procedures for activities within the boundaries of SACs and will implement penalties for non-consented agricultural activities within SACs that have potential to result in likely significant effects to the SACs conservation objectives.</p> <p>However, many SACs support habitats and species whose conservation status is vulnerable to activities not just within the boundary of the SAC but also outside the boundary of the SAC. The presence of a habitat or species receptor within the zone of influence of land use activities can have potential to result in significant adverse effects to their conservation status, even if the activity is undertaken at a distance from the SAC. The zone of influence of land use activities can be varied and needs to be determined by a source-pathway-receptor (SPR) model. An example of a zone of influence and SPR model is provided under SMR 2 above for water-dependent or nutrient-sensitive habitats or species. The zone of influence of these habitats or species could encompass sub-catchments or catchments.</p> <p>In the absence of consideration of the zone of influence of land use activities supported under the CAP the potential will exist for continued agricultural activity to perpetuate the agricultural threats and pressures to Annex 1 habitat and Annex 2 species as identified in Section 4.4 of this Natura Impact Statement.</p>
<p>SMR 6 - Council Directive 96/22/EC of 29 April 1996 concerning the prohibition on the use in stockfarming of certain substances having a</p>	<p>The proposed controls relevant to this SMR that will be implemented as part of the CAP Strategic Plan include:</p> <ul style="list-style-type: none"> • Check medicine records as part of on-farm visit • Farm visits selected under the target criteria for the detection of residues of banned substances • Checks for the presence of residues of banned substances and unauthorised substances at approved laboratories for the specified animal species and substance groups

<p>hormonal or thyrostatic action and beta-agonists</p>	<ul style="list-style-type: none"> • Checks that where authorised veterinary medicines have been used, any residues present in the animals, presented for slaughter for human consumption, do not exceed EU maximum residue limits. <p>This SMR set out controls for the storing of medicinal and banned substances on farms. This SMR is not relevant to the protection of European Sites and their features of interest and will not have the potential to result in significant adverse interactions with the conservation objectives of European Sites.</p>
<p>SMR 12 - Plant Protection Products</p>	<p>The controls provided for under this SMR aim to implement controls for the use of pesticides. The implementation of these controls will have the potential to result in positive impact for European Sites and their features of interest.</p>
<p>SMR13 - Sustainable Use Directive</p>	<p>The controls provided for under this SMR aim to implement the legislative requirements of the Sustainable Use Directive as set out and enforced under national legislation. These controls will provide for the restriction and/or reduction of pesticide use in specific areas such as protected areas as defined under the Water Framework Directive, Habitats Directive or Birds Directive. The implementation of these controls will have the potential to result in positive impact for European Sites and their features of interest.</p>
<p>SMR 14</p>	<p>The controls provided for under this SMR aim to target animal welfare on farms and is not relevant to the protection of European Sites and their features of interest and will not have the potential to result in significant adverse interactions with the conservation objectives of European Sites.</p>
<p>SMR 15</p>	<p>The controls provided for under this SMR aim to target animal welfare on farms and is not relevant to the protection of European Sites and their features of interest and will not have the potential to result in significant adverse interactions with the conservation objectives of European Sites.</p>

SMR 16	The controls provided for under this SMR aim to target animal welfare on farms and is not relevant to the protection of European Sites and their features of interest and will not have the potential to result in significant adverse interactions with the conservation objectives of European Sites.
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5.3 ASSESSMENT OF GAECs & INTERVENTIONS

The assessment of the effects each of the GAECs and interventions have to features of interest of European Sites have been completed and are provided in Appendix B. Table 5.3 below provides a summary of the GAECs, Pillar I and Pillar II Interventions that have been identified as having the potential to result adverse effects. Predominantly the adverse identified during the assessment of the GAECs and interventions with respect to features of interest relates to the inappropriate application of interventions. This finding aligns with submissions raised during CAP consultations process that highlighted the need for “the right measure in the right place”. The aims and objectives of the GAECs and the Pillar I Eco-Scheme and the Pillar II Interventions is to support agricultural in ways that contribute to improvements in environment conditions and climate action.

The summary impact table below identifies where these interventions have positive and negative impacts for features of interest. Mitigation measures and recommendations are provided in Annex B for each of the features of interest where potential adverse effects are identified. A summary of these measures is provided in Section 6 of this Natura Impact Statement.

Table 5.3: Assessment of GAEC, Pillar I & Pillar II Interventions

Condition/Intervention	Impact	Assessment Rationale
GAECs		
<p>GAEC 1 Maintenance of permanent grassland with a maximum decrease of 5% compared to reference year.</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p> <p>Positive for water-dependent features of interest.</p>	<p>The restriction of changes in agricultural land use from grassland to arable will limit ploughing and thereby limit losses to water-depend habitats.</p>
<p>GAEC 2 Protection of Wetland & Peatland</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p> <p>Positive for water-dependent features of interest:</p> <p>Annex 1 lake habitats</p>	<p>The protection of carbon-rich soils in the form of peatlands and wetlands that are representative of an agricultural area or eligible hectare will have the potential to result in indirect positive impacts for the features of interest listed opposite. As part of this GAEC infilling/inversion ploughing and the conversion of lands from permanent grassland to arable will be restricted in agricultural areas/eligible hectares that are identified as peatland and</p>

	<p>Annex 1 river habitat</p> <p>Annex 2 vascular plant species (namely slender naiad)</p> <p>Annex 2 fish species</p> <p>Otters</p> <p>Breeding Waterbirds (namely kingfisher)</p> <p>Freshwater pearl mussel</p> <p>White-clawed crayfish</p> <p>Potential positive impacts particularly groundwater dependent features of interest:</p> <p>Turloughs;</p> <p>Petrifying springs</p>	<p>wetlands. It is likely that most eligible wetlands and peatlands identified under this GAEC are managed as permanent grassland and that these are located in close proximity to existing non-agricultural wetland and peatland habitats.</p> <p>It is noted that DAFM propose this GAEC will be applicable from 2024 onwards as a lead time is required to define and map peatland and wetland areas. The potential for loss or draining of such soils in the intervening period of 2022 to 2024 is a concern in the absence of mitigation to allow for transitional/temporary identification measures.</p>
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	<p>Fens</p> <p>Vertigo species</p> <p>Positive for SPA special conservation interests</p>	
<p>GAEC 3</p> <p>Ban on burning arable stubble, except for plant health reasons</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p>	<p>Soil organic matter is the central indicator of soil quality and health, affected strongly by agricultural management. The post-harvest burning of stubble and other crop residues can remove above-ground carbon in addition to producing several harmful atmospheric pollutants, which can then migrate and settle on adjacent areas including European Sites. The GAEC will have the potential to limit the generation of such polluting emissions.</p>
<p>GAEC 4</p> <p>Establishment of buffer strips along watercourses</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p> <p>Positive for water-dependent features of interest:</p>	<p>The provision of buffer strips along watercourses adjacent to agricultural areas is predicted to have a neutral impact for the majority of Annex 1 peatland and heath habitats. Such buffers will have the potential to improve surface water runoff and reduce nutrient and sediment losses to</p>

	<p>Annex 1 lake habitats</p> <p>Annex 1 river habitat</p> <p>Annex 2 vascular plant species (namely slender naiad)</p> <p>Annex 2 fish species</p> <p>Otters</p> <p>Breeding Waterbirds (namely kingfisher)</p> <p>Freshwater pearl mussel</p> <p>White-clawed crayfish</p>	<p>drainage ditches and watercourses. Such an impact will be positive for soligenous fens by limiting the loss of nutrients to this habitat.</p>
<p>GAEC 6 Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient.</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p> <p>Positive for water-dependent features of interest:</p>	<p>Soil erosion is primarily associated with tillage soils and periods of intense rainfall. The aim of this GAEC to prevent prolonged periods of exposed soil and soil erosion, which has the potential to contribute to run-off and diffuse source pollution to watercourses eventually draining into</p>

<p>Requirements :</p> <p>Different measures apply to grassland and arable land.</p> <p>Other</p> <p>Avoid inappropriate land reclamation works leading to soil erosion</p>	<p>Annex 1 lake habitats</p> <p>Annex 1 river habitat</p> <p>Annex 2 vascular plant species (namely slender naiad)</p> <p>Annex 2 fish species</p> <p>Otters</p> <p>Breeding Waterbirds (namely kingfisher)</p> <p>Freshwater pearl mussel</p> <p>White-clawed crayfish</p>	<p>freshwater surface water receptors. The implementation of this GAEC will contribute towards a reduction in sediment losses to water-dependent features of interest, which will result in positive impacts for these habitats and the habitat conditions required to support these species.</p>
<p>GAEC 7</p> <p>Minimum soil cover to avoid bare soil in periods that are most sensitive</p> <p>Requirements:</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p>	<p>Soil erosion is primarily associated with tillage soils and periods of intense rainfall. The aim of this GAEC to prevent prolonged periods of exposed soil and soil erosion, which has the potential to contribute to run-off and diffuse source pollution to watercourses eventually draining into</p>

<p>These vary whether farming activity is grassland or arable land or</p>		<p>freshwater surface water receptors. The implementation of this GAEC will contribute towards a reduction in sediment losses to water-dependent features of interest, which will result in positive impacts for these habitats and the habitat conditions required to support these species.</p>
<p>GAEC 8 Crop rotation in arable land, except for crops growing under water Requirements: DAFM propose to continue with the existing crop diversification requirements with different measures according to size eg: 10 -30ha – establish/maintain at least two arable crops p/annum and main arable must occupy not more than 75%. >30 ha of arable claimed Establish/ maintain at least three arable crops on the holding per annum.</p>	<p>Potential for neutral and/or positive impact for all features of interest. In particular potential positive impacts of the following features of interest: Lesser horseshoe bats Winter waterbirds Breeding waterbirds Coastal waterbirds (namely chough)</p>	<p>Increases in crop diversity in arable lands have been shown to have the potential to result in positive implications for invertebrate communities (Aguilera et al., 2020). There is likely to be minimal overlap between lesser horseshoe bat territories and arable lands where this condition will be implemented. There is likely to be a significant level of spatial overlap between arable lands where this condition will be implemented and areas that support special conservation interest waterbirds of SPAs.</p>

<p>Exemptions will be available for certain farmers, <10 ha of arable claimed, organic and other categories as provided for in the Regulation.</p>		
<p>GAEC 9 Minimum share of agricultural area devoted to non-productive areas or features Minimum share of at least 4% of all agricultural land at farm level devoted to non-productive areas and features, including land lying fallow. Where a farmer commits to devote at least 7% of his/her arable land to non-productive areas and features, including land lying fallow, under an enhanced eco-scheme in accordance with Article 28(5a), the share to be attributed to compliance with this</p>	<p>Potential for neutral and/or positive impact for all features of interest with the exception of the following:</p> <ul style="list-style-type: none"> Breeding waders Wintering waders & wetland birds Breeding coastal birds (namely chough) Marsh Fritillary Grassland Annex 1 habitats 	<p>The provision of non-productive features that include hedgerows, woody patches, eligible forestry, coppice, copse in these habitats or the habitats that these species rely will have the potential to result in adverse impacts to their conservation status and the conservation objectives for these features of interest.</p>

<p>GAEC shall be limited to 3%. Minimum share of at least 7% of arable land at farm level if this includes also catch crops or nitrogen fixing crops, cultivated without the use of plant protection products, of which 3% shall be land lying fallow or non-productive features. Member States should use the weighting factor of 0,3 for catch crops.</p> <ul style="list-style-type: none"> • Retention of landscape features • Ban on cutting hedges and trees during the bird breeding and rearing season • As an option, measures for avoiding invasive plant species 	<p>Dune Annex 1 habitats (namely machair)</p> <p>Peatland & heathland Habitats</p>	
<p>GAEC 10</p> <p>Ban on converting or ploughing</p>	<p>Potential for positive impact for all European Sites supporting sensitive grassland habitats.</p>	

<p>permanent grassland designated as environmentally-sensitive permanent grasslands in Natura 2000 sites</p>		
<p>Pillar I</p>		
<p>Pillar I Funding Supports comprised of BISS; CIS-YF & CRISS</p>	<p>Potential for adverse effects to European Sites and their features of interest.</p>	<p>The provision of basic funding under CAP to all eligible farmers has the potential to support the continuation of existing agricultural activities that have potential to result in adverse environmental effects. Whilst all farmers receiving supports under Pillar I funding will be required to adhere to the controls provided for in the SMRs and GAECs, there will be limitations in the effectiveness of these controls to safeguard European Sites and their features of interest from the variety of agricultural-related threats and pressures that have been identified as adversely affecting the conservation status of these features. In the absence of a greater appreciation and understanding of biodiversity and the conditions necessary to support the integrity of European Sites and their features of interest,</p>

		the potential exists for Pillar I funding provisions to sustain these threats and pressures.
Eco-Scheme – General approach to targeting all farmers	Potential for positive and/or adverse effects to European Sites and their features of interest.	The measures outlined in the Eco-Scheme are representative of land use activities that aim to improve environment conditions, which in turn will have positive impacts for biodiversity including European Sites and their features of interest. Agricultural Practice 2, 3, and 5 will have the potential to result in positive impacts for European Sites and their features of interest. The appropriate implementation of Agricultural Practice 1 and 4 will also have the potential to contribute positively to the status of European Sites and their features of interest. However for these practices there is also potential for adverse effects to features of interest in the event that they are applied in inappropriate areas.
Eco-Scheme – Agricultural Practice 1: To maintain all habitats present on the	Potential for neutral and/or positive impact for all features of interest with the exception of the following:	The provision of non-productive features that include hedgerows, woody patches, eligible forestry, coppice, copse in these habitats or the habitats that these species

<p>farm to contribute to diversity in the landscape</p>	<p>Breeding waders Breeding coastal birds (namely chough) Marsh Fritillary Grassland Annex 1 habitats Dune Annex 1 habitats (namely machair) Peatland & heathland Habitats</p>	<p>rely will have the potential to result in adverse impacts to their conservation status and the conservation objectives for these features of interest.</p> <p>It is noted that SMRs and other interventions included in the CAP Strategic Plan will interact to apply controls to the inappropriate provision of these landscape features within SACs and SPA supported by these species.</p>
<p>Eco-Scheme – Agricultural Practice 2: Extensive Animal Stock Rates</p>	<p>Potential for neutral/positive impacts for all features of interest.</p>	<p>Potential for positive impacts to European Sites and their features of interest by encouraging extensive low stocking rates on farms. This will contribute to reduces nutrient losses to waters and air with consequent positive impacts for water quality and air quality. This practice will have the potential to contribute to reducing agricultural threats</p>

		to features of interest associated with nutrient emissions to waters and air.
Eco-Scheme – Agricultural Practice 3: Low usage of chemical nitrogen	Potential for neutral/positive impacts for all features of interest.	Potential for positive implication for water quality and air quality by reducing nutrient losses to waters and air. This practice will have the potential to contribute to reducing agricultural threats to features of interest associated with nutrient emissions to waters and air.
Eco-Scheme – Agricultural Practice 4 – Planting of Native Trees	Potential for neutral and/or positive impact for all features of interest with the exception of the following: Breeding waders Breeding coastal birds (namely chough) Marsh Fritillary Grassland Annex 1 habitats	This practice provides for the planting of 3 native trees per hectare per year. It is anticipated by DAFM that there will be significant demand for the uptake of this practice. Analysis undertaken by DAFM to estimate the number of trees that could be planted based on varying uptake scenarios. In the event that 20%; 30% or 50% of all farmers take up this practice it is estimated that 2.8 million; 4.2 million; and 7 million trees will be planted in a year under the respective uptake scenarios.

	<p>Dune Annex 1 habitats (namely machair)</p> <p>Peatland & heathland Habitats</p>	<p>The planting of trees in the habitats or the habitats that the species listed opposite rely upon will have the potential to result in adverse impacts to their conservation status and the conservation objectives for these features of interest.</p> <p>Adverse impacts will relate to changes in vegetation community and substrate conditions; the provision of perch sites for predatory bird species resulting in increased predation risks for breeding birds that are special conservation interests of SPA; visual intrusion of breeding territories for these bird species.</p>
<p>Eco-Scheme – Agricultural Practice 5 – Precision Agriculture</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p>	<p>Potential for positive implication for water quality and air quality by reducing nutrient losses to waterbodies and air.</p>
<p>Coupled Income Support</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p>	<p>This measure will have the potential to result positive environment effects as it aims to increase security around protein food at national level. The most commonly used high protein source in Irish feed mills is various forms of soya (up to 47% crude protein content). Ireland’s</p>

		<p><i>Roadmap towards Climate Neutrality – Ag Climatise</i> recognises the importance of supporting native grown legumes for the livestock industry. This in turn reduced energy costs arising from transport and production especially around soya production with transboundary effects relating to loss of habitat for soya production in South America and the GHG emissions associated with importing from large distances. Protein crops provide an essential protein source for animal feed free from GMOs, thus underpinning the security of food production in the sector Protein crops serve as a very valuable break crop in tillage crop rotations. The implementation of this measures will have high levels indirect benefits of biodiversity and Annex 1 peatland and heath habitats.</p> <p>Protein crops require almost no nitrogen fertiliser and as a result the production of protein crops directly reduces nitrogen fertiliser use (Bues et al., 2013). The use of protein crops will have the potential to contribute to reductions in nitrogen emissions with associated reduction</p>
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		in the adverse effects of such emissions to Annex 1 peatland and heath habitats
Pillar II		
AECM General – Tiering Implementation	Potential for neutral and/or positive impact for all features of interest.	AECM General will be delivered following a tiered approach with Tier 1 being prioritised then Tier 2 and Tier 3 to follow. The actions to be undertaken for Tier 1 are related to identified priority areas that included sensitive landscape, which includes European Sites and priority water areas which are EPA identified Priority Areas for Action. The provision of this measure in the first instance to farmers within sensitive landscapes will have the potential to contribute to positive landscape and biodiversity impacts which in turn have the potential to minimise agricultural threats to Annex 1 dune habitats, as listed above.

<p>AECM General – Tier 1 Actions: Private Natura Lands</p>	<p>In the absence of the implementation of appropriate actions the potential will exist for adverse impacts for all European Sites and features of interest occurring within Private Natura Lands.</p>	<p>The implementation of Tier 1 Actions as a priority on private Natura lands (i.e. private lands within European Site boundaries) will have the potential to result in positive effects for European Sites and their conservation objectives provided these actions are aligned with the conservation objectives of European Sites.</p> <p>Mandatory conditions for the scheme include the preparation of the AECM application by an approved agricultural advisor;</p> <p>The preparation of a farm sustainability plan to accompany the application;</p> <p>Attendance at a training scheme; and the</p> <p>Keeping of records.</p> <p>In the event that the AECM application or the associated Farm Sustainability Plan is not aligned with the conservation objectives for the relevant European Sites in</p>
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		<p>which the private Natura lands occur there will be potential for the implementation of inappropriate actions which may be counter productive to the achievement of conservation objective targets.</p>
<p>AECM General – Tier 1 Actions: Commonage Lands & Geese and Swan Areas</p>	<p>In the absence of the implementation of appropriate actions the potential will exist for adverse impacts for all European Sites and features of interest occurring within commonage lands and Geese and Swan areas. The features of interest most likely to be affected by actions under this intervention are:</p> <p>Peatland Habitats</p> <p>Dune Habitats</p> <p>Grassland Habitats</p> <p>Annex 1 lake habitats</p>	<p>Commonage land and geese and swan areas are likely to overlap with SAC designated peatland and heath habitats. The implementation of management actions on peatland and heath habitats for such commonage lands and geese and swan areas that are aligned with the SAC/SPA conservation objectives for these habitats will have potential to contribute to the favourable conservation condition of these habitats.</p> <p>Conversely the application of actions within commonage lands and geese and swan areas that overlap with SAC designated peatland and heath habitats that are not consistent with the conservation objectives for these</p>

	Annex 1 river habitat Annex 2 vascular plant species Annex 2 non-vascular plant species Vertigo species Marsh fritillary Kerry slug Annex 2 fish species Otters Breeding Waders Wintering Waders & Waterbirds Raptors	habitats will have potential to undermine the restoration or maintenance of their favourable conservation condition.
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<p>AECEM General – Tier 2 Actions: minimum tillage & catch crops</p>	<p>Potential for neutral and/or positive impact for all features of interest.</p>	<p>The implementation of minimum tillage and catch crops on farm lands as specified under Tier 2 will have the potential to result in positive impacts for features of interest by reducing emissions.</p>
<p>AECEM General – Tier 2 Actions: Planting of trees</p>	<p>Potential for neutral and/or positive impact for all features of interest with the exception of the following:</p> <ul style="list-style-type: none"> Breeding waders Breeding coastal birds (namely chough) Marsh Fritillary Grassland Annex 1 habitats Dune Annex 1 habitats (namely machair) Peatland & heathland Habitats 	<p>The provision of trees in or immediately adjacent these habitats or the habitats that these species rely will have the potential to result in adverse impacts to their conservation status and the conservation objectives for these features of interest.</p> <p>Adverse impacts will relate to changes in vegetation community and substrate conditions; the provision of perch sites for predatory bird species resulting in increased predation risks for breeding birds that are special conservation interests of SPA; visual intrusion of breeding territories for these bird species.</p>

AECM Co-operative Measures	Potential for neutral and/or positive impact for all features of interest.	In order that actions under this measure result in positive effects for features of interest of European Sites the right measure will need to be implemented for the right place. The availability of expert ecological input and direction from the NPWS and project ecologists under this action will facilitate the selection of right action in the right place.
Non-Productive Investments associated with agri-environment climate measures – overview comment	Potential for positive or negative impacts to all European Site features of interest that occur within the zone of influence of the actions under this intervention.	This intervention has the potential to result in positive impacts for features of interest provided the right measure is implemented in the right place. Conversely the implementation of actions under this intervention in the wrong place will have the potential to result in adverse effects to features of interest.

<p>Non-productive Investments – protection of riparian zones</p>	<p>Has potential to result in positive impacts for</p> <p>Annex 1 lake habitats</p> <p>Annex 1 river habitat</p> <p>Annex 2 vascular plant species (namely slender naiad)</p> <p>Annex 2 fish species</p> <p>Otters</p> <p>Breeding Waterbirds (namely kingfisher)</p> <p>Freshwater pearl mussel</p> <p>White-clawed crayfish</p> <p>For all other features of interest this measure will result in neutral impacts.</p>	<p>The provision of grassed buffered in arable lands free of chemical or organic fertiliser and pesticides and fenced buffers in grassland areas free of chemical or organic fertiliser and pesticides will have the potential to result in positive impacts for these features of interest.</p>
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<p>Non-productive Investments – barn owl boxes</p>	<p>Has potential to result in positive impacts for this species of high conservation concern. This represents a positive impact for biodiversity in general.</p> <p>However there is potential for adverse impacts to:</p> <p>Breeding waterbirds/waders</p>	<p>In appropriate provision of barn owl boxes within or adjacent to SPAs designated for their role in supporting breeding waterbirds/waders will have the potential to increase predation risks to these features of interest.</p>
<p>Non-productive Investments – hedgerow and tree planting</p>	<p>Potential for neutral and/or positive impact for all features of interest with the exception of the following:</p> <p>Breeding waders</p> <p>Breeding coastal birds (namely chough)</p> <p>Marsh Fritillary</p> <p>Grassland Annex 1 habitats</p>	<p>The provision of hedgerow and tree planting in or immediately adjacent these habitats or the habitats that these species rely will have the potential to result in adverse impacts to their conservation status and the conservation objectives for these features of interest.</p>

	<p>Dune Annex 1 habitats (namely machair)</p> <p>Peatland & heathland Habitats</p>	
<p>OnFarm Capital Investment Scheme</p>	<p>Potential for both positive and adverse effects for all features of interest</p>	<p>At a strategic level support for biodiversity, water quality and climate challenges will represent a potential for positive impacts for biodiversity with likely indirect positive impacts for European Sites and there features of interest.</p> <p>Support for infrastructural investment on farms will, in the absence of control mechanisms, have the potential to result in adverse effects to all features of interest that may occur within the zone of influence of the supported infrastructure project</p>

Dairy Beef Welfare Scheme	This intervention will not result in significant adverse effects to features of interest	N/A
European Innovation Partnerships	Potential for both positive and adverse effects for all features of interest that occur within the zone of influence of EIPs.	<p>At a strategic level support for environment, biodiversity and climate challenges will represent a potential for positive impacts for biodiversity with likely indirect positive impacts for European Sites and their features of interest .</p> <p>Support aimed at addressing wider competitiveness and modernisation challenges in the agricultural sector will, in the absence of the implementation of or adherence to, practices that are necessary for the maintenance of healthy ecosystems and the conservation status of European Sites, have the potential to perpetuate the agricultural threats identified for European Site features of interest in Section 4 of this Natura Impact Statement</p>

<p>Areas of Natural Constraint</p>	<p>Potential for positive or negative impacts to all European Site features of interest that occur within Areas of Natural Constraint.</p>	<p>There will be significant overlap between Areas of Natural Constraint and European Sites.</p> <p>This intervention has the potential to result in positive impacts for features of interest provided the right measure is implemented in the right place and the actions to be implemented are aligned with the conservation objectives of European Sites.</p> <p>Conversely the implementation of actions under this intervention in the wrong place or that are inappropriate for achieving the favourable conservation condition of the European Sites and features of interest will have the potential to result in adverse effects to features of interest.</p>
<p>Leader</p>	<p>Potential for significant adverse effects to all European Sites and their features of interest occurring within the zone of influence of Leader Local Economic and Community Plans</p>	<p>Leader organisations will be required to prepared Local Economic and Community Plans. In the absence of appropriate design and safeguards, such plans will have the potential to result in support for land use activities that could have the potential to result in activities that</p>

		undermine the conservation objectives of European Sites. Projects supported by Leader Companies that aim to facilitate economic development and job creation; rural infrastructure etc. will, in the absence of appropriate design and environment considerations have potential to result in activities that undermine the conservation objectives of European Sites.
Organic Farm Scheme	Potential for neutral and/or positive impact for all features of interest.	The support of Organic Farming Practices will have the potential to result in a reduction in agricultural emissions with indirect positive impacts for European Sites and features of interest.
Sheep Improvement Scheme	Neutral for majority of European Site features of interest. Potential for adverse effects for lesser horseshoe bats.	The support for parasite control under this scheme will have the potential to result in adverse agricultural-related pressure to lesser horseshoe bats. Anthelmintic dosing has been identified as an agricultural threat to lesser horseshoe bats.

<p>Straw Incorporation Measure</p>	<p>Potential for neutral and/or positive impact for all features of interest:</p> <p>Annex 1 lake habitats</p> <p>Annex 1 river habitat</p> <p>Annex 2 vascular plant species (namely slender naiad)</p> <p>Annex 2 fish species</p> <p>Otters</p> <p>Breeding Waterbirds (namely kingfisher)</p> <p>Freshwater pearl mussel</p> <p>White-clawed crayfish.</p> <p>Neutral for other European Sites features of interest.</p>	<p>The incorporation of straw into farmland soil has been shown to help retain soil moisture and slow down rainfall runoff rates (Yang et al. 2021). A reduction of surface water runoff, particularly from harvested tillage land will have the potential to reduce the loss of suspended solids from harvested lands to waterbodies.</p>
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<p>Suckler Carbon Efficiency Scheme</p>	<p>Potential for positive impacts for the following European Sites features of interest:</p> <p>Annex 1 peatland and heathland habitats;</p> <p>Annex 1 habitat dune habitats;</p> <p>Annex 1 saltmarsh habitats;</p> <p>Annex 1 grassland habitats</p>	<p>The application of this measure will have the potential to contribute to the avoidance of overgrazing threats to these habitats. Overgrazing has been reported as a agricultural related threat and pressure to each of these features of interest.</p>
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5.4 IN-COMBINATION EFFECTS

Assessing the possible effects the CAP Strategic Plan may have on European Sites, their features of interest and their conservation objectives in combination with other plans or projects is a requirement of the Appropriate Assessment process as outlined in Article 6(3) of the Habitats Directive. The plans and programmes that have been considered are listed in Table 5.4 below. There are many other plans or project that could conceivably interact with the CAP Strategic Plan, however the approach to this in-combination assessment aimed to identify those plans and projects that are most likely to have the potential to interaction with the land use activities that will arise during the implementation of the CAP Strategic Plan.

Table 5.4: Assessment of In-Combination Effects with Relevant Plans

Policy, plan or programme	Predicted/Intended Objective/Impact	Examination of Interactions & Potential In-Combination Effects
UN Convention on Biological Diversity (1992)	Objectives include the maintenance and enhancement of Biodiversity. Ensures fair and equitable sharing of the benefits from the use of genetic resources.	The objectives of the convention is to halt biodiversity loss and improved habitat conditions for species. The Conditionality requirements imposed on all farms under SMRs 1, 2, 3 and 4; GAEC 2, GAEC 4, GAEC 9, GAEC 10 have the potential to align with the goals of this convention. Voluntary interventions that include Eco-Scheme and Pillar II AECM General (based on the right measure in the right place), AECM Co-operative, Areas of Natural Constraint have the potential to align with the goals of this convention. Potential for positive in-combination effects.
The Ramsar Convention The Convention on Wetlands of International Importance (1971 and amendments)	Objectives include protection and conservation of wetlands, particularly those of importance to waterfowl as Waterfowl Habitat.	The objectives of the convention is to halt biodiversity loss and improved habitat conditions for species. SMRs 1, 2, 3 and 4; GAEC 2, GAEC 4, GAEC 9, GAEC 10, Eco-Scheme and Pillar II AECM General (based on the right measure in the right place), AECM Co-operative, Areas of Natural Constraint, have the potential to align with the goals of this convention. Potential for positive in-combination effects.

<p>The Stockholm Convention (2001)</p>	<p>Objectives seek to protect human health and the environment from persistent organic pollutants (POPs).</p>	<p>SMR 13, GAEC 4; Eco-Scheme Agricultural Practice 5; AECM General; AECM Co-operative; Organic Farming Scheme have the potential to align with the goals of this convention. Potential for positive in-combination effects.</p>
<p>United Nations Sustainable Development Goals</p>	<p>The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. The 17 Sustainable Development Goals (SDGs) form the core focus, which are an urgent call for action by all countries - developed and developing - in a global partnership. Ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth, in conjunction with tackling climate change and working to preserve our oceans and forests.</p>	<p>The objectives of the convention is to halt biodiversity loss and improved habitat conditions for species. The Conditionality requirements imposed on all farms under SMRs 1, 2, 3 and 4; GAEC 2, GAEC 4, GAEC 9, GAEC 10 have the potential to align with the goals of this convention. Voluntary interventions that include Eco-Scheme and Pillar II AECM General (based on the right measure in the right place), AECM Co-operative, Areas of Natural Constraint have the potential to align with the goals of this convention. Potential for positive in-combination effects.</p>

<p>Convention on Long Range Transboundary Air Pollution</p>	<p>The Convention on Long-Range Transboundary Air Pollution, often abbreviated as Air Convention or CLRTAP, is intended to protect the human environment against air pollution and to gradually reduce and prevent air pollution, including long-range transboundary air pollution.</p>	<p>SMR 2 will require controls with respect to the use of fertiliser. GAEC 3 will contribute to the avoidance of air pollution. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this convention. However, given current trends in air emissions derived from agricultural, as report by the EPA, there is potential for the future farming activity supported by CAP to result in ongoing emissions that are not aligned with the objectives of this convention. Mitigation is required to align the CAP Strategic Plan with this objective.</p>
<p>The EU Freshwater Fish Directive (78/659/EEC)</p>	<p>Objectives seek to protect those freshwater bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters.</p>	<p>There will be no potential for significant adverse in-combination effects as the objective of this Directive is to maintain waters at good status to support salmonid and cyprinid fish. SMR 1 and 2 will require controls with respect to the use of fertiliser while SMR 13 will implement controls for the use of pesticides. GAEC 3, 4, 6, 7, 8 will contribute to the avoidance of pollution to waters. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this Directive. Eco-Scheme and Pillar II AECM General (based on the right measure in the right place), AECM Co-operative,</p>

		<p>Areas of Natural Constraint and Organic Farming Scheme have the potential to align with the goals of this convention. Potential for positive in-combination effects.</p>
<p>The Water Framework Directive (2000/60/EC)</p>	<p>Objectives seek to maintain and enhance the quality of all surface waters in the EU.</p>	<p>There will be no potential for significant adverse in-combination effects as the objective of this Directive is to maintain waters at good status. SMR 1 and 2 will require controls with respect to the use of fertiliser while SMR 13 will implement controls for the use of pesticides. GAEC 3, 4, 6, 7, 8 will contribute to the avoidance of pollution to waters. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this Directive. Eco-Scheme and Pillar II AECM General (based on the right measure in the right place), AECM Co-operative, Areas of Natural Constraint and Organic Farming Scheme have the potential to align with the goals of this convention. Potential for positive in-combination effects.</p>

<p>Groundwater Directive (2006/118/EC)</p>	<p>This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.</p>	<p>There will be no potential for significant adverse in-combination effects as the objective of this Directive is to maintain groundwater at good status. SMR 1 and 2 will require controls with respect to the use of fertiliser while SMR 13 will implement controls for the use of pesticides. GAEC 3, 4, 6, 7, 8 will contribute to the avoidance of pollution to waters. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this Directive. Eco-Scheme and Pillar II AECM General (based on the right measure in the right place), AECM Co-operative, Areas of Natural Constraint and Organic Farming Scheme have the potential to align with the goals of this convention. Potential for positive in-combination effects.</p>
<p>Marine Strategy Framework Directive (2008/56/EC)</p>	<p>This Directive requires Member States of the European Union to put in place measures to</p>	<p>Programme of Measures that will meet targets set in order to achieve or maintain good environmental status in the marine environment. The implementation of these measures will not have the potential to result in significant adverse in-combination effects with the CAP Strategic Plan.</p>

	achieve and maintain good environmental status of marine waters by 2020.	
The Nitrates Directive (91/676/EEC)	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution.	The implementation of this Directive in Ireland will seek to reduce water pollution and the associated negative effects on freshwater and coastal eco-systems. The implementation of this Directive will not have the potential to result in significant adverse in-combination effects with the CAP Strategic Plan. The implementation of SMR 2 as a conditionality requirement for all farms supported under CAP aims to align the CAP Strategic Plan with this Directive.
IPPC Directive (96/61/EC) as amended by Directive 2008/1/EC	Objective is to achieve a high level of protection of the environment through measures to prevent or, where that is not practicable, to reduce emissions to air, water and land. The Directive provides an integrated approach to establish	The implementation of this Directive in Ireland will seek to limit emissions to the environment from facilities. The implementation of this Directive will not have the

	<p>pollution prevention from stationary “installations”. This codified act includes all the previous amendments to the Directive 96/61/EC and introduces some linguistic changes and adaptations.</p>	<p>potential to result in significant adverse in-combination effects with the CAP Strategic Plan.</p>
<p>The Air Framework Directive on Air Quality Assessment and Management (Framework Directive) (1996/62/EC)</p>	<p>Objectives include the prevention and/or reduction of airborne pollutants for the protection of human health and environment.</p>	<p>SMR 2 will require controls with respect to the use of fertiliser. GAEC 3 will contribute to the avoidance of air pollution. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this Directive. However, given current trends in air emissions derived from agricultural, as report by the EPA, there is potential for the future farming activity supported by CAP to result in ongoing emissions that are not aligned with the objectives of this convention. Mitigation is required to align the CAP Strategic Plan with the objectives of this Directive.</p>

<p>Directive on National Emission Ceilings for Certain Atmospheric Pollutants (2001/81/EC)</p>	<p>Objectives seek to limit the national emissions of certain airborne pollutants for the protection of human health and the environment.</p>	<p>SMR 2 will require controls with respect to the use of fertiliser. GAEC 3 will contribute to the avoidance of air pollution. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this Directive. However, given current trends in air emissions derived from agricultural, as report by the EPA, there is potential for future farming activity supported by CAP to result in ongoing emissions that are not aligned with the objectives of this convention. Mitigation is required to align the CAP Strategic Plan with the objectives of this Directive.</p>
<p>EU Farm to Fork</p>	<p>The Farm to Fork Strategy aims to accelerate the transition to a sustainable food system that should: have a neutral or positive environmental impact. help to mitigate climate change and adapt to its impacts and reverse the loss of biodiversity. It puts most of the burden of the transition on</p>	<p>The implementation of the Farm to Fork Strategy has the potential to result in positive effects for biodiversity including European Sites and their features of interest. The CAP Strategic Plan implementation structure comprising conditionality requirements under SMRs and GAECs as well as voluntary measures such as Eco-Schemes, which is aimed at all farmers, and Pillar II Interventions such as AECM General, AECM Co-operative,</p>

	<p>farmers, fishers and aquaculture producers which is to have a pivotal role to play in making food systems sustainable. To do so, it intends to create incentives through different means (e.g. the CAP) to help them change their practices and current tools to more sustainable ones.</p>	<p>EIP, ANC and Organic Farming Scheme will align with the objectives of this strategy with potential for positive in-combination effects.</p>
<p>EU Green New Deal</p>	<p>Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring:</p> <p>no net emissions of greenhouse gases by 2050</p>	<p>Three policy areas that are central to the Green New Deal are biodiversity, elimination of pollution and climate change. The implementation of actions assigned under these policy areas will have the potential to result in positive impacts for the environment.</p>

	<p>economic growth decoupled from resource use</p> <p>no person and no place left behind</p> <p>The EU Green Deal is a coordinated set of policies and legislation designed to lower the European Union’s global warming emissions to zero over the next 30 years. It intends to not only do so without diminishing the EU’s economy but while also improving the quality of life for the nearly half-billion people who live within the European Union.</p>	
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<p>EU Biodiversity Strategy to 2030</p>	<p>The European Commission has adopted the new EU Biodiversity Strategy for 2030 and an associated Action Plan (annex) - a comprehensive, ambitious, long-term plan for protecting nature and reversing the degradation of ecosystems. It aims to put Europe's biodiversity on a path to recovery by 2030 with benefits for people, the climate and the planet. It aims to build our societies' resilience to future threats such as climate change impacts, forest fires, food insecurity or disease outbreaks, including by protecting wildlife and fighting illegal wildlife trade. A core part of the European Green Deal , the Biodiversity Strategy will also support a green recovery following the COVID-19 pandemic.</p>	<p>The implementation of actions under the EU Biodiversity Strategy 2030 will have the potential to result in positive impacts for the environment.</p>
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<p>A Sustainable Bioeconomy for Europe</p>	<p>The 2018 update of the Bioeconomy Strategy aims to accelerate the deployment of a sustainable European bioeconomy so as to maximise its contribution towards the 2030 Agenda and its Sustainable Development Goals (SDGs), as well as the Paris Agreement. The update also responds to new European policy priorities, in particular the renewed Industrial Policy Strategy, the Circular Economy Action Plan and the Communication on Accelerating Clean Energy Innovation, all of which highlight the importance of a sustainable, circular bioeconomy to achieve their objectives.</p>	<p>The implementation of this strategy has the potential to result in positive impacts for biodiversity and climate and will in turn have potential to impact positively for the future conservation of European Sites and their features of interest. Potential for positive in-combination effects.</p>
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<p>CAFÉ Directive</p>	<p>The CAFE programme was established to support the European Commission’s development of the Thematic Strategy on air pollution, the Directive on Ambient Air Quality and Cleaner Air for Europe and its Impact Assessment.</p>	<p>SMR 2 will require controls with respect to the use of fertiliser. GAEC 3 will contribute to the avoidance of air pollution. The implementation of these conditionality requirements for all farms will have the potential to result in positive in-combination effects with the objectives of this convention. However, given current trends in air emissions derived from agricultural, as report by the EPA, there is potential for the future farming activity supported by CAP to result in ongoing emissions that are not aligned with the objectives of this convention. Mitigation is required to align the CAP Strategic Plan with this objective.</p>
<p>Sustainable Use of Pesticides Directive</p>	<p>The Sustainable Use of Pesticides Directive (SUD) establishes a framework for European Community action to achieve the sustainable use of pesticides by setting minimum rules to reduce the risks to human health and the environment that are associated with pesticide use. It also promotes the use of integrated pest management. The Directive is designed to further enhance the</p>	<p>SMR 13, GAEC 4; Eco-Scheme Agricultural Practice 5; AECM General; AECM Co-operative; Organic Farming Scheme have the potential to align with the goals of this convention. Potential for positive in-combination effects.</p>

	high level of protection achieved through the entire regulatory system for pesticides.	
Irish Water Services Strategic Plan	Provision of a national long-term strategy for the way water services are delivered in Ireland over a 25-year period.	This strategic plan was subject to Appropriate Assessment and it was determined that it will not have the potential to result in significant adverse effects to European Sites.
Food Vision 2030	<p>Key targets listed in the Food Vision are as follows:</p> <p>Biogenic methane reduction of a minimum of 10% by 2030;</p> <p>Reduction of ammonia emissions to below 107,500t by 2030;</p> <p>Reduction of nutrient losses to water by 50% by 2030;</p>	<p>An Appropriate Assessment has been completed for the Food Vision 2030 strategy. The Natura Impact Statement of the strategy identified land use effects that have the potential to arise as a result of the strategy implementations and for these effects to have the potential to result in significant adverse effects to European Sites. Mitigation measures have been provided as part of the Natura Impact Statement and SEA assessment of the strategy and it has been determined that the implementation of these mitigation measures will ensure that this strategy will not, alone or in-combination with other plans or projects, have the potential to result in significant adverse effects to European Sites. In order for in-combination effects between this strategy and the CAP</p>

	<p>10% of farmed area prioritised for biodiversity, spread across all farms throughout the country, by 2030;</p> <p>Reach at least 7.5% of total utilised agricultural area under organic farming by 2030;</p> <p>Halve per capita food waste by 2030;</p> <p>Increase afforestation and double the sustainable production of biomass from forests by 2035</p>	<p>Strategic Plan to be avoided all relevant mitigation measures of this strategy will also need to be adhered to during the implementation of the CAP.</p>
<p>‘Ag-Climate’ A draft National Climate & Air Roadmap for the Agriculture Sector to 2030 and beyond DAFM 2019</p>	<p>The document proposes a roadmap of three elements:</p> <ul style="list-style-type: none"> • Implementing Changes Now: to ensure the actions necessary to protect the environment and address climate change are carried through to operational reality for farmers on the ground now. 	<p>The roadmap identifies six key elements that will be implemented in order for the agricultural sector to reach climate and environmental objectives. These elements are:</p> <ol style="list-style-type: none"> 1. Reduce GHG emissions from the sector. Methane from enteric fermentation and nitrous oxide from fertiliser use are the dominant greenhouse gases from agriculture. 2. Increase the carbon sequestration and carbon storage potential of Ireland’s land use sector.

	<ul style="list-style-type: none"> • Acting in Partnership: To succeed in the effort outlined in this roadmap, all stakeholders right along the food chain, from farm to fork, will have to contribute in a spirit of partnership. • Preparing for the Future: using best available science to inform policy development and to help stakeholders make strategic choices about the future. 	<p>3. Reduce nutrient loss and contribute to improved water quality and biodiversity.</p> <p>4. Meet ammonia emissions reduction targets.</p> <p>5. Build sustainable, resilient food production and land use management systems that meet these climate and environmental obligations, while also meeting market expectations.</p> <p>6. Transparently communicate progress; the Origin Green programme can play a key role in this regard.</p> <p>The implementation of specific measures to achieve these key elements of the roadmap will have the potential to result in positive impacts for the environment, biodiversity, European Sites and the features of interest supported by them.</p> <p>The EPA (2020) have noted that the full implementation of the climate measures identified in this plan (in-combination with the AgriFood 2030 Strategy) offer significant potential co-benefits in terms of improving water quality and protecting biodiversity.</p>
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<p>National Development Plan 2018 – 2027</p>	<p>The National Development Plan sets out the investment priorities that will underpin the implementation of the National Planning Framework (NPF). This will guide national, regional and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.</p>	<p>The NDP is a high level budgetary and finance document which identifies priorities for capital investment. Given the nature of the capital investment the majority of the projects referenced and funded under the NDP have been or will be subject to EIA/AA. The NDP does not confer planning, it identifies strategic need. No potential for in-combination effects.</p>

<p>National Planning Framework Ireland 2040 and National Development Plan 2018-2027</p>	<p>Is a national document that will guide at a high-level strategic planning and development for the country over the next 20+ years, so that as the population grows, that growth is sustainable (in economic, social, and environmental terms).</p> <p>The NPF with the National Development Plan will also set the context for each of Ireland’s three regional assemblies to develop their Regional Spatial and Economic Strategies taking account of and coordinating local authority County and City Development Plans in a manner that will ensure national, regional and local plans align</p>	<p>The Framework includes commitments to wider statutory requirements and policies that are relevant for European Sites and the Water Framework Directive. The requirements under these requirements and policy objectives are recognised in the Framework and it sets out the requirement for high level planning policies that aim to protect, and ensure responsible use of our natural environment. The plan has been subject to Appropriate Assessment and includes clear policy on avoidance of impacts to European sites. No potential for in combination effects</p>
<p>Ireland’s National Forestry Accounting Plan 2021-2025</p>	<p>The National Forestry Accounting Plan has been developed to meet the requirements of Article 8 (4) of “Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use</p>	<p>In establishing the reference area for forestry and future afforestation needs and other forestry related activities the plan details the requirements for which forestry activities are subject to. This includes the requirements under Article 6(3) of the Habitats Directive. DAFM apply the requirements of Article 6(3) for all forestry related activities that have potential to result in likely significant effects to European Sites and this statutory responsibility will continue to be implemented as part of this plan. the</p>

	<p>change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU” and sets out the forest reference level (FRL), relating to the accounting of emissions and removals resulting from managed forest land (“land use reported as forest land remaining forest land”) during the period 2021 to 2025, and the methodology employed in its construction. The document was prepared in line with the “Criteria and guidance for determining forest reference level” and “Elements of the national forestry accounting plan” sub-sections of Annex IV of the Regulation.</p>	<p>implementation of Article 6 consenting process as part of this plan will ensure that the overall implementation of the plan will not result in significant adverse effects to European Sites and their features of interest. No potential for adverse in-combination effects are identified.</p>
<p>Draft River Basin Management Plan for Ireland 2018-2021</p>		<p>The Plan sets out the actions that Ireland will take to improve water quality and achieve ‘good’ ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. Ireland is required to produce a river basin management plan under the Water Framework Directive (WFD).</p>

<p>Third-Cycle River Basin Management Plan 2022-2027</p>	<p>The objective of the River Basin Management Plan is to set out a programme of measures to protect and restore waterbodies to at least “good status” by 2027.</p>	<p>The RBMP has been subject to Appropriate Assessment and an Natura Impact Statement of the plan has been published for consultation. The Natura Impact Statement has identified the potential for certain actions associated with the RBMP to have the potential to result in significant adverse effects to European Sites and their features of interest.</p>
<p>Nitrates Action Programme under the Nitrates Directive (91/676/EEC)</p>	<p>Designed to prevent pollution of surface waters and ground water from agricultural sources and to protect and improve water quality. Review in preparation.</p>	<p>The fifth cycle of the NAP is currently in preparation. This will provide the measures that will required to be implemented to prevent pollution of surface waters and groundwater from agricultural source. The Good Agricultural Practices Regulations will be updated to in line with the new measures. The NAP will be subject to SEA and Appropriate Assessment. It is expected that the new NAP will provide for a continuation of the derogation process. This has the potential to interact with the CAP Strategic Plan to result in significant adverse in-combination effects to European Sites. As noted in Table 5.2 under SMR 2 above with respect to derogations under the new NAP there will be a requirement for the identification of pathways between farms seeking derogations and European Sites and where such pathways occur Appropriate Assessment will be required.</p>

<p>National Energy Efficiency Action Plan (NEEAP) 2017-2020</p>	<p>Provides comprehensive overview of the implementation of measures and the progress made towards achieving the targets set to improve Ireland's energy efficiency.</p>	<p>This plan is not predicted to have the potential to combine with the CAP Strategic Plan to result in significant adverse in-combination effects to European Sites. The implementation of measures outlined in this plan in the agricultural sector and for project and activities supported by the CAP Strategic Plan will have the potential to positively contribute to the environment and indirectly to the conservation status of European Sites.</p>
<p>Climate Action Plan 2019</p>	<p>Climate disruption is already having diverse and wide-ranging impacts on Ireland's environment, society, economic and natural resources. The Climate Action Plan sets out an ambitious course of action over the coming years to address this issue.</p>	<p>The overall aims plan are positive and there is potential for positive in-combination effects as it supports long term resilience to climate change.</p>
<p>National (Climate) Adaptation Framework 2012. Updated in 2020</p>	<p>It aimed to ensure that adaptation actions are taken across key sectors and also at local level to reduce Ireland's vulnerability to climate change.</p>	<p>A screening for Appropriate Assessment of the Plan was completed by the Department of Communications, Climate Action and Environment. The Screening Assessment found that the plan will not have the potential, alone or in-combination with other plans</p>

		or projects, to result in likely significant effects to European Sites and their conservation objectives.
Agriculture, Forest and Seafood Climate Change Sectoral Adaptation Plan under the National Adaptation Framework DAFM 2019	This Plan sets out the projected changes in climate focussing on those identified as most likely to impact the agriculture, forest and seafood sector. A list of priority risks and possible consequences have also been identified.	A screening for Appropriate Assessment of the Plan was completed by the Climate Change and Bioenergy Policy Division of DAFM. The Screening Assessment found that the plan will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites and their conservation objectives. Given this conclusion there will be no potential for the CAP Strategic Plan to combine with the plan to result in significant adverse in-combination effects to European Sites.
Transport Climate Change Sectoral Adaptation Plan under the National Adaptation Framework (DTTAS) 2019	The Plan sets out the priority climate concerns for the transport sector, presents the links between climate impacts and risks to infrastructure, outlines the next steps required to close our knowledge gaps and complete a robust assessment of sectoral adaptive capacity	A screening for Appropriate Assessment of the Plan was completed by the Department of Transport, Tourism and Sport. The Screening Assessment found that the plan will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites and their conservation objectives. Given this conclusion there will be no potential for the CAP Strategic Plan to combine with the plan to result in significant adverse in-combination effects to European Sites.

<p>Water Quality and Water Services Infrastructure</p> <p>Climate Change Sectoral Adaptation Plan under the National Adaptation Framework (DHPLG)</p>	<p>This plan for the water quality and water services infrastructure sectors presents an assessment of key future climate risks to the sectors and describes a range of key potential adaptive measures.</p>	<p>A screening for Appropriate Assessment of the Plan was completed by the Department of Housing, Planning and Local Government. The Screening Assessment found that the plan will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites and their conservation objectives. Given this conclusion there will be no potential for the CAP Strategic Plan to combine with the plan to result in significant adverse in-combination effects to European Sites.</p>
<p>Biodiversity Climate Sectoral Adaptation Plan</p>	<p>The Biodiversity Climate Change Sectoral Adaptation Plan considers terrestrial, freshwater and marine biodiversity and ecosystem services. The goal is to protect biodiversity from the impacts of climate change and to conserve and manage ecosystems so that they deliver services that increase the adaptive capacity of people and biodiversity. This is achieved by identifying adaptation options that will help to protect biodiversity and ecosystem services from the impacts of changing climate.</p>	<p>A screening for Appropriate Assessment of the Plan was completed by NPWS. The Screening Assessment found that the plan will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites and their conservation objectives.</p>

<p>Health-Climat e Change Sectoral Adaptation Plan 2019-2024 under the National Adaptation Framework (Department of Health)</p>	<p>The Plan sets out the main climate change-related risks and vulnerabilities expected in the health sector in the next five years and beyond and proposes concrete measures that can be taken to help reduce vulnerabilities.</p>	<p>A screening for Appropriate Assessment of the Plan was completed by the Department of Health. The Screening Assessment found that the plan will not have the potential, alone or in-combination with other plans or projects, to result in likely significant effects to European Sites and their conservation objectives. Given this conclusion there will be no potential for the CAP Strategic Plan to combine with the plan to result in significant adverse in-combination effects to European Sites.</p>
<p>Action Plan for Rural Development</p>	<p>Action Plan for Rural Development sets out the Government’s approach for rural places in Ireland to grow and adapt through supportive measures which encourage innovation and build on the existing strengths of rural communities in Ireland. No AA appears to have been carried out for the Action Plan for Rural Development which includes over 230 actions</p>	<p>The potential for significant adverse in-combination effects between the CAP Strategic Plan and this Plan are not predicted to occur.</p>

	<p>focussed on developing the rural economy. The actions do not include any specific projects</p> <p>– the majority relate to initiatives and programmes to support access, education and awareness</p>	
<p>National Strategic Plan for Sustainable Aquaculture Development</p>	<p>The plan includes policy areas and actions supporting growth, innovation, knowledge transfer, governance and sustainability. A number of the policies included in the plan would be positive for European sites as they seek to manage activities sustainably with improvements in monitoring, water quality etc.</p>	<p>The plan supports significant growth in the sector, and this would likely see intensification and / or expansion of activity. Unless carefully planned this could give rise to significant adverse effects on European sites, particularly as a result of cumulative effects. Potential for in-combination effects on coastal European Sites.</p>

<p>Draft National Peatlands Strategy & Raised Bog Management Plans</p>	<p>The Strategy clearly and objectively sets out what we need to do in order to achieve the overall Vision for Ireland’s peatlands. It is clear from the outset that the Strategy is based on a commitment to the responsible and environmentally sustainable management of our peatlands for this and future generations.</p>	<p>The National Peatlands Strategy is not predicted to have the potential to combine with the CAP Strategic Plan to result in significant adverse in-combination effects to European Sites. The Raised Bog Management Plans have been subject to Appropriate Assessment and it has been determined that, provided all relevant measures are implemented, these plans will not result in significant adverse in-combination effects to European Sites. Given that the National Peatland Strategy aims to achieve environmentally sustainable management of peatlands this plan will have the potential to result in a positive influence for peatlands and the potential will exist for positive interactions with specific measures of the CAP Strategic Plan, such as GAEC 2.</p>
<p>Ireland’s Long-Term Renovation Strategy 2020</p>	<p>This document sets out a strategy for energy performance of buildings. The strategy includes Ireland’s existing building renovation policies which are set out in a range of policy documents such as the Climate Action Plan and the National Energy and Climate Plan.</p>	<p>The potential for significant adverse in-combination effects between the CAP Strategic Plan and this Plan are not predicted to occur.</p>

<p>National Waste Water Sludge Management Plan</p>	<p>The NWSMP has been prepared by Irish Water and sets out a nationwide standardised approach to ensure that treated wastewater sludge across the country is effectively managed, stored, transported and re-used or disposed of in a sustainable way, to the benefit of the public and the environment</p>	<p>Over 98% of wastewater sludge produced at Irish wastewater treatment plants is currently reused on agricultural lands via land spreading (RPS, 2016). The impact to European Sites from landspreading of sludge include habitat degradation and perturbations to water quality. Legislation and guidelines are in place under the current Nitrates Action Plan to control landspreading of fertiliser, including wastewater sludge. However as noted in Section 5.2 above, despite the existing legislation and best practice guidelines, agricultural landspreading of fertiliser including sludge has continued to result in habitat degradation and perturbations to water quality.</p> <p>As a mitigation measure to ensure that sludge from Irish Water wastewater treatment plant is not spread on agricultural lands in a manner that will result in habitat degradation and perturbations to water quality within and influencing European Sites, Irish Water committed to the development of a new template for Nutrient Management Plan which must be complied with by all contractors proposing to spread wastewater sludge on land. The new plan template will require contractors to consider environment impacts and potential to impact on European Sites. In addition to this under the NWSMP Irish Water have committed to the following further actions:</p>
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		<p>Contractually require all Irish Water contractors to fully implement the most stringent requirements of the existing legislation and guidance;</p> <p>Audit landspreading/contractors and penalise those who break contractual obligations;</p> <p>Liaise with the Department of Housing, Local Government and Heritage to highlight potential risks and provide them with the findings of all audits undertaken to facilitate a coordinated response if required.</p> <p>The implementation of these measures by Irish Water will have the potential to combine with agricultural activities supported by the CAP Strategic Plan to result in positive impacts for waters and the European Sites and associated features of interest that are reliant of freshwater, groundwater and coastal habitats.</p>
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6.0 MITIGATION MEASURES

6.1 INTRODUCTION

This chapter therefore sets out mitigation measures and recommendations appropriate to minimising the adverse effects identified in Chapter 5 and Appendix B. Recommended measures to maximise the beneficial effects offered by the CAP Strategic Plan for European Sites and their features of interest are also detailed in this Chapter.

Over-arching mitigation measures for the CAP Strategic Plan are provided in Section 6.2 below, while mitigation measures and recommendations specific to the GAECs, Pillar I and Pillar II interventions are outlined in Section 6.3.

Mitigation measures and recommendations are structured to align with SEA and AA Mitigation Measures and actions provided for at national level from relevant plans in this instance the Agri-Food Strategy/Food Vision 2030 mitigation measures, and thereafter the Draft River Basin Management Plan measures and the National Sludge Management Plan. These measures, presented in Section 6.4 below, are recommended to apply for the CAP Strategic Plan.

Note: new text recommended from the AA assessment process is presented in *blue, italic font*.

A Key principle in the approach to mitigation measures and recommendations has been to support ‘the right measure in the right place’ with respect to European Sites and their features of interest and also to capture and monitor data though the plan lifetime to monitor if the intention of the intervention is being achieved (eg: ammonia emission reduction, water quality improvements). A detailed monitoring plan for the CAP Strategic Plan has been prepared and is described in the SEA Environment Report for the CAP Strategic Plan.

6.2 OVER-ARCHING MITIGATION MEASURES

6.3 MITIGATION MEASURES FOR CAP STRATEGIC PLAN

6.3.1 Overarching Mitigation Measure 1: Aim for all farms to support right measure, right place over plan lifetime

Lessons learnt from operational agri-environmental schemes, EIPs, LIFE projects, the Pilot Farm Environmental Survey (FES) and Pilot Soil Sampling Programme (SSP) should be expanded where appropriate over the CAP Strategic Plan period. The current pilot stage of the FES will focus on the development of methodology and the up-skilling of farmers and advisors in the roll-out of farm level habitat surveys on approximately 8,000 farms. The pilot FES programme will provide the farmer with an inventory of habitats, biodiversity and environmental information about his/her own farm. This should inform future knowledge transfer, awareness raising, communication and further mapping at farm level.

6.3.2 Overarching Mitigation Measure 2:

Oversight and monitoring of the CAP Strategic Plan through the Environmental Monitoring Committee and existing controls and checks protocols. In addition, to address and respond to trends relating to environmental issues, the monitoring regime needs to be enforced, targeted in a practical manner to allow for results that enhance the positive measures in the plan, and respond accordingly where adverse effects are identified early in the plan stage. This would also support where positive effects are occurring and learn from these actions. This will facilitate achievement of targets set out in the CAP Strategic Plan 2023-2027 including those relevant to other national and EU legislations such as WFD, Habitats Directive, Birds Directive and the National Emissions Ceiling Directive. Allow for annual review and remedial actions/revisions if adverse effects are identified through this monitoring. This would seek to monitor effects (positive and negative) across key environmental receptors identified through the SEA and AA process namely Biodiversity, Flora and Fauna, European Sites, water resources and GHG emissions. Enhanced cross reporting between local authorities, EPA, DAFM, DHHLG, DACE and Irish Water as appropriate.

Please note the following table provides mitigation measures in green font, and recommendations in blue font.

Table 6.1: Mitigation Measures & Recommendations for GAECs; Pillar I & Pillar II Interventions

Intervention and mitigation measure or recommendation
GAEC 10 permanent grassland
<i>Collaborate and engage with NPWS to address monitoring on permanent grassland</i>
Pillar 1
Capacity Building and Training
<p>Critical to the environmental issues is the need for capacity building and training for farmers and their advisors, and as such the following mitigation measure is recommended</p> <p><i>Education and training is targeted at all farmers and advisors and that a core component should be delivered on understanding and addressing key environmental challenges facing agriculture in particularly water, climate change and biodiversity and human health, landscape and cultural heritage. This would help deliver a more robust and</i></p>

comprehensive understanding of these issues and generate potential solutions and ownership from farmers themselves. Key themes to consider over the capacity building interventions are as follows:

As part of the delivery of education and training farmers should be made aware of and be required to be aware of Annex 1 habitat, Annex 2 species and SPA bird population sensitivities in the zone of influence of the farm.

The provision of farm advisor training with respect to PIP maps and their interpretation specifically focusing training on Nitrate & Phosphorous pollution impact potential

Such education and training and farm awareness will provide consistency with the controls outlined for SMR 3 and SMR 4

Further details on the knowledge requirements required for specific Annex 1 habitats, Annex 2 species and SPA bird populations are outlined in appendices to the accompanying Natura Impact Statement

Ecoscheme

It is recommended that DAFM establish and communicate proposed annual measures and these be subject to adaptation and change should monitoring reveal no improvement throughout the duration of the scheme. Innovative and ambitious measures should also be included based on recommendations arising from feedback from farmers and agricultural advisors as well as the CAP Consultative Committee including those in the AECM and EIP schemes. There is an opportunity to learn and mainstream measures that could inform the annual eco scheme in this regard. A specific agricultural measure targeting climate change adaptation should be considered given Irelands 2030 commitments; in this regard flexibility should be designed once [the Climate Action Plan and the Nitrates Action Programme is available](#)

Agricultural practice 3: Limiting chemical nitrogen usage

In order to ascertain and confirm positive trends from this practice, ongoing coordination with other departments and agencies including EPA, IFI, as well as farm advisors as the key interface between DAFM and farmers on the ground.

It is recommended that DAFM contribute to the delivery of Agricultural Action 4 of the RBMP so that the Local Authority Water Programme and Agricultural Sustainability Support and Advisory Programme can contribute to ensuring positive trends are delivered under this intervention.

Pillar II

AECM Tier 1

It will be important to provide ecological training, ecological expertise as part of AECM measures to support right measure in the right place .

Note the following information provided by DAFM provides sufficient clarification and detail to with respect to the implementation of this recommendation.

Approved ag advisors need to be registered with DAFM. The CPD for Advisors Programme intervention will address a number of high-level topics including climate change (both mitigation and adaptation) and sustainable energy, air, soil and water quality, biodiversity conservation, and the adoption of new technologies and best practice. It is envisaged that training of advisors on issues related to landscape and cultural heritage will be included in the biodiversity conservation topic. Training will also be provided during the Transitional period. The Trained advisor will consider the appropriate measure in the right location when completing the FSP. There are no Mandatory actions specified for Natura Sites in the AECM as the requirements for each site will vary depending on the species of importance and nature of the site. It would not be possible to be

site specific for Natura Sites when setting out the eligibility requirements of the scheme. The Trained AECM advisor will consider the conservation management required for the specific Natura sites and the surrounding areas. There will be screening questions that must be answered when completing the FSP(see below)

Screening:

It is planned to have built in validation checks to the online application process that will prevent certain measures being chosen in inappropriate locations. It will also be mandatory to have a Farm Sustainability Plan(FSP) carried out by the approved advisor for each application. There will be screening Questions within the FSP for specific Measures such as Tree Planting. These advisors will also be required to attend AECM training before being approved as an AECM Adviser. The following is a list of the 8 datasets that will be used in the AECM, i.e. planting of trees and hedges cannot not be permitted in these areas. The online application system will prevent these measures being chosen in prohibited areas.

- Archaeological monuments
- pNHAs
- nature reserves
- SACs and SPAs
- GLAS Areas targeted for breeding waders
- GLAS areas targets for breeding curlew
- GLAS areas targeted for geese and swans

- Pip, catchment dataset
- NPWS curlew nesting data with a 1km buffer zone applied around each nest (the most up-to-date dataset is to be relied upon)

AECM General Tier 1 – Private Natura

It is recommended that the low input grassland scorecard is consistent with the targets of SAC conservation objectives for SAC designated grassland habitats. The scorecard will be developed in consultation with the NPWS

Note the following information provided by DAFM provides sufficient clarification and detail to with respect to the implementation of this recommendation.

DAFM response: There are no scorecards designed specifically for Private Natura Lands but the scorecard for Low Input Grassland will be designed to be consistent with the general conservation objectives of designated SAC Grassland Habitats

AECM General Tier 1 – Commonage

It is recommended that Commonage Lands are included under Tier 1 as Commonage land (Results-based commonage scorecard will apply). It is noted that many commonage lands are designated as European Sites. For instance, many peatland and heathland SAC, dune habitat SACs and breeding raptor and wader SPAs are located on commonage lands. Heretofore Commonage Management Plans (CMPS) do not contain any reference to the Conservation Objectives (COs) of said SACs or SPAs. CMPs for commonage lands within SACs must be based on the requirements of the qualifying habitat of SAC and these must be monitored. It is recommended that ecological expertise with regard to the management of commonage lands is required for the preparation of actions under this measure. The ecological expertise will be required to ensure that the actions to be implemented in commonage lands are consistent with the conservation objectives targets for relevant SACs and SPAs. Consistency of the commonage land uses supported

under this intervention with the conservation objectives of the relevant SAC/SPA should be central to the result-based commonage scorecard system that will apply for commonage lands.

Note the following information provided by DAFM provides sufficient clarification and detail to with respect to the implementation of this recommendation.

Commonage in AECM General Tier 1 – Commonage will be a Results based measure and Scorecard will be designed with input from NPWS and DAFM Ecologist to ensure that it is consistent with the conservation objectives for relevant SACs and SPAs. Note DHHLG support this action in terms of co benefits around water quality and climate change.

AECM General – Geese and Swan Area

It is recommended that a results-based scorecard is applied for Geese and Swan and PAAs. The scorecard system for these Tier 1 lands should be developed in conjunction with relevant expert bodies such as the NPWS, IFI, EPA and Birdwatch Ireland.

Note the following information provided by DAFM provides sufficient clarification and detail with respect to the implementation of this recommendation..

DAFM Additional detail to address the above:

The following are the planned Mandatory Tier 1 Measures

- Private Natura (Low Input Grassland scorecard action)
- Commonage land (Results-based commonage scorecard will apply)
- Geese and Swans area (Geese and swans action)

It is currently planned to have a prescription-based measure for Geese and Swan and we are strongly of the opinion that Geese and Swan is best suited to a prescription based Measure. .

AECM General Tier 2 – Planting Trees

It is recommended that the Planting of Trees under this action is provides for an appropriate targeting of tree planting using environmentally sensitive receptors/databases to avoid sensitive areas. The screening of the AECM measures by an appropriately qualified individual is also required to ensure that tree planting does not impact important areas for example ground nesting birds, many of which are listed on Annex 1 of the Birds Directive. Note, additional recommendation to include the PIP maps to support co benefits around tree planting measures.

Note the following information provided by DAFM provides sufficient clarification and detail with respect to the implementation of this recommendation

It is planned to have built in validation checks to the online application process that will prevent certain measures being chosen in inappropriate locations. It will also be mandatory to have a Farm Sustainability Plan (FSP) carried out by the approved advisor for each application. There will be screening Questions within the FSP for specific Measures such as Tree Planting. These advisors will also be required to attend AECM training before being approved as an AECM Adviser.

The following is a list of the 8 datasets that will be used in the AECM, i.e. planting of trees and hedges cannot not be permitted in these areas. The online application system will prevent these measures being chosen in prohibited areas.

Archaeological monuments

(p)NHAs

nature reserves

SACs and SPAs

GLAS Areas targeted for breeding waders

GLAS areas targets for breeding curlew

GLAS areas targeted for geese and swans

NPWS curlew nesting data 2015- 2021 with a 1km buffer zone applied around each nest (the most up-to-date dataset is to be relied upon)

AECM General Tier 2 – Tree Belts for Ammonia Capture at Farmyard

It is recommended that in relation to tree belts for ammonia capture the right measure in the right place guide this measure.:

DAFM will provide information and guidance on the above prior to plan commencement. This addressed this recommendation.

AECM Training

It is recommended that all AETS training courses for farmers must be designed to provide:

An update on environmental issues and an introduction to recent developments at EU and National level.
Lessons learnt from GLAS participation – information on individual commitments and issues arising including controls. Actions to be viewed on farm.
Key ecological concepts including an appreciation of the importance and preservation of Natura 2000 sites and important bird habitats, wildlife habitats etc.
Introduction to the concept of results based agri-environment measures and payments including the use of score cards.
Information on the importance of farm safety

Furthermore, 416 FAS advisors received training on results based agri-environment measures and payments including the use of score cards for the REAP Scheme. There was also additional training provided to advisors by the some of the EIP project teams on results based agri-environment measures and payments including the use of score cards.
It is estimated that approximately 100 farm advisors were trained as part of this process.

Capital Investment Scheme

Mitigation Measure from FoodVision 2030 as shown in Table 8.1 applies

The strengthening of the implementation of the EIA (Agriculture) Regulations is important in providing protection for habitats under pressure from agriculture. Any risk/s to any Natura 2000 sites as a result of new agricultural activities or enterprise should be subject to suitable environmental assessment requirements under AA and EIA (Agriculture) criteria. Best practice in this respect could be further extended to include assessment of all agricultural activities. Therefore, all new agricultural activities, changes in agricultural activities or management practice, should be cognisant and compliant with all relevant environmental legislation. Environmental legislation would include, but not be limited to, AA and EIA Agriculture Regulations.

Note the following information provided by DAFM provides sufficient clarification and detail on this, in tandem with Food Vision 2030 measures above, and with due consideration to forthcoming RBMP, new Water and Planning Guidelines and other statutory changes relating to the WFD. this recommendation is addressed

Currently under TAMSII and proposed under the new Capital Investment scheme, planning permission or a letter of exemption is required for all proposed buildings or fixed structures at time of application. Current planning practices require the competent planning authority to consider likely significant effects to the environment and European Sites as part of the planning process. Screening for Appropriate Assessment and EIA is part of the planning process. It is recommended that the competent planning authorities screening determinations be provided as a required document as part of the DAFM Capital Investment Scheme application process.

CPD for Advisors

Comment: Although no direct landuse effects are identified as this relates to training it is positive that the skills set listed addresses many environmental parameters. *It is recommended that landscape and cultural heritage specialists and specific training with respect to European Sites and their features of interest be included within this to support greater awareness for these topics*

Note the following information provided by DAFM provides sufficient clarification and detail with respect to the implementation of this recommendation.

DAFM comment: The CPD for Advisors Programme intervention will address a number of high-level topics including climate change (both mitigation and adaptation) and sustainable energy, air, soil and water quality, biodiversity conservation, and the adoption of new technologies and best practice. It is envisaged that training of advisors on issues related to landscape and cultural heritage will be included in the biodiversity conservation topic.

6.4 EXISTING MITIGATION MEASURES FROM NATIONAL PLANS AND PROGRAMMES RELEVANT TO THE CAP STRATEGIC PLAN 2023-2027

The following mitigation measures are from the relevant national plans and programmes and DAFM are advised to apply them and use them as mitigation measures over the CAP Strategic Plan 2023-2027. They include actions and mitigation measures from the Agri-Food Strategy 2030 SEA Environment Report and Natura Impact Statement and the draft Third River Basin Management Plan. A monitoring committee will be established for both these plans/programmes and should collaborate with DAFM. These are presented in Table 6.2 to 6.4 below.

Table 6.2: Relevant Mitigation Measures from the Agri-Food Strategy 2030

Measure Ref	Measure
AF1	<i>Local planning controls already provide a means of regulating such effects and hence the Environmental Working sub-Group should monitor the rate of new applications over the Strategy period and will engage with decision making bodies to establish the extent to which decisions reflect and take account of such issues. If the need is identified, additional planning guidance will be issued to authorities. Assessment should be carried out for developments near protected or sensitive sites.</i>
AF4	<i>Further research should be supported to establish sustainable levels of grazing in designated sites and other environmentally sensitive areas</i>
AF6	<i>Proposals to grow output from the tillage and cereals sectors should focus on increased productivity from existing arable land. Conversion of extensive or biodiversity rich permanent pasture should be discouraged unless it can be demonstrated to be not</i>

	<p><i>damaging to biodiversity, soil, water and other environmental parameters. Implementation of this action should seek to synchronise with the objectives of the National Soil Strategy as referred under Mission 1.</i></p>
<p><i>AA Recommendations Section 5.1</i></p>	<p><i>Of overriding importance is the targeting of the most appropriate measures in the most appropriate places. It is imperative that the location of Natura sites is well documented in relation to potential agricultural activities. This would include consideration of potential impact pathways at a catchment level for water bodies (oligotrophic, mesotrophic and dystrophic waters, turloughs) and at a landscape level for flowing water features (in particular, the larger river sites). It would also include consideration of mobile Annex species (particularly birds, mammals (volant and non-volant) and fish) and species that use different parts of a SAC or SPA at different stages of their life cycle (or a combination of Natura habitat and non-Natura habitat). For example, there are many surface waters that are not designated, but that support Annex II/IV fish and mammals and/or Annex I birds.</i></p> <p><i>The baseline survey of all Ireland’s farms is a very good start in establishing exactly where biodiversity hotspots lie. However, it should be emphasised that this is particularly important in relation to SACs and SPAs, as these are the key sites at a European level. Therefore, knowing where an individual farm is in relation to a SAC or SPA feature is very important in order to avoid or reduce impacts from agriculture. Targeting of Natura 2000 sites by future agri-environment schemes, especially with higher level measures, also provides a high potential level of mitigation. If Natura sites can be incorporated into these schemes, this would provide a high level of protection (provided management was tailored to the individual site).</i></p> <p><i>All this underlines the importance of implementing the most appropriate measures in the most appropriate places with respect to Natura sites.</i></p>
<p><i>AA Mitigation Measure</i></p>	<p>The strengthening of the implementation of the EIA (Agriculture) Regulations is also important in providing a further level of protection for habitats and species under pressure from agriculture. Any risk/s to any Natura 2000 sites as a result of new agricultural activities or enterprise should be subject to suitable environmental</p>

	<p>assessment requirements under AA and EIA (Agriculture) criteria. Best practice in this respect could be further extended to include assessment of all agricultural activities. Therefore, all new agricultural activities, changes in agricultural activities or management practice, should be cognisant and compliant with all relevant environmental legislation. Environmental legislation would include, but not be limited to, AA and EIA Agriculture Regulations.</p>
<p>AA Mitigation Measure</p>	<p><i>Throughout the Agri-Food Strategy there is an emphasis on a move towards grass-fed systems, and the use of clover and multi-species swards. Whilst this is beneficial overall and will facilitate a reduction in GHGs and (provided it is managed) nitrogen use, it should not be at the expense of existing high quality (potentially Natura) sites. Again, it is a case of implementing such measures in areas where no significant negative impacts to existing semi-natural (especially Natura) sites could occur. This can be achieved through knowledge of the precise location of Natura sites in relation to farm holdings. The baseline surveys proposed for every farm holding should place particular emphasis on the location of SAC habitats and thereby ensure that these are suitably considered by any agricultural intensification or conversion to grassland systems. This would also apply to conversion to tillage i.e. no conversion of SAC habitats to tillage areas. Such measures could additionally be reinforced through the strengthening of the EIA (Agriculture) Regulations.</i></p>
<p>AA Mitigation Measure</p>	<p><i>Relevant studies of direct and indirect impacts should be made available to agri-environment and agricultural advisors and relevant agricultural workers (including farmers), where Natura 2000 sites are present on a landholding. This should include an appreciation of appropriate buffer zones (e.g. in terms of disturbance effects on Annex II (Habitats Directive) and Annex I (Birds Directive) species. Scientific literature on habitat buffer zones should also be made available (e.g. the hydrological effects of forestry on peatlands). Training in the identification of these habitats will supplement existing in-house measures.</i></p>

<p>AA Mitigation Measure</p>	<p><i>Disturbance effects on Annex I bird species can be controlled through the avoidance of operations in known areas during the breeding or wintering season. As is the case with other mitigation measures, where gaps are identified, these procedures should be supplemented with training in the identification of Annex I habitats and Annex II species (Habitats Directive) and Annex I species (Birds Directive).</i></p>
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Table 6.3: Relevant Mitigation Measures from the draft RBMP

<p>Draft RBMP Actions relating to agriculture and Water Framework Directive</p>	
<p>Agriculture 1</p>	<p>GAP Regulations - The existing GAP Regulations are due to expire and be replaced at the end of 2021. The Nitrates Expert Group is working on the development of the new Nitrates Action Programme, which will be implemented by the regulations.</p> <p>It is expected that the new NAP will:</p> <ul style="list-style-type: none"> • Retain the existing controls on Nitrogen and Phosphorous from agriculture. • Implement tighter controls on nitrogen and phosphorus inputs by: <ul style="list-style-type: none"> → Establishing a chemical fertiliser register for farmers → Providing for enhanced programmes of enforcement. → Stipulating tighter controls on the use of chemical nitrogen fertilisers focussed on critical source areas → Incorporate an industry-led initiative to reduce agricultural impacts on water quality.

<p>SEA and AA Mitigation Measure</p>	<p>Agriculture 1: The new NAP will be subject to AA and SEA in its own right and the new NAP will be required to be cognisant of the RBMP; including the mitigations identified within this NIS for the RBMP. Mitigation:</p> <p>Any derogations which emerge from the NAP will be subject to AA; which should include a robust assessment of in-combination adverse effects</p>
<p>Agriculture 2</p>	<p>CAP Strategic Plan - New Rural Development Programme Regulations under the National CAP Strategic Plan will underpin the establishment of a new green architecture that aims to deliver and reward positive environmental outcomes, including water, biodiversity and climate mitigation and adaptation objectives</p>
<p>SEA and AA Mitigation:</p>	<p>The proposed new RDP Regulations underpinning the green architecture as foreseen under the CAP Strategic Plan will need to take full account of the mitigation measures identified in the NIS being prepared for that Plan (under separate cover).</p>
<p>Agriculture 3</p>	<p>Teagasc will progress the development of a web-based Farm Sustainability Plan that will complement the existing Nutrient Management Planning online tool and support the wider Agricultural Knowledge and Information Systems (AKIS) programme.</p>
	<p>Recommendation: It is recommended that training is provided to ensure the online tool is properly used.</p>

	<p>Consider rolling out practical training and consistent awareness-raising on the ground so farmers can effectively utilise and apply the suite of available tools.</p>
Agriculture 4	<p>Consideration will be given to extending and expanding LAWPRO and ASSAP to support the implementation of the new CAP Strategic Plan. There will be an increased focus on sustainability across the entire farm advisory service (both Teagasc and private advisory services). This may include a role in the preparation of Farm Sustainability Plans.</p>
SEA and AA Mitigation Measures	<p>Consider extending and expanding Local Authority Water Programme and Agricultural Sustainability Support and Advisory Programme to support the implementation of the new CAP Strategic Plan</p> <p>The CAP Strategic Plan will need to take full account of the mitigation measures identified in the NIS being prepared for that Plan (under separate cover).</p>
Agriculture 6	<p>Local authorities and the EPA, through the NIECE network, will ensure that compliance assurance (including enforcement) actions for agricultural activities will be further enhanced and ensure that there is an increased targeting of inspections by local authorities based on water quality results, critical source areas and the EPA's PIP Maps</p>

Table 6.4: Relevant Mitigation Measures from the draft National Sludge Management Plan

<p>Mitigation Measure from National Sludge Management Plan for Irish Water</p>	<p>It is recommended that DAFM liaise with Irish Water with regard to the latter's implementation of their template for Nutrient Management Plans which must be complied with by all Irish Water contractors proposing to spread wastewater sludge on land. Irish Water have provided for this under Protection Action 5 of their National Wastewater Sludge Management Plan.</p> <p>It is recommended that positive actions identified by Irish Water's arising from their implementation of their Nutrient Management Plans is facilitated by DAFM during the preparation of farm Nutrient Management Plans.</p>
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7.0 CONCLUSION

This Natura Impact Statement has reviewed the impacts arising from the draft CAP Strategic Plan and found that, without the implementation of mitigation measures and recommendations to ensure that the right actions arising from the plan are implemented in the right place, the draft plan will have the potential to impact upon the integrity of European Sites and the conservation status of the features of interest supported by these European Sites.

The potential impacts that could negatively affect European Sites and their features of interest have been summarised in Section 5, while Appendix B of this Natura Impact Statement provides a focused examination of the potential impacts derived from land use interventions arising from the CAP Strategic Plan to European Site features of interest. Section 6 outlines mitigation measures and recommendations, the aim of which is to avoid potential impacts identified in Section 5 and Appendix B.

The requirements outlined in Section 6 and evaluated in Section 7 of this NIR will protect these Sites from potential adverse impacts.

The next step in the finalisation of the draft CAP Strategic Plan is a period of public consultation when the plan and supporting environmental reports, including this Natura Impact Statement will be put on public display to allow for submissions. Following the completion of the public consultation period submissions will be considered and amendments to the draft CAP Strategic Plan may arise. Submissions relevant to the content of both the SEA Environment Report and this Natura Impact Statement will also be considered. Any changes to the CAP Strategic Plan arising from the public consultation period will be examined and reflected in the SEA Environmental Report and Natura Impact Statement for the final plan. Submissions relevant to the SEA Environmental Report and the Natura Impact Statement of the draft CAP Strategic Plan will also be considered and where required will be reflected in the final environmental assessment documents.

APPENDIX A: LIST OF AGRICULTURAL-RELATED THREATS & PRESSURES AND THE FEATURES OF INTEREST AFFECTED BY THEM

A01 Land Reclamation for Cultivation

Land reclamation can result in the loss of the semi-natural habitats. There are numerous other semi-natural habitats that are at risk from agricultural-related land reclamation, including wetland habitats such as marshes, swamps and wet woodlands. The two Annex I habitats are:

- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- Limestone pavements

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Marsh fritillary

The special conservation interest bird species that have been identified as being at risk from this threat/pressure are:

- Breeding birds

A02 Conversion from one type of agricultural land use to another (excluding drainage and burning)

The review of the Article 17 reporting has identified 8 Annex I habitat, consisting of grassland and dune habitats, as being at risk from this threat/pressure. One Annex II species has also been identified as being at risk from this threat/pressure. The Annex I habitats are:

- Semi-natural dry grasslands and scrubland facies on calcereous substrates (*Festuco-Brometalia*) (*important orchid sites)
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*
- *Molinia* meadows on calcereous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels)
- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)
- Fixed coastal dunes with herbaceous vegetation
- Dunes with *Salix repens* ssp. *Argentea* (*Salicion arenariae*)
- Machairs

The Annex II species that has been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel

The special conservation interest bird species that have been identified as being at risk from this threat/pressure are:

- Coastal birds

A04 Land reclamation for cultivation generating pollution

Land reclamation activities involve the draining of surface water bodies for the creation of surface area for agricultural activities. The main Annex I habitat impacted by land reclamation is the Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp, which are characterised by moderate nutrient levels and therefore are at risk of eutrophication from nutrient enrichment. The resulting algal blooms are detrimental to the benthic vegetation from reduced light penetration and lower dissolved oxygen.

The Annex II species that has been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel

A05 Removal of small landscape features for agricultural land parcel consolidation (in the form of juniper scrub removal)

The readjustment and rearrangement of fragmented land parcels can be used to improve rural infrastructure and simplifies the implementation of development and environmental policies. However, this practice results in the loss of the following habitats:

- *Juniperus communis* formations on heaths or calcereous grasslands
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Lesser horseshoe bat.

The special conservation interest bird species that have been identified as being at risk from this threat/pressure are:

- Coastal birds

A06 Abandonment of grassland management (e.g. cessation of grazing or of mowing)

When grasslands are abandoned, specialised grassland species tend to be lost as a consequence of succession. In the context of agriculture, this usually happens when landowners in possession of grasslands quit farming, therefore removing their livestock from grazing on the land and cease management of the vegetation on the land. The Annex I habitats impacted by this are as follows:

- Decalcified fixed dunes with *Empetrum nigrum*
- Atlantic decalcified fixed dunes (Calluno-Ulicetea)
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Alpine and Boreal heaths

- Juniperus communis formations on heaths or calcereous grasslands
- Molinia meadows on calcereous, peaty or clayey-silt-laden soils (Molinion caeruleae)
- Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
- Transition mires
- Calcareous fens with Cladium mariscus and species of the Caricion davallianae*
- Petrifying springs with tufa formation (Cratoneurion)*
- Alkaline fens

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Marsh saxifrage
- Geyer's whorl snail
- Narrow mouthed whorl snail.

A08 Mowing or cutting of grass

The Machairs habitats are unique and rare, occurring on the north-west shores of Scotland and Ireland. It is a highly specialised and complex dune habitat comprising of flat or gently undulating sandy plans that develops in an oceanic location with cool moist climates. Farmlands that harvest grass occurring on or around can be a significant pressure on the habitats.

The special conservation interest bird species that have been identified as being at risk from this threat/pressure are:

- Breeding waterbirds
- Wintering waterbirds

A09 Intensive grazing or overgrazing by livestock

The presence of agricultural livestock to the following habitats can result in irreversible physical changes such as compaction via trampling and removal of vegetation that weaken the soil structure, heightening the risk of topsoil erosion.

- Salicornia and other annuals colonising mud and sand
- Atlantic salt meadows
- Mediterranean salt meadows
- Fixed coastal dunes with herbaceous vegetation
- Dunes with *Salix repens* ssp. *Argentea* (*Salicion arenariae*)
- Machairs
- Natural dystrophic lakes and ponds
- Turloughs
- Rivers with muddy banks with *Chenopodium rubri* p.p. and *Bidention* p.p. vegetation
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Alpine and Boreal heaths
- *Juniperus communis* formations on heaths or calcereous grasslands
- Semi-natural dry grasslands and scrubland facies on calcereous substrates (*Festuco-Brometalia*) (*important orchid sites)
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Blanket bogs (*if active bog)
- Transition mires
- Depressions on peat substrates of the *Rhynchosporion*

- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae**
- Alkaline fens
- Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)
- Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*)
- Calcareous rocky slopes with chasmophytic vegetation
- Siliceous rocky slopes with chasmophytic vegetation
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- Bog woodland
- Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)*
- *Taxus baccata* woods of the British Isles*

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Geyer's whorl snail
- Petalwort.

The special conservation interest bird species that have been identified as being at risk from this threat/pressure are:

- Coastal birds
- Wintering waterbirds
- Breeding waterbirds
- Raptors

A10 Extensive grazing or undergrazing by livestock

Undergrazing and improper management of grasslands can allow coarse grasses and scrub to grow which increase competition and shade to other species in the habitat, therefore resulting in a reduction in overall ecological diversity. The following habitats have been recorded as being under pressure from undergrazing:

- Mediterranean salt meadows
- Fixed coastal dunes with herbaceous vegetation
- Dunes with *Salix repens* ssp. *Argentea* (*Salicion arenariae*)
- Machairs
- Calaminarian grasslands of the *Violetalia calaminariae*
- Semi-natural dry grasslands and scrubland facies on calcereous substrates (*Festuco-Brometalia*) (*important orchid sites)
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*
- *Molinia* meadows on calcereous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Petrifying springs with tufa formation (*Cratoneurion*)*
- Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)
- Limestone pavements

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Killarney fern
- Slender green feather-moss
- Geyer's whorl snail
- Narrow mouthed whorl snail.
- Desmoulin's whorl snail

- Petalwort.
- Marsh fritillary

All Burning for agriculture

The burning of any vegetation is controlled by the Wildlife Acts and is largely illegal in Ireland, with the temporary exception of burning agricultural waste outside of bird nesting season (between 1st March and August 31st). This practice is however highly unsustainable for the environment due to the production of black carbon, degradation of organic content and soil quality and the risk of uncontrolled fires that can result in total loss of habitats and species. The following habitats are under pressure from agricultural burning:

- Natural dystrophic lakes and ponds
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Alpine and Boreal heaths
- Juniperus communis formations on heaths or calcereous grasslands
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Active raised bogs
- Degraded raised bogs still capable of natural regeneration
- Blanket bogs (*if active bog)
- Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)
- Calcareous rocky slopes with chasmophytic vegetation
- Old sessile oak woods with Ilex and Blechnum in the British Isles
- Bog woodland

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Killarney fern

- Kerry slug

A13 Re-seeding generating pollution

Re-seeding allows for increasing the overall productivity of the farm and improving grass quality and utilisation for livestock. This entails the use of chemical fertilisers (lime, potassium and phosphorus) which risks disturbance of the soil pH and nutrient content and increased run-off to surface waterbodies resulting in eutrophication. The Annex I habitat impacted by this is the Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. The Annex II species that has been identified as being at risk from this threat/pressure is Freshwater pearl mussel.

A14 Livestock farming (without grazing)

The threat of livestock farming without grazing can manifest in supplementary feeding which becomes when forage quality is sub-optimal or deficient and supplements are required to correct the deficiency. This requires the supply of additional feed, usually grain, hay or silage to livestock from fodder reserves. Supplementary feeding also requires locating alternative sites to reduce sward damage, and may lead to nutrient enrichment in previously undisturbed habitats from livestock excretion. There is also a risk of spread of invasive plants and compaction of soil with livestock presence. The habitats impacted by this practice are the following:

- Machairs
- Northern Atlantic wet heaths with *Erica tetralix*
- *Molinia* meadows on calcereous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Lesser horseshoe bat

A15 Ploughing regenerating pollution

Ploughing involves the breaking up of the soil surface to create a seedbed. Repeated ploughing over the years can result in topsoil loss, and soils enriched with agricultural fertilisers entering

hydrological pathways can result in pollution. The Annex I habitat identified under pressure from this threat is the Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.

A19 Application of natural fertilisers on agricultural land

Particularly relevant in organic farms, livestock waste used as fertiliser poses runoff risk into water bodies and resulting in contamination. Livestock waste can also contain heavy metals, veterinary medicines and pesticides, which can impact the environment by disturbing soil pH and chemistry and microbiome. The following habitats have been identified as under pressure:

- Humid dune slacks
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Sea lamprey
- Brook lamprey
- River lamprey
- Twaite shad

The special conservation interest bird species that have been identified as being at risk from this threat/pressure are:

- Coastal birds
- Wintering waterbirds
- Breeding waterbirds

A20 Application of synthetic (mineral) fertilisers on agricultural land

Poor management in the application of synthetic (mineral) fertilisers on agricultural land can result in nutrients entering lakes and streams through runoff and soil erosion via flooding or wind. Introduction of these nutrients into the following habitats can result in eutrophication and biodiversity loss.

- Machairs
- Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.
- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Sea lamprey
- Brook lamprey
- River lamprey
- Twaite shad

A25 Agricultural activities generating point source pollution to surface or ground waters

Livestock farming can be considered sources of point source pollution due to the potential of untreated animal waste entering hydrological systems, which can lead to nutrient enrichment and biological contamination. The following habitats have been identified to be under threat from point source pollution from agricultural activities:

- Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea
- Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.
- Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Slender naiad
- Atlantic Salmon

A26 Agricultural activities generating diffuse pollution to surface or ground waters

Largely driven by rainfall and poor landuse management, diffuse pollution to surface or ground waters can occur when runoff containing a variety of agricultural wastes such as nutrients, pesticides, animal wastes, chemicals and fine sediments enter water bodies. These have the potential to drastically the following habitats by degrading their overall health and the quality of their ecosystem services.

- Oligotrophic waters containing very few minerals of sandy plains (*Littorellatalia uniflorae*)
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation
- Natural dystrophic lakes and ponds
- Turloughs
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Alkaline fens

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Slender naiad
- Atlantic Salmon

- White-clawed crayfish (Reynolds, 1998)

A27 Agricultural activities generating air pollution

Agricultural air pollution is generated largely due to ammonia emissions from the livestock industry. Ammonia pollution can lead to biodiversity loss in both terrestrial and aquatic environments. Ammonia depositions can contribute to soil acidification and large amounts can result in toxicity in plants. The following Annex I habitats have been identified to be under pressure from agricultural air pollution:

- Northern Atlantic wet heaths with *Erica tetralix*
- Alpine and Boreal heaths
- Blanket bogs (*if active bog)
- Calcareous rocky slopes with chasmophytic vegetation

A28 Agricultural activities generating marine pollution

Agricultural runoff consisting of nutrients, animal wastes, chemicals and pesticides that enter the coastal water bodies can lead to pollution in the following habitats. The key effects from marine pollution can lead to eutrophication and algal blooms that disturb the aquatic ecosystem by altering the physical and chemical properties of the water, which in turn disturbs the biodiversity.

- Estuaries
- Tidal mudflats and sandflats
- Large shallow inlets and bays

A30 Active abstractions from groundwater, surface water or mixed water for agriculture

Abstraction from groundwater, surface water or mixed water sources for agricultural activities have led to water depletion and scarcity in Machairs.

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel

- Slender green feather-moss

A31 Drainage for use as agricultural land

Agricultural drainage systems relate to drainage of water from the soil to enhance agricultural production of crops. Improper drainage can increase the risk to agricultural production from excess water and high water tables. However, agricultural drainage can increase losses from surface runoff and can result in the loss of wetlands across the country. The following habitats have been identified as being at risk of agricultural drainage.

- Humid dune slacks
- Oligotrophic waters containing very few minerals of sandy plains (*Littorellatalia uniflorae*)
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- Natural dystrophic lakes and ponds
- Turloughs
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater pearl mussel
- Sea lamprey
- Brook lamprey
- River lamprey
- Marsh saxifrage

A33 Modification of hydrological flow

Modification to hydrological flows associated with agriculture can be a result of drainage activities and irrigation infrastructure. The main habitats under threat from agricultural modifications to hydrological flows are:

- Atlantic salt meadows
- Mediterranean salt meadows

The Annex II species that has been identified as being at risk from this threat/pressure is Freshwater pearl mussel.

A36 Agricultural activities not referred to above (i.e. agricultural intensification)

Miscellaneous agricultural activities excluding the ones listed above, such as agricultural intensification have been found to be stressors for the following habitats:

- Atlantic salt meadows
- Mediterranean salt meadows
- European dry heaths
- Blanket bogs (*if active bog)

B01 Conversion to forest from other land uses or afforestation

The conversion of formerly natural forests to forestry plantations poses a habitat loss risk to the following Annex I habitats.

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Alpine and Boreal heaths
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)*
- *Molinia* meadows on calcereous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Active raised bogs
- Degraded raised bogs still capable of natural regeneration
- Blanket bogs (*if active bog)
- Transition mires

- Depressions on peat substrates of the Rhynchosporion

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Freshwater Pearl Mussel
- Marsh Fritillary

B03 Replanting with or introducing non-native or non-typical species (including new species and GMOs)

The introduction of non-native or non-typical species including new species and GMOs can have unforeseen effects on natural forests with native species. The Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* habitat is at risk from this threat due to the comprising species being particularly sensitive to plant pathogens such as *Phytophthora alni* and *Hymenoscyphus fraxineus*, which were introduced to European forests from North America and Asia respectively.

B09 Clear-cutting, removal of all trees

The removal of all trees for forestry purposes pose a risk of habitat loss to the following:

- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- Bog woodland
- Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)*

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Brook Lamprey
- Lesser horseshoe bat

B12 Thinning of tree layer

The thinning of tree layers is done to reduce the density of trees in a stand and to improve the quality and growth of other trees to create a uniform, marketable product. However, this is a threat to the Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion

incanae, *Salicion albae*)* habitat as it can face undue competition from other species such as *Urtica dioica*, whose growth is aided by the increased light exposure (O'Neill et al., 2013).

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Killarney Fern
- Freshwater Pearl Mussel

B21 Use of physical plant protection in forest, excluding the tree layer thinning

The main habitat identified under threat from the use of physical plant protection is the Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)*.

The Annex II species that has been identified as being at risk from this threat/pressure is Freshwater Pearl Mussel

B23 Forestry activities generating pollution to surface or ground waters

Common water quality problems from forestry relate to the release of sediment and nutrients to the aquatic environment and impacts from acidification. Forestry initiatives involving conifer plantations capture and concentrate airborne pollutants that are then washed into surface waters⁶. Such acid-sensitive areas are located in Clare, Galway, Donegal, Kerry, Offaly, Sligo and Wicklow. Habitats under pressure from this threat are:

- Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)*
- Oligotrophic waters containing very few minerals of sandy plains (*Littorellatalia uniflorae*)

⁶ “Significant Pressures.”

- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.*
- Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation
- Natural dystrophic lakes and ponds
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation

B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams)

In terms of forestry, physical alteration is caused mainly by the associated land drainage that can result in modified stream flow regimes. The habitats affected by this are:

- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.*
- Natural dystrophic lakes and ponds
- Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)*

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Marsh saxifrage
- Freshwater pearl mussel

I05 Plant and animal diseases, pathogens and pests

Crop pathogens can disseminate at a rapid rate due to the homogenous genetic and physical environments in agro-ecosystems, facilitated by human intervention. The possible introduction of pathogens and diseases largely confined to agricultural systems in endangered habitats and species can have serious consequences, such as a spread of antibiotic-resistant strains and

mutated viruses crossing over from livestock to wildlife and vice-versa. The Annex I habitats identified at the risk of this threat are:

- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)*
- *Taxus baccata* woods of the British Isles*

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Killarney fern
- White-clawed Crayfish.

J01 Mixed source soil pollution to surface and ground waters

Driven largely by heavy rainfall, the pesticides and fertilisers used in agriculture can be transported to surface and groundwaters. The resulting pollution of groundwater reservoirs and surface water bodies are a threat to the following habitats:

- Transition mires
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae**
- Petrifying springs with tufa formation (*Cratoneurion*)*
- Alkaline fens

The Annex II species that has been identified as being at risk from this threat/pressure is Atlantic salmon.

J04 Mixed source pollution and solid waste (excluding discharge)

Mismanagement of agricultural solid wastes such as animal waste, crop production and chemical wastes have been identified to be a stressor for the following Annex I habitats:

- Northern Atlantic wet heaths with *Erica tetralix*
- Blanket bogs (*if active bog)

K04 Modification of hydrological flow

Engineered changes to hydrological changes for the creation of reservoirs and irrigation are undertaken to maximise access to water, but can result in the damage of ecosystem services and changes to biodiversity occupying these habitats. Stressed hydrological streams can result in natural hazards (flood events and droughts). The habitats under stress from this threat are:

- Coastal lagoons
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*
- Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitriche-Batrachion vegetation
- Northern Atlantic wet heaths with *Erica tetralix*
- Transition mires
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae**
- Petrifying springs with tufa formation (*Cratoneurion*)*
- Alkaline fens

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Slender naiad
- Geyer's whorl snail.

K05 Physical alteration of water bodies

Landowners may decide to alter surface water bodies for a variety of reasons, including draining land, creating water supplies or reducing the risk of flooding. Such alterations can cause significant damage to ecosystems with the potential to contribute to the risk of failing to achieve

good status under the Water Framework Directive⁷. Annex I habitats under this threat are identified as follows:

- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*
- Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitriche-Batrachion vegetation

The Annex II species that have been identified as being at risk from this threat/pressure are:

- Slender naiad
- Freshwater pearl mussel
- Atlantic salmon
- Lamprey species

L03 Accumulation of organic material

The accumulation of organic material such as pesticides and related organic compounds in **Coastal Lagoons** tend to surface in the food chain and exacerbate bioaccumulation in the marine food chains. Furthermore, coastal lagoons are the only niche to support certain species that can only survive in this environment, and disturbances to the ecosystem can lead to their loss.

⁷ “Hydromorphology/Surface Water Alterations | Department of Agriculture, Environment and Rural Affairs.”

Other Agricultural-related Threats to Species

A07 Abandonment of management/use of other agricultural and agroforestry systems (except grasslands)

Abandonment of management/use of agricultural/agroforestry system is the shift from a given pattern of land use to a less intensive one caused by the reduction of human activity, leading to low crop yield and recovery of scrubland and eventually forest. This subsequently results in degradation of the soils and waters, gradually altering the habitats which support biodiversity/certain species. The Annex II species that have been identified as being at risk from this threat/pressure are:

- Desmoulin's whorl snail
- Marsh Fritillary.

C05 Peat extraction

Large-scale peat extraction leads to deposition of suspended solids as silt downstream, and oil and fuel leakages from harvesting equipment. The run off from such sites have elevated levels of dissolved organic matter, nutrients and metals. Silt/suspended solids cause lasting damage to river habitats by clogging gills, causing fish to suffocate and die, and by destroying spawning sites and insect habitats on the riverbed, thereby depriving fish of their food source. The impact on receiving watercourses is site-specific and depends on the scale of operation versus the size and quality of the receiving watercourse. The Annex II species that have been identified as being at risk from this threat/pressure are:

- Marsh saxifrage
- Slender naiad
- Freshwater pearl mussel

G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture

Water abstraction, for potable supply, agricultural and industrial use (production processes, cooling water etc.) is undertaken from both rivers and lakes. Many such abstractions are not licensed. In lakes, fluctuation in water surface levels caused by large-scale abstraction can lead to ecological instability in the littoral zone. The intensive and large-scale nature of many tillage operations can create a major demand for water, with consequent adverse impacts on the fish communities in the channels impacted. The Annex II species that has been identified as being at risk from this threat/pressure is Atlantic Salmon. Hydrological modifications such as dams block Atlantic salmon migration paths between rivers and the ocean and can prevent salmon from reaching the habitats needed for spawning and juvenile rearing.

L01 Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)

The Annex II species that has been identified as being at risk from this threat/pressure is Desmoulin's whorl snail. Stable V. moulinsiana habitat is associated with open water, and the snail is well supported along vegetated ditches with open water, or lake edges with a wide fringe of tall vegetation. The problem with large habitats that are in the process of drying out is that they will eventually become unsuitable for the snail, unless management can be employed to stabilise the stage of the hydrosere that supports the snail on a long-term basis. Low-lying areas that become frequently inundated with saline water resulting in a tight rootmass are also unable to support the snail.

Other pressures/threats to Species (Non-coded)

The following pressures/threats that affect certain Annex II species have not been assigned any code in the latest species assessment of Article 17 report:

- Cattle grazing- Marsh saxifrage, Geyer's whorl snail
- Abandonment of pastoral systems, lack of grazing- Desmoulin's whorl snail
- Non- intensive mowing- Desmoulin's whorl snail
- Agricultural intensification- Kerry slug

- Alteration to commuting routes (e.g., hedgerow clearance)- Lesser horseshoe bat

- Felling of foraging habitat- Lesser horseshoe bat

- Diffuse and point source pollution of freshwaters and coastal waters- Otter